1) which operator are used to compare the values of operands to produce logical value in C language?

a) logical operator **b) relational operator** c) assignment operator d) none of the above

2) What is/are the type/types of numeric constant /constants used in a C programming language?

a) integer constant b) real constant **c) both(a)&(b)** d) none of the above

3) Rules for identifier or word. First character must be an

a) integer **b) alphabet** c) special character d) none of the above

4) Who developed the C programming language

a) Bjarne Stroustrup b) James Gosling **c) Dennis Ritchie** d) Ray Boyce

5) The operator "&" is used for

a) bitwise AND b) bitwise OR c) logical AND d) logical OR

6) Which are built-in data structures in C programming?

a) arrays b) structure c) files **d) all of the above**

7) The words if, else, auto, float, etc. have predefined meaning and users cannot use them as variables. These words are called

a) constant b) identifier c) data types **d) keywords**

8) To read an integer data for variable a

a) scanf("%d",&a) b) printf("%d",&a) c)printf("%f",&a) d)scanf("%f",&a)

9) The size of a character variable in C is

a) 8 bytes b) 4 bytes c)2 bytes **d) 1 byte**

10) Complete statements must be enclosed by the braces

a) {} b) () c) [] d) <>

Unit - II

1.Which of the following is not a valid variable name declaration?

a) float PI = 3.14;

b) double PI = 3.14;

c) int PI = 3.14;

d) *#define PI 3.14*

2.Which of the following cannot be a variable name in C?

a) *volatile*

b) true

c) friend

d) export

3.Which keyword can be used for coming out of recursion?

a) break

b) *return*

c) exit

d) both break and return

4.The keyword 'break' cannot be simply used within _____

a) do-while

b) *if-else*

c) for

d) while

5.Which keyword is used to come out of a loop only for that iteration?

a) break

b) *continue*

c) return

d) none of the mentioned

6.Which datatype can accept switch statement?

a) int

b) char

c) long

d) *all of the mentioned*

7.The C code 'for(;;)' represents an infinite loop. It can be terminated by _____

a) *break*

b) exit(0)

c) abort()

d) terminate

8.Which of the following cannot be used as LHS of the expression in for (exp1;exp2; exp3)?

a) Variable

b) Function

c) typedef

d) *macros*

9.What is an example of iteration in C?

a) for

b) while

c) do-while

d) *all of the mentioned*

10.Which loop is most suitable to first perform the operation and then test the condition?

a) for loop

b) while loop

c) *do-while loop*

d) none of the mentioned

Unit - III

1. A string is collection of ……………………….

a.integers

b.characters

c.variables

d.constant

2.Which standard library function will you use to find the last occurance of a character in a string in C?

a. strnchar()

b. strchar()

c. strrchar()

d. strrchr()

3.Which of the following function sets first n characters of a string to a given character?

a.strinit()

b.strnset()

c.strset()

d.strcset()

4.The library function used to reverse a string is

a.strstr()

b.strrev()

c.revstr()

d.strreverse()

5.If the two strings are identical, then strcmp() function return

a.-1

b.1

c.0

d.Yes

6.How will you print on the screen?

a.printf("");

b.echo "";

c.printf(");

d.printf("");

7.Which of the following function is more appropriate for reading in a multi-word string?

a.printf();

b.scanf();

c.gets();

d.puts();

8. is used to call the function.

a. Variable

b. User defined type

c. Function name

Return type

9.Which is used to compare two strings?

a.   strlen()

b.   strcpy()

c.   strcat()

d.   strcmp()

10. A string that always ends with .

a. \0

b. \n

c. \b

d. \t

Unit- IV

1. User defined data type can be derived by   .

    a) struct   b) enum   c) typedef   **d) all of the above**

    2. Which of the following is correct syntax to send an array as

        parameter to function?

  a) func(&array);   b) func(#array);

   c) func(*array);   d) func(array[size]);

    3. Which operator is used to obtain a variable?

    a) *   **b) &**   c) .   d) ||

    4. Which of the following return type cannot be used for a

       function c?

    a)char* b) struct c) void **d) none of the above**

    5. Which operator connects the structure name to its member

       name?

    a)-   b) <-   c) .   **d) both b and c.**

    6. Memory is divided into small pieces is called ⎯⎯⎯⎯⎯

  a) bytes b) bits c) pieces d) items

    7. A pointer is ⎯⎯⎯⎯⎯⎯ .

    a) a keyword to create variable.   b) a variable that stores address

of an instruction.

c) a variable that stores address   d) all of the above.
of other variable.

8. Which of the following operator is illegal in structures?

a) type casting of structure.   b) pointer to a variable of
                                                            same structure.

   c) dynamic allocation of memory d) all of the above.
      for structure.

9. What is (void*)?

   a) representation of NULL pointer.   b) representation of void
                                                               pointer.

   c) error.   d) none of the above.

10. ———————— provide an efficient way of using same memory
      location for multiple purpose.

   a) structure   b) array   c) functions **d) union.**

Unit - V

1. What is the value of EOF?
      a)-1   b)0 c)1   d)10

2. For binary files, a -------------- must be appended to
      The mode string.
      a)Nothing   **b)"b"**   c)"binary"   d)10

3. If there is any error while opening a file, fopen

      Will return

      a) EOF b)NULL **c)Nothing**   d)depends on complier

   4.File is of ---------- type

a)int type   b)char*type   **c)struct type**   d)none

5. Which type of files cant be opened using fopen()?

   a).txt   b).bin   c).c   **d)none**

6. A data of the file is stored in -----------

   a)ram   **b)hard disk**   c)rom   d)none

7. Select a function which is used to read a single

   character from a file at a time?

   a)fscanf()   b)getch()   **c)fgetc()**   d)fgets()

8. Which is data type of file pointer -----------

   a)int   b)double   c)void   **d)file**

9. Select text file in which data is stored in-------

   a)ASCII code   b)binary code   c)octal code   d)text code

10. Text file in which number will take--------bytes.

   a)2 bytes   **b)4 bytes**   c)3 bytes   d)8 bytes

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DEPARTMENT OF COMPUTER TECHNOLOGY

C PROGRAMMING

K2 - Level Questions

Unit - I

1. Explain continue statement
2. Write any four data types.
3. Define a variable.
4. What are the key words?
5. Which is enclosed by double quotes?
6. What is a string?
7. What are the logical operators?
8. How to check the value of a particular bit?
9. Define a type casting.
10. What is character set?

Unit - II

1. Classification of control statements.
2. Write about go-to statement.
3. Define array.
4. How to declare an array.
5. What is looping.
6. Write about unconditional statement.
7. Define switch statement.
8. Write Syntax for for loop.
9. Write Syntax for nested if.
10. Write about array index out of bounds.

Unit - III

1. What is function?
2. Explain return statement.
3. What is palindrome?

4. Write about parameter?

5. How will you read a string?

6. What are the types of function?

7. Write about string and its example.

8. Explain user defined function.

9. What advantages of return statement?

10. Write a string and find its reverse using string library function.

Unit -IV

1. What is pointer?

2. Define function.

3. Define structure.

4. Write general format of type definition.

5. Give two advantages of union.

6. What the operator used in call by reference method.

7. Is the call by reference use variable indirectly?

8. Define indirection operator.

9. Write a types of pointer variable.

10. Give some advantages of pointers.

Unit - V

1. Define file.

2. How to open and close a file? Write its syntax.

3. Write the operations in a file.

4. How to declare a variable in a file?

5. What are the two command line arguments?

6. Define ftell();

7. What are the library functions?

8. Define pre-processor.

9. What is command line argument?

10. Which is used to read a group of characters?

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DEPARTMENT OF COMPUTER TECHNOLOGY

C PROGRAMMING

K3 - Level Questions

Unit - I

1. Write about constants and its types with examples.

2. What are the advantages of C Language?

3. How will you declare a variable?

4. Describe about Library functions in C programming.

5. Explain the rules and naming convention for the identifier.

6. Write a note on sizeof () operator.

7. Explain the block structure of C programming.

8. Describe about evaluation of an expression and precedence of operators.

9. Write a C program to check whether a number is prime or not.

10. Explain about relational operators with examples.

Unit - II

1. What is pre-increment/post-increment? Explain with example.

2. Explain about break statement with examples.

3. Difference between while and do… while Loop with examples.

4. Explain about switch case with suitable program.

5. Write about Continue statement with examples.

6. Write a C program to perform transpose of matrix.

7. How will you declare an array variable? Explain it.

8. Write a program to prepare a mark list using two dimensional arrays.

9. Write a C program to find the biggest of three numbers.

10. Discuss about Multidimensional array with suitable example.

Unit - III

1. Write a c program to check given string is palindrome or not.

2. Write about String functions and name some examples.

3. Describe User defined function with example program.

4. Illustrate a program to calculate simple interest and compound interest value using function.

5. Explain the concepts of recursive functions.

6. Write a c program to compare two given strings.

7. Write about return statements and explain it briefly.

8. Differentiate No Argument and Return type and Argument and No Return type.

9. How will you assign a value to string? Explain it.

10. Differentiate Character and string with example.

Unit - IV

1. How will you declare a pointer variable? Explain it.

2. Write a short note on enumerated data type?

3. State the concept of array of pointers with sample program.

4. Explain about nested structure with example?

5. How will you pass an array to the function?

6. Write an example program for call by value method?

7. Discuss about call by reference with example program.

8. How will you change the value to function?

9. Write simple program to illustrate pointers and structures.

10. Difference between structure and union.

Unit - V

1. Explain about files and its declaration with example.

2. Elucidate open and close operations in file concepts.

3. How to read and write character in a file?

4. Explain about the concept of end of file method with example.

5. Write about the followings with example i) fseek() ii) ftell() iii) rewind()

6. Describe about #include pre-processor directives with an example program.

7. Write a short note on random file operations.

8. Discuss about Command Line Arguments with example.

9. How will you read content from the file?

10. Distinguish the argc and argv.

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DEPARTMENT OF COMPUTER TECHNOLOGY

C PROGRAMMING

K4 & K5 - Level Questions

Unit - I

1. Explain about the various data types of c programming
2. Write a brief note on unformatted I/O statements with example.
3. Write a c program to check given number is odd or even.
4. Describe about library functions in c programming.
5. Explain the input and output operations in c programming.

Unit - II

1. Write in detail about nested for loops with example program.
2. Write a c program to find factorial of given number.
3. Write a c program using nested if else statement.
4. Differentiate single dimensional and multidimensional arrays.
5. Write a c program to generate Fibonacci series for given number.

Unit - III

1. Write a c program to compare string and sub string.
2. Write a c program for perform multiple mathematical library functions.
3. Describe briefly about formal parameter with example.
4. Write a c program to check whether given number is prime or not using recursive function
5. Write about actual parameter with an example.

Unit - IV

1. Describe about structure and union with example.
2. Explain call by value and call by reference method with example.
3. How will you assign a value to structure variable? Explain with example.
4. Elucidate Array of Structures with example
5. Brief about pointers and its method with example.

Unit - V

1. Explain about sequential file operations.
2. Define pre-processor directives with example program.
3. Write about command line argument and comment line.
4. Describe file and its operations with example.
5. Explain about macro definition with an example program.

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18UCT102 - Digital Computer Fundamentals (K2)

UNIT – 1

1. Hexadecimal equivalent of binary number 1000 is -------------.

    a) F   **b) 8**   c) 10   d) 1000

2. A Karnaugh map (K-map) is an abstract form of _____ diagram organized as a matrix of squares.

    a) Venn Diagram   b) Cycle Diagram   c) Block diagram   d) Triangular Diagram

3. ASCII stands for

    a) American Standard Code for Information Interchange

    b American Scientific Code for International Interchange

    c) American Standard Code for Intelligence Interchange

    d) American Scientific Code for Information Interchange

4. What is the decimal value of the hexadecimal number 777?

    a) 191   **b) 1911**   c) 19   d) 19111

5. The minterm designation of the term ABCD is

    a) 14   **b) 15**   c) 11   d) none of these

6. NAND gate means

    a) Inversion followed by AND gates

    b) AND gate followed by an inverter

    c) AND gate followed by an OR gate

    d) None of these.

7. A decimal number 6 in excess-3 code is written as

    a) 0110   b) 0011   c) 1101   **d) 1001**

8. The base of the hexadecimal number system is

    a) 6   b) 8   **c) 16**   d) 10

9. The numbers of bits in one nibble are -----------------------.

    a) 2   **b) 4**   c) 8   d) 16

10. Which of the following binary number is equivalent to decimal number 24

    a) 1101111   **b) 11000**   c) 111111   d) 110011

UNIT – 2

1. ------------- gate has only a single unit and always a single output signal.

    a) NAND   **b) NOT**   c) AND   d) OR

2. Boolean algebra can be used to

    a) Simplify any algebraic expressions   **b) Minimize the number of switches in a circuits** c) Solve the mathematical problems   d) Perform arithmetic calculations.

3. An XOR gate gives a high output

    a) If it has odd number of 1's in the input   b) If it has odd number of 0's in the input (c) If it has even number of 0's in the input   d) If it has even number of 1's in the input

4. The minterm designation of the term ABCD is

    a) m8   b) m10   c) m14   **d) m15**

5. In Boolean algebra, the OR operation is performed by which properties

    a) Associative properties

    b) Commutative properties

    c) Distributive properties

    d) All of the Mentioned

6. According to Boolean law: $A + 1 =$?

    a) 1   b) A   c) 0   d) A'

7. DeMorgan's theorem states that

    a) $(AB)' = A' + B'$

    b) $(A + B)' = A' * B$

    c) $A' + B' = A'B'$

    d) None of the Mentioned

8. Simplify $Y = AB' + (A' + B)C$

    a) $AB' + C$ b) $AB + AC$ c) $A'B + AC'$ d) $AB + A$

9. The expression for Absorption law is given by

    a) $A+AB = A$

    b) $A+AB = B$

    c) $AB+AA' = A$

    d) None of the Mentioned

10. Which of following are known as universal gates?

    a) NAND & NOR

    b) AND & OR

c) XOR & OR

d) None of the Mentioned

11. How many two-input AND and OR gates are required to realize Y = CD+EF+G?

a) 2, 2   b) 2, 3   c) 3, 3   d) None of the Mentioned

12. The prime implicant which has at least one element that is not present in any other implicant is known as

a) Essential Prime Implicant

b) Implicant

c) Complement

d) None of the Mentioned

13. A variable on its own or in its complemented form is known as a

a) Product Term   **b) Literal**   c) Sum Term   d) None of the Mentioned

14. The logical sum of two or more logical product terms is called

a) SOP   b) POS   c) OR operation   d) NAND operation

15.   A Karnaugh map (K-map) is an abstract form of diagram organized as a matrix of squares.

a) Venn Diagram   b) Cycle Diagram   c) Block diagram   d) Triangular Diagram

16. There are _____ cells in a 4-variable K-map.

a) 12   **b) 16**   c) 18   d) None of the Mentioned

UNIT – 3

1) If A and B are the inputs of a half adder, the sum is given by

a) A AND B

b) A OR B

c) A XOR B

d) A EXOR B

2) Half-adders have a major limitation in that they cannot

a) Accept a carry bit from a present stage

b) Accept a carry bit from a next stage

c) Accept a carry bit from a previous stage

d) None of the Mentioned

3) How many AND, OR and EXOR gates are required for the configuration of full adder

   a) 1, 2, 2

   b) 2, 1, 2

   c) 3, 1, 2

   d) 4, 0, 1

4) The difference between half adder and full adder is

   a) Half adder has two inputs while full adder has four inputs

   b) Half adder has one output while full adder has two outputs

   c) Half adder has two inputs while full adder has three inputs

   d) All of the Mentioned

5) What are the two types of basic adder circuits?

   a) Sum and carry

   b) Half-adder and full-adder

   c) Asynchronous and synchronous

   d) One and two's-complement

6) The selector inputs to an arithmetic/logic unit (ALU) determine the:

   a) Selection of the IC

   b) Arithmetic or logic function

   c) Data word selection

   d) Clock frequency to be used

7) 2's complement of 11001011 is

   a) 01010111

   b) 11010100

   c) 00110101

   d) 11100010

8) On addition of 28 and 18 using 2's complement, we get

   a) 00101110

   b) 0101110

   c) 00101111

   d) 1001111

9) Half subtractor is used to perform subtraction of

   a) 2 bits

   b) 3 bits

c) 4 bits

d) 5 bits

10) The full subtractor can be implemented using

   a) Two XOR and an OR gates

   b) Two half subtractors and an OR gate

   c) Two multiplexers and an AND gate

   d) None of the Mentioned

11) Let the input of a subtractor is A and B then what the output will be if A = B?

   a) 0

   b) 1

   c) A

   d) B

12) On subtracting (001100)2 from (101001)2 using 2's complement, we get

   a) 1101100

   b) 011101

   c) 11010101

   d) 11010111

13) On subtracting +28 from +29 using 2's complement, we get

   a) 11111010

   b) 111111001

   c) 010101011

   d) 1

14) What do you call the intermediate terms in binary multiplication

   a) Multipliers

   b) Mid terms

   c) Partial Products

   d) Multiplicands

15) The multiplication of 110 * 111 is performed. What is a general term used for 111

   a) Dividend

   b) Quotient

   c) Multiplicand

   d) Multiplier

16) Which one is a basic comparator?

   a) XOR

   b) XNOR

   c) AND

   d) NAND

17) In a comparator, if we get input as A>B then the output will be

   a) 1

   b) 0

   c) A

   d) B

18) One that is not the outcome of magnitude comparator is

   a) a > b

   b) a – b

   c) a < b

   d) a = b

19) Perform binary addition of 1101 + 0010 is

   a) 1110

   b) 1111

   c) 0111

   d) 1,1101

20) In which operation carry is obtained

   a) Subtraction

   b) Addition

   c) Multiplication

   d) Both addition and subtraction

UNIT – 4

1) Whose operations are faster among the following?

   a) Combinational circuits

   b) Sequential circuits

   c) Latches

   d) Flip-flops

2) A basic S-R flip-flop can be constructed by cross-coupling of which basic logic gates?

a) AND or OR gates

b) XOR or XNOR gates

c) NOR or NAND gates

d) AND or NOR gates

3) One multiplexer can take the place of

a) Several SSI logic gates

b) Combinational logic circuits

c) Several Ex-NOR gates

d) Several SSI logic gates or combinational logic circuits

4) How many types of sequential circuits are?

a) 2

b) 3

c) 4

d) 5

5) The sequential circuit is also called

a) Flip-flop

b) Latch

c) Strobe

d) None of the Mentioned

6) Which sequential circuits generate the feedback path due to the cross-coupled connection from output of one gate to the input of another gate**?**

a. Synchronous

b. Asynchronous

c. Both

d. None of the above

7) The behaviour of synchronous sequential circuit can be predicted by defining the signals at

a. discrete instants of time

b. continuous instants of time

c. sampling instants of time

d. at any instant of time

8) What is a trigger pulse

   a) A pulse that starts a cycle of operation

   b) A pulse that reverses the cycle of operation

   c) A pulse that prevents a cycle of operation

   d) None of the Mentioned

9) The circuits of NOR based S-R latch classified as asynchronous sequential circuits, why?

   a) Because of inverted outputs

   b) Because of triggering functionality

   c) Because of cross-coupled connection

   d) Both a & b

10) One example of the use of an S-R flip-flop is as:

   a) Transition pulse generator

   b) Racer

   c) Switch debouncer

   d) Astable oscillator

11) When both inputs of SR latches are high, the latch goes

   a) Unstable

   b) Stable

   c) Metastable

   d) None of the Mentioned

12) Two stable states of latches are

   a) Astable & Monostable

   b) Low input & high output

   c) High output & low output

   d) Low output & high input

13) A latch is an example of a

   a) Monostable multivibrator

   b) Astable multivibrator

   c) Bistable multivibrator

   d) None of the Mentioned

14) A D flip-flop can be constructed from an _____ flip-flop.

   a) S-R

   b) J-K

c) T

d) None of the Mentioned

15) Which of the following is correct for a gated D flip-flop?

a) The output toggles if one of the inputs is held HIGH

b) Only one of the inputs can be HIGH at a time

c) The output complement follows the input when enabled

d) Q output follows the input D when the enable is HIGH

16) The group of bits 11001 is serially shifted (right-most bit first) into a 5-bit parallel output shift register with an initial state 01110. After three clock pulses, the register contains _____

a) 01110

b) 00001

c) 00101

d) 00110

17) A shift register that will accept a parallel input or a bidirectional serial load and internal shift features is called as?

a) Tristate

b) End around

c) Universal

d) Conversion

18) If we record any music in any recorder, such types of process is called

a) Multiplexing

b) Encoding

c) Decoding

d) None of the Mentioned

19) For 8-bit input encoder how many combinations are possible?

a) 8

b) 2^8

c) 4

d) 2^4

20) The word demultiplex means

a) One into many

b) Many into one

c) Distributor

d) One into many as well as Distributor

UNIT – 5

1) Ripple counters are also called

   a) SSI counters

   b) Asynchronous counters

   c) Synchronous counters

   d) VLSI counters

2) Synchronous counter is a type of

   a) SSI counters

   b) LSI counters

   c) MSI counters

   d) VLSI counters

3) BCD counter is also known as

   a) Parallel counter

   b) Decade counter

   c) Synchronous counter

   d) VLSI counter

4) What is the difference between a shift-right register and a shift-left register?

   a) There is no difference

   b) The direction of the shift

   c) Propagation delay

   d) The clock input

5) What is a transceiver circuit?

   a) A buffer that transfers data from input to output

   b) A buffer that transfers data from output to input

   c) A buffer that can operate in both directions

   d) None of the Mentioned

6) In 4-bit up-down counter, how many flip-flops are required?

   a) 2

   b) 3

   c) 4

   d) 5

7) The counter starts counting only if

a) GATE signal is low

b) GATE signal is high

c) CLK signal is low

d) CLK signal is high

8) The number of counters that are present in the programmable timer device 8254 is

a) 1

b) 2

c) 3

d) 4

9) The register is a type of

a) Combinational circuit

b) Sequential circuit

c) CPU

d) Latches

10) Registers capable of shifting in one direction is

a) Universal shift register

b) Unidirectional shift register

c) Unipolar shift register

d) Unique shift register

11) How many types of registers are

a) 2

b) 3

c) 4

d) 5

12) Which of the following is not a type of memory?

a) RAM

b) FPROM

c) EEPROM

d) ROM

13) The chip by which both the operation of read and write is performed

   a) RAM

   b) ROM

   c) PROM

   d) EPROM

14) PAL refers to

   a) Programmable Array Loaded

   b) Programmable Logic Array

   c) Programmable Array Logic

   d) None of the Mentioned

15) PLA contains

   a) AND and OR arrays

   b) NAND and OR arrays

   c) NOT and AND arrays

   d) NOR and OR arrays

16) What do a buffer consist of?

   a) memory and register

   b) memory and peripheral

   c) memory and flag register

   d) memory and pointer

17) The copy-back protocol is used _____

   a) To copy the contents of the memory onto the cache

   b) To update the contents of the memory from the cache

   c) To remove the contents of the cache and push it on to the memory

   d) None of the mentioned

18) Which of the following can be used as a collection point of data

   a) register

   b) buffer

   c) flag register

   d) accumulator

19)) UP-DOWN counter is also known as

   a) Dual counter

   b) Multi counter

c) Multimode counter

d) None of the Mentioned

20) A counter circuit is usually constructed of

    a) A number of latches connected in cascade form

    b) A number of NAND gates connected in cascade form

    c) A number of flip-flops connected in cascade

    d) None of the Mentioned

18UCT102 - Digital Computer Fundamentals (K2)

UNIT – 1

1. What is an excess-3 code?

2. What is a NOR gate meant by?

3. What is a reflective code?

4. Where the Hollerith code is used?

5. What will be the output , if an input A is given to an inverter?

6. What is a NAND gate meant by?

7. What is Gray code?

8. Define nibble.

9. Expand BCD.

10. Which number system uses both alphabets as well as numerals?

11. What are the two states in a digital Circuit?

UNIT – 2

1. What is an essential prime-implicant?

2. What is a logic circuit?

3. State DeMorgan's first theorem.

4. State DeMorgan's second theorem.

5. What do you mean by don't care combinations?

6. Add 1011010 and 10110

7. What is the use of Karnaugh map?

8. What is an excess-3 code?

9. What is the resulting output of XOR gate when the inputs are A and B?

10. Draw the logic circuit of OR Gate.

11. Define Prime-implicant.

UNIT – 3

1. What are the arithmetic and logic circuits available?

2. Describe Half Adder.

3. Define BCD Adder

4. What is the function of Half subtractor?

5. Show the function of Binary Divider.

6. Summarize about parallel binary subtractors.

7. Define Binary Multiplier.

8. What is the full form of BCD?

9. How many inputs and how many outputs in full subtractor?

10. What is the function of Comparator?

UNIT – 4

1. What is the element a sequential circuit contains?

2. Define Flip Flop.

3. Which flip flop is used as a latch?

4. What is the use of Schmitt trigger?

5. Define D- flip flop.

6. Define T- Flip flop.

7. How many flip flops were used to construct shift left register?

8. What is the use of a decoder?

9. What is the short form of Multiplexer?

10. What is the another name of demultiplexer?

UNIT – 5

1. Define counter.

2. What is the another name of ring counter?

3. Define down counter.

4. Define memory unit.

5. What is meant by ROM?

6. What is the full form of PAL?

7. What is the full form of PLA?

8. Define Buffer.

9. What is the use of cache memory?

10. What is the package density of Bipolar RAM?

18UCT102 - Digital Computer Fundamentals (K3/K4/K5)

UNIT – 1

K3 Level Questions

Section-B (5 Marks)

1. Convert the following Gray Numbers Code to their equivalent Binary Numbers.
   (i) 111011 (ii) 101110101

2. Write a short note on Binary and Hexadecimal number systems with example.

3. Convert the following Binary Numbers to equivalent Octal Numbers

   i) 10101111 (ii) 1101.0110111

4. Examine Floating point Representation of a decimal number in a computer with a suitable example.

5. Convert $(63718)_{10}$ into equivalent (i) Binary and (ii) Hexadecimal Number.

6. Explain Double-Precision Numbers with suitable example.

7. A seven bit Hamming code is received as 1101101. Locate the error position and find the correct code.

8. Write a short note on Alphanumeric Codes.

9. Explain how Hamming code is used to detect and correct the error.

10. Convert hexadecimal number 117.6C into its equivalent binary number. Convert the binary number 10110110.10101 into its equivalent hexadecimal number.

11. Convert decimal number 41 into its equivalent binary number. Convert 1011.1011 into equivalent decimal number.

12. Convert decimal number 63718 into its equivalent (a) binary number (b) octal.

13. Convert $(AA1)_{16}$ into its equivalent decimal and octal numbers.

14. Write a brief note on Integrated Circuits or Chip.

15. Convert 1E8.7 hex into equivalent (a) binary, (b) decimal numbers.

Section-C (10 marks)

16. (i) Perform the following binary additions

    (a) 100101 + 100101

    (b) 1011.01 + 1001.11

   (ii) Perform the following binary multiplications

    (a) 1.01 x 10.1

    (b) 101.01 x 11.

17. (i) Perform the following subtraction using 1's complement arithmetic

    (a) 11001 – 10110

    (b) 1011 – 0101

   (ii) Perform the following subtraction using 2's complement arithmetic

    (a) 0.01111 – 0.01001

    (b) 11101.001 – 00100.111

18. Write short notes on i) BCD ii) Excess-3 code iii) Gray code

19. (i) Convert hexadecimal number 117.6C into its equivalent binary number

   (ii) A seven bit Hamming code is received as 1101101. Locate the error position and find the correct code.

   (iii)Convert gray code number 1101110 into its equivalent binary number.

   (iv) Subtract using 2's complement arithmetic 11011 - 11001.

20. Write short notes on:

   i) Alphanumeric codes

   ii) Weighted codes

   iii)Excess-3 code

   iv) BCD

1. Implement the following Boolean expression using NAND gates only Y= ABC + DEF

2. Prove the following identities using Boolean algebra.

(i) $\overline{ABC} + \overline{AB}\overline{C} + A\overline{BC} + AB\overline{C} = \overline{C}$

(ii) $AB + ABC + \overline{A}B + A\overline{B}C = B + AC$

3. Implement the following Boolean expression using NOR gates only Y= A + $\overline{B}$C + AC

4. State and Prove Demorgan's Theorems mathematically and using truth tables.

5. Explain basic logic gates with logic diagram and truth table.

6. Implement the following Boolean expression using NAND gates only.

(i) Y= A+$\overline{B}$C + AC

(ii) Y= $\overline{(A+\overline{B})}$. $\overline{(A+C)}$

7. Simplify the following logic equations using Boolean algebra.

(i)   Z=$(\overline{ABC}+A\overline{BC}+ABC+AB\overline{C})(A+B)$

(ii)   Y=A+$\overline{AB}\overline{C}+B+C$

8. Implement the following Boolean expression using minimum number of gates.

(a) Y= ABC + $\overline{ABC}$

(b) Y= A + $\overline{B}$C

9. State and prove De-Morgan's First Theorem.

10. From the truth table given below, express the function in sum of minterms and product of maxterms. Obtain the switching function f(A,B,C) in canonical SOP and POS form and prove that they both minimize to the same value.

Decimal value	A	B	C	f
0	0	0	0	1
1	0	0	1	1

2	0	1	0	0
3	0	1	1	0
4	1	0	0	1
5	1	0	1	1
6	1	1	0	0
7	1	1	1	0

11. Describe Exclusive NOR gate with logic diagram and truth table.

12. Find the minimal expression for the Boolean function $f(w,x,y,z) = \sum (0,1,2,3,4,8,9,10,15)$

K4 Level Questions
Section-C (10 Marks)

1. Is NOR gate an universal gate? Support your answer.

2. Implement the following Boolean expressions using basic gates.

   i) $Y = A.B + C.D + E.F$

   ii) $Y = (A+B).(C+D).(E+F)$

   iii) $Y = (A+B). C + AB = AB + BC + CA$

3. Obtain the minimal SOP expression for the switching function given below, using a four-variable Karnaugh map. $f(A,B,C,D) = \sum (5,6,7,8,9) + \phi(10,11,12,13,14,15)$

4. Show that using Boolean algebra and DeMorgan's theorems:

   i) $\overline{BD} + \overline{ABD} + \overline{ABCD} + AC\overline{D} = \overline{D}$

   ii) $\overline{AB + BC + CA} = \overline{AB} + \overline{BC} + \overline{AC}$

5. Obtain the minimal POS expression for the switching function given below, using a four-variable Karnaugh map. $f(A,B,C,D) = \pi(3,4,6,7,11,12,13,14,15)$

6. State and Prove Demorgan's Theorems mathematically and using truth tables.

7. Obtain the minimal SOP expression for the switching function given below, using a four-variable Karnaugh map. $f(A,B,C,D) = \sum (2,5,6,9,10,12,13,14) + \phi(3,7,11,15)$

8. Obtain the minimal POS expression for the switching function given below, using a four-variable Karnaugh map. $f(A,B,C,D) = \pi(0,1,2,3,4,7,8,11,12,14,15)$

9. Obtain the minimal SOP expression for the switching function given below, using a four-variable Karnaugh map. $f(A,B,C,D) = \sum(2,5,6,9,10,12,13,14) + \phi(3,7,11,15)$

10. Express $f(A,B,C,D)=AB+ABC+CD$ as sum of minterms and product of maxterms.

11. Prove the identities using Boolean algebra:

        i) $AB + CD = (A+C)(A+D)(B+C)(B+D)$

        ii) $(A+B\overline{C}+C)\overline{C}=AB\overline{C}+A\overline{B}\overline{C}+\overline{A}B\overline{C}$

12. Prove the identities using Boolean algebra:

    i) $AB + CD = (A+C)\ (A+D)\ (B+C)\ (B+D)$

    ii) $\overline{ABC} + \overline{AB}C + A\overline{BC} + AB\overline{C} = \overline{C}$

    iii) $A(\overline{A} + C).(\overline{A}B)+ \overline{C}$

UNIT – 3
K3 Level Questions
Section-B (5 Marks)

1. Draw and explain four-bit BCD adder.
2. Explain 2's complement adder.
3. Write neatly about the Half adder with a neat diagram.
4. Draw and explain about the Full adder.
5. What is parallel binary adder? Realise binary adder using half adders and full adders to perform the addition of 1011 and 1101.
6. Draw and explain half-subtractor. Find out its difference and borrow bit outputs.
7. Illustrate about the 2's complement subtractor.
8. Summarize on Binary Multiplier.
9. Write a short outline on Binary Divider.
10. Describe Full Subtractor.

K4 Level Questions
Section-C (10 Marks)

11. Draw and explain full-adder. Find out its sum and carry bit outputs, also show how it can be realized using NAND gate only.

12. Explain binary Multiplication. How will you realise a two, 2-bit binary multiplier?

13. Draw and explain half-adder. Find out its sum and carry bit outputs, also show how it can be realized using NOR gate only.

14. Discuss in brief about the BCD Adder and also show its Block diagram.

15. Write in detail about Comparator.

UNIT – 4
K3 Level Questions
Section-B (5 Marks)

1. Define Flip-flop and describe about R-S flip-flops.
2. Examine clocked R-S flip-flops.
3. Analyze on Positive edge triggered J-K flip-flop.
4. Simplify Data latch or D-flip flop.
5. Write a short note on shift-right register.
6. Write an outline on Multiplexers.
7. Examine about shift-left register.
8. Analyze on Positive edge triggered Data flip-flop.
9. Write a conclusion on De-Multiplexers.
10. Analyze about Master slave J-K flip-flop.

K4 Level Questions
Section-C (10 Marks)

11. Give a comparison about Encoder and Decoder.
12. Analyze about Flip – Flops in detail.
13. Classify Registers and explain in brief about shift-right and shift-left registers.
14. Draw and explain Master-Slave JK flip-flop.
15. Write a short note on Positive edge triggered Data flip-flop.

16. Write a short note on Positive edge triggered J-K flip-flop.

17. Define Flip-flop and describe about R-S flip-flops and clocked R-S flip-flops.

UNIT–5

K3 Level Questions

Section-B (5 Marks)

1. Differentiate between Bipolar and MOS-RAMs.

2. Discuss four bit programmable counter.

3. Draw and explain the working of a Ring counter.

4. Describe Programmable array logic (PAL).

5. Explain in short on Cache Memory.

6. Describe Programmable logic array (PLA).

7. Explain the working of Synchronous Up / Down Counter.

8. Define Memory Unit and Concept of Memory Using Registers.

9. Write about Read Only Memories with example.

10. Write about Random Access Memories with suitable examples.

K4 Level Questions

Section-C (10 Marks)

11. Explain cache memory and its use in Microcomputer system.

12. Draw a 4-bit binary ripple counter. Explain it's working.

13. What is Decoder? Draw and explain the working of a 3 to 8 line Decoder.

14. Explain the concept of memory system with neat diagram.

15. Define Memory Unit and write a brief note on RAM and ROM.

18UCT1A1 - ALLIED I: MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE

SECTION A

K1 LEVEL QUESTIONS

UNIT I

K1 Level Questions

1. The rank of the identity matrix of order n is:

    a) $n - 1$

    b) n

    c) $n + 1$

    d) n-1

2. If A is a non-singular matrix of order n, then the rank of A is:

    a) **n**

    b) 0

    c) $n - 1$

    d) n+1

3. Rank of null matrix is :

    a) 0

    b) 1

    c) Not defined

    d)2

4. If two matrices A and B have the same size and the same rank, then

    a) They have determinant 0

    b) **They are equivalent**

c) A and B have common elements

d)They are not equivalent

5. A square matrix A is invertible if and only if A is non-singular matrix.

   a) **non-singular**

   b) Singular

   c) Square

   d) Invertible

6. If A and B matrices are of same order and A + B = B + A, this law is known as

   a) Distributive law

   b) **Commutative law**

   c) Associative law

   d) Cramer's law

7. If a matrix has equal number of columns and rows then it is said to be a

   a) Row matrix

   b) Identical matrix

   c) **Square matrix**

   d) Rectangular matrix

8. If determinant of a matrix is equal to zero, then it is said to be

   a) Square matrix

   b) **Singular matrix**

   c) non-singular matrix

   d) Identical matrix

9. We can add two matrices having real numbers A and B if their

    a) order is same
    b) rows are same
    c) columns are same
    d) elements are same

10. Skew symmetric matrix is also called

    a) Symmetric

    b) Identical matrix

    c) Square matrix

    d) Anti symmetric

11. A Matrix containing the value 1 in the diagonal elements and the remaining elements are zero is   called as

    a) Column   b) **Square**
    c) Row   d) Unit

12. All the elements of the matrix are zero. It is also called as _____.

    a) Triangular matrix.   c) **Null matrix.**
    b) Diagonal matrix.   d) None of these above.

13. A Matrix containing the number of rows and columns is called

    a) Column   b) **Square**
    c) Row   d) Unit

14. The Null matrix is also called

    a) Unit   b) Empty
    c) **Zero**   d) Single

UNIT II

K1 Level Questions

1. Solve simultaneous equations 13x - 6y = 20, 7x + 4y = 18
   a) **x = 2, y = 1**
   b) x = 4, y = 8
   c) x = 6, y = 1
   d) x = 2, y = 4

2. Solving equations $\frac{1}{3}(x + y) = \frac{1}{5}(x - y)$, 3x + 11y = 4 gives
   a) x = 1, y = 4
   b) x = 5, y = 6
   c) **x = 16, y = -4**
   d) x = -4, y = 16

3. Solve for value of x and y if 5x - y = 5 and 3x + 2y = 29
   a) x = 12, y = 3
   b) x = 1, y = 4
   c) x = -3, y = 24
   d) **x = 3, y = 10**

4. Two equations that can be drawn as same line on graph then these equations are considered

as

   a) constant equations
   b) solved equations
   c) **equivalent equations**
   d) non-equivalent equations

5. Set which consists of more than one equation is classified as

   a) **system of equations**
   b) system of variables
   c) system of constants
   d) system of co-efficient

6.Two equations that have no values to satisfy both equations then this is called

a) consistent system
b) inconsistent system
c) solution system
d) constant system

7. In linear equations, finite set and infinite set are classified as its

a) dimension set
b) constant set
c) variable set
d) solution set

8. The bisection method of finding roots of nonlinear equations falls under the category of a (an) _____ method.

a) Open

b) **Bracketing**

c) Random

d) Graphical

9. If for a real continuous function (xf), (bfaf) < 0)(, then in the range of [,ba] for (xf) = 0 , there is (are)

(A) One root

(B) An undeterminable number of roots

(C) No root

(D) **At least one root**

10. Solve the equation 3x2=5x+23x2=5x+2 to 2 decimal places.

a) x=−1.00x=−1.00, x=−0.67

b) **x=−0.33x=−0.33, x=2.00**

c) x=1.00x=1.00, x=0.67

d) x=0.06x=0.06, x=−1.73x=−1.73

11. In Linear Algebraic Equation ----------------- method is called Iterative method.

a) Gauss-Elimination   b) Gauss-Jordan   c) **Gauss-Seidel**   d) Bisection

12. The other name for False position method is

a) Regular method   b) Iterative method

c)Irregularmehod   d) **RegulaFalsi method**

13. RegulaFalsi method is ---------------------------- Method

a) Direct   c) **Indirect**

b) Iterative   d) Regular

UNIT III

K1 Level Questions

1. Newton forward interpolation formula is used for _____ intervals.

a) Open

b) unequal

c) **Equal**

d) Closed

2. By using Newton's backward difference table form the following data: f (30) = 0.5000, f (35) = 0.5736, f (40) = 0.6428, f (45) = 0.7071. What is the value of ∇ 3 yn?

a) - 0.0049

b) -1.872

c) **- 0.0005**

d) -0.0469

3. In case of Newton Backward Interpolation Formula which equation is correct to find u?

a) (x − xn) h = u

b) x + xn = uh

c) x − xn = u

d) **x − xn = uh**

4. Let h be the finite difference, then forward difference operator is defined by _____.

a) **f(x) = f(x+h)-f(x)**

b) f(x) = f(x-h)-f(x)

c) f(x) = f(x*h)

d) f(x) = f(x)

5. The two-segment trapezoidal rule of integration is exact for integrating at most _____ order polynomials.

a) **First**

b) Second

c) Third

d) Fourth

6. Simpson's one-third rule, y(x) is a polynomial of degree -------------------.

    a) 2   b) **3**   c) 5   d) 7

7. In Simpson's One third rule the number of ordinates must be

    a) Even   b) 5

    c)3   d) **Odd**

8. Numerical integration using trapezoidal rule gives the best result for a single variable function , which is _____.

    a)**linear**   b) parabolic

    c) Logarithmic   d) hyperbolic

9. The bases (top and bottom) of a trapezoid are _____.

    a)**parallel**   b) opposite

    c) Diagonal   d) none of the above

10. To find the permeter of a trapezoid, add all the _____of the sides.

    a)breath   b) **length**

    c) sides   d) none of the above

UNIT IV

K1 Level Questions

1. In quartiles, central tendency median to be measured must lie in

    a) First quartile

    b) Second quartile

    c) Third quartile

    d) Four quartile

2. Arithmetic mean is 12 and number of observations are 20 then sum of all values is

    a) 8
    b) 32
    c) 240
    d) 1.667

3. Method used to compute average or central value of collected data is considered as

    a) measures of positive variation
    b) measures of central tendency
    c) measures of negative skewness
    d) measures of negative variation

4. Mean or average used to measure central tendency is called

    a) sample mean
    b) arithmetic mean
    c) negative mean
    d) population mean

5. If mean of percentages, rates and ratios is to be calculated then central tendency measure which must be used in this situation is

    a) weighted arithmetic mean
    b) paired arithmetic mean
    c) non-paired arithmetic mean
    d) square of arithmetic mean

6. When data is arranged, middle value in set of observations is classified as

    a) median
    b) mean
    c) variance
    d) standard deviation

7. If frequencies widely varies between different classes, then measure of central tendency must be used is

    a) non-paired arithmetic mean
    b) square of arithmetic mean

c) weighted arithmetic mean

d) paired arithmetic mean

8. Measure of central tendency which represents over time multiplicative effects for inflation and compound interest is considered as

   a) deviation square mean
   b) paired mean
   c) geometric mean
   d) harmonic mean

9. Around central value of observations, extent to which values depart from normal distribution is classified as

   a) negative variation
   b) positive variation
   c) skewness
   d) positive trailing

10. In measure of central tendency, population parameter is denoted by

   a) Greek letter μ
   b) roman letter μ
   c) Athens letter μ
   d) roman letter x⁻

11 .... refer to the relationship between two or more variables.

   a) Mode   b) **Correlation**   c) Mean   d) Standard Deviation

12. _____ is the value of item that goes to divide a series into equal parts.

   a) Mean.   c) Mode.

   b) **Median** d) None of these above.

13. Standard Deviation is also known as -------------------.

   a) Relative Method b) **Mean Error** c) Average Deviation d) Pearsonian method

UNIT V

K1 Level Questions

1. In mode "L" represents as_____ of the Modal Class
    a) Intervals   b) **Lower Limit**   c) Upper Limit   d) preceding frequency

2. The degree of relationship between two variables and not to be effective the variable. It is also called as_____.
    a) **Correlation**.   c) Rank Correlation.
    b) Regression.   d) None of these above.

3. Karl Pearson's method is also known as _____ Coefficient of correlation.

    a) Pearsonian   b) Concurrent   c) **Rank**   d) Regression

4. _____ indicates no linear relationship in Correlation co-efficient.

    a) 3   b) -1   c) **0**   d) +1

5. _____ is the max.and min. value of co-effienct of correlation.

    a) **+1 & -1**   b) -2 & +2   c) 0 &1   d) 1&-1

6. Rank Correlation is preferred to pearsonian co-efficient of correlation when _____ values

are present.

    a) **extreme**   b) lower   c) upper   d) zero

7. When relationship among three or more than three variables is called as_____

    a) single correlation   b) **multiple correlation**   c) correlation   d) regression

8. When the values of r=+1 , there is perfect _____ correlation.

    a) extreme   b) **positive**   c) negtive   d) zero

9. In correlation, when the relationship between two variables is called as _____correlation.

    a) positive   b) **simple**   c) multiple   d) zero

10. Correlation is said to be positive when the variables move together in _____direction.

    a) **same**   b) opposite c) bi-direction   d) none of the above

18UCT1A1 – ALLIED I: MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE

UNIT I

K2 Level Questions

1. Define Matrix with example.

2. Define scalar matrix with example?

3. Explain Transpose of a matrix.

4. When the rank of a matrix is not changed?

5. What is meant by Unit matrix? Write an example for it.

6. What are the types of triangular matrix? Explain with example.

7. Explain - Eigen value problem.

8. Define Symmetric Matrix with example

9. What is meant by a Square matrix?

10. Mention any two steps of the elementary row operations?

11. Define diagonal matrix and give an example.

12. Explain - Eigen value problem

13. What is meant by Scalar matrix? Write an example for it.

14. What type of Eigen value can be obtained using Power method?

UNIT II

K2 Level Questions

1. How to calculate the range using bisection method?

2. Write the formula for false position method.

3. Newton raphson method formula is   ——————

4. Write the formula for Regula-Falsi method   .

5. Define Gauss – Jordan elimination method.

6. Write down the formula to calculate the mid-point range in Bi-section method.

7. What is another name of Gauss siedal method?

8. What is the other name for Regula-Falsi method?

9. What are the two direct methods in linear algebraic Equation?

10. What are the two indirect methods in linear algebraic Equation?

UNIT III

K2 Level Questions

1. Write the types of numerical methods.

2. What is mean by interpolation?

3. Write the formula for trapezoidal rule.

4. Write down the formula for Third-Order Runge-Kutta algorithm?

5. Define – Taylor series.

6. Define Trapezoidal Rule.

7. Write the types of numerical methods

8. How to calculate the interval difference in Trapezoidal rule?

9. Write down the formula for Second-order Runge-Kutta method.

10. Write the procedure involved in Gauss Jordan elimination method.

K2 Level Questions

1. Define - harmonic mean.

2. What is meant by range?

3. What is meant by a median?

4. What is meant by a mode?

5. Write the formula to find Standard Deviation.

6. Define Arithmetic mean.

7. Explain the formula for mode.

8. Find the range value 10, 20,30,40,50.

9. Explain about SD.

10. Define Geometric mean.

11. Write a formula   i) Range   ii) Co-efficient of range

12. Explain – Mean Deviation.

13. Write the formula to calculate Weighted Arithmetic Mean

UNIT V

K2 Level Questions

1. What is Correlation?

2. What is meant by regression?

3. Write the Formula for Rank correlation Co-efficient

4. Using the previous data, what is the 95% confidence interval for a measurement of y at $x=30$?

5. Using the previous data, what is the mean value of y at $x=30$ and the 95% confidence interval?

6. Write the two differences between Correlation and Regression.

7.Write the Karl Pearson Correlation Coefficient Formula.

8. Write the two Properties of the Pearson's Correlation Coefficient.

9. What is the value of range r in Pearson correlation coefficient?

10.Use the regression equation to predict price when speed is 8ppm.

SECTION B

K3 LEVEL QUESTIONS

UNIT I

K3 LEVEL QUESTIONS

1. Find the rank of the following matrix

$$\begin{pmatrix} 3 & -1 & 2 \\ -6 & 2 & 4 \\ -3 & 1 & 2 \end{pmatrix}$$

2. If

$$A = \begin{pmatrix} 2 & 3 & 4 \\ 1 & 2 & 3 \\ -1 & 1 & 2 \end{pmatrix} \qquad B = \begin{pmatrix} 1 & 3 & 0 \\ -1 & 2 & 1 \\ 0 & 0 & 2 \end{pmatrix}$$

Prove that   AB $\neq$ BA

3. Explain the following with examples.

        i.   Symmetric Matrix

       ii.   Skew-Symmetric Matrix

4. Find the transpose &adjoint of the following matrix

$$\begin{pmatrix} 7 & 6 & 2 \\ -1 & 2 & 4 \\ 3 & 3 & 8 \end{pmatrix}$$

5. If

$$A = \begin{pmatrix} 3 & -2 \\ 2 & 1 \end{pmatrix} \quad B = \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix} \quad C = \begin{pmatrix} 2 & 3 \\ 3 & 4 \end{pmatrix}$$

Verify that A (BC) = (AB) C

6. Determine the Rank of the following matrix.

$$\begin{pmatrix} 1 & 2 & 3 \\ 2 & 3 & 5 \\ 3 & 4 & 5 \end{pmatrix}$$

7. Compute the transpose, adjoint and reciprocal matrices for

$$\begin{pmatrix} 1 & 3 & 7 \\ 4 & 2 & 3 \\ 1 & 2 & 1 \end{pmatrix}$$

8. Find the Eigen vector for the given problem

$$A = \begin{pmatrix} 2 & 2 & 1 \\ 1 & 3 & 1 \\ 1 & 2 & 2 \end{pmatrix} \quad z = \lambda \begin{pmatrix} 0 & 0 \\ 0 & \lambda & 0 \\ 0 & 0 & \lambda \end{pmatrix}$$

9. Find the Rank of the given matrix A =

$$\begin{pmatrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 0 & 2 & 2 \end{pmatrix}$$

10. Write about the types of Matrices.

11. If $A = \begin{pmatrix} 2 & 3 \\ 4 & 5 \end{pmatrix}$, $B = \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$, $C = \begin{pmatrix} 2 & 4 \\ 6 & 8 \end{pmatrix}$ Prove (A+B) +C = A+(B+C).

12. Write the commutative Law, Associative Law and Distributive Law

UNIT II

K3 – LEVEL QUESTIONS

1. Solve the following system by Gauss elimination method

$$2x + 3y - z = 5$$

$$4x + 4y - 3z = 3$$

$$2x - 3y + 2z = 2$$

2. Solve the following system by Gauss Jordan Method

$$2x + y = 3$$
$$7x - 3y = 4$$

3. Find the positive root of $x^3 - x = 1$ correct to 4 Decimal places by Bisectionmethod.

4. Solve for a positive root of $x - \cos x = 0$ by Regulafalsimethod.

5. Solve a Positive root of $X^4 - X = 10$ by using Newton – Raphson method.

6. Solve by using Gauss seidel method.

$$2X + Y + Z = 4$$

$$X + 2Y + Z = 4$$

$$X + Y + 2Z = 4$$

7. Solve by using Gauss Elimination method.

$$3x+y-z = 3$$
$$2x-8y+z=-5$$
$$x-2y+9z=8$$

8. Find the real root of $x^3-4x - 9 = 0$ by using Bisection Method.

9. Using Newton Raphson Method, find the root for the equation $f(x) = x^3-6x+4$.

10. Using Newton Raphson Method, find the root for the equation $f(x) = x^4-x-9=0$.

11. Solve the equation of $x^3-4x + 1 = 0$ by using regular falsi method.

12. Find the real root of $x^3-4x + 1 = 0$ by using Bisection Method.

13. Using Newton Raphson Method, find the root for the equation $f(x) = xe^x=1$

14. Solve the equation by using the Gauss Siedal method

$$14x - 5y = 5.5$$

$$2x + 7y = 19.3$$

UNIT III

K3 LEVEL QUESTIONS

1.From the following table of half – yearly premium for policiesmaturingatdifferentages, estimatethe premium for policiesmaturingatage 46 usingNewton'sdifferenciationmethod.

2. Evaluate$_1\int^2 dx/1+x^2$ taking h=0.2 by usingTrapezoidalrule.

AGE	x :	45	50	55	60	65
PREMIUM	Y:	114.84	96.16	83.32	74.48	68.48

3. Using Taylor method, find the value of y (0.1), given $dy/dx = X^2 + Y^2$ and y (0) =1,   Correct to 4 decimal places.

4. For the following data find the newton's forward and backward difference, x = 0.25 And x= 0.35

x	:	0.1	0.2	0.3	0.4	0.5
F(x)	:	1.40	1.56	1.76	2.00	2.28

5. Solve this integral $\int_1^5 x^2\ dx$, with n=**8** by using Trapezoidal Rule

6. Using RungeKutta method, Solve y'=xy, y (1) =2 at x=1.2 with h=0.2.

7. Using Taylors Method, Find y(0.1), y(0.2) from $y' = 1+xy$ with y(0) = 1.

8. Solve this table using by Newton's Forward Law and x=56.

X	50	51	52	53	54	55	56
Y=f(x)	3.6840	3.7084	3.7325	3.7563	3.7798	3.8030	3.8259

9. Solve this integral $\int_0^3 {}^1/_{1+x^5} \, dx$, with n=**6** by using Simpsons Rule.

10. Evaluate$_1\int^2$ dx/1+xtaking h=0.2 byusingSimpson'sthree-eighthrule.

UNIT IV

K3 - LEVEL QUESTIONS

1. Calculate the Standard Deviation for the following data by Actual Mean method.

   240, 260, 290, 245, 255, 288, 272, 263, 277, 251

2. Calculate the medianfrom the following table.

   Marks   : 10-25 25-40 40-55 55-70 70-85 85-100

   Frequency :   6   20   44   26   3   1

3. Explain about properties of Co-efficient of correlation with example.

4. Find the mode value for the data given below.

Item	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	5	11	19	21	16	10	8	6	3	1

5. Find the Median value and its corresponding item set.

Size	0	10	20	30	40	50
Frequency	18	22	27	32	37	49

6. Find Range and its Co-efficient for 27,30,35,36,38,40,43.

7. Calculate Mean Deviation from mean and median for the following data and also calculate co-efficient of mean Deviation

    X: 10, 20, 30, 40, 50, 60, 80
8. Define Mean, Median, Mode with Respective formula and Solving Steps.
9. Find the mode value for the data given below.

Item	0-10	10-20	20-30	30-40	40-50
Frequency	10	14	19	17	13

10. Find the Median value and its corresponding item set.

Size	5	5.5	6	6.5	7	7.5	8
Frequency	10	16	28	15	30	40	34

UNIT V

K3 LEVEL QUESTIONS

1. Calculate the Coefficient of correlationfrom the following data.

    Roll.No   :   1   2   3   4   5

    Accounts   :   48   35   17   23   47

    Statistics   :   45   20   40   25   45

2. Calculate the tworegressionequations X on Y and Y on X from the following data givenbelowtakingdeviationsfrom the actualmean of the X on Y.

    Price(Rs)   :   10   12   13   12   16   15

    Amountdemanded   :   40   38   43   45   37   43

3. Explain about properties of Co-efficient of correlation with example.
4. Calculate the two regression equation of X on Y and Y on X from the data given below taking deviations from actual mean of X on Y.

Price (Rs)	10	12	13	12	16	15

Amount	40	38	43	45	37	43

Estimate the likely demand when price is Rs.30.

5. Differentiate between correlation and regression

6. Following are the rank obtained by 10 student's in two subjects. Statistics and mathematics   to what extent the knowledge of the students in the two subjects in related?

7. Following are the rank obtained by 10 students in 2 subjects Statistics and Maths. To what extend the knowledge of the students in the 2 subjects are related. Calculate the Rank correlation.

Statistics	1	2	3	4	5	6	7	8	9	10
mathematics	2	4	1	5	3	9	7	10	6	8

8. Calculate co-efficient of correlation from the following data.

X   :   12   9   8   10   11   13   7

Y   :   14   8   6   9   11   12   3

9. Following are the rank obtained by 10 students in 2 subjects Statistics and Maths. To what extend the knowledge of the students in the 2 subjects are related. Calculate the Rank Correlation.

Statistics   : 1   2   3   4   5   6   7   8   9   10

Maths   :2   4   1   5   3   9   7   10   6   8

10. Calculate Pearson's co-efficient of correlation from the following data.

X   : 45   55   56   58   60   65   68   70   75   80   85

Y   : 56   50   48   60   62   64   65   70   74   82   90

SECTION - C

K4, K5 LEVEL QUESTIONS

UNIT I

1. Find the inverse of a matrix

$$\begin{pmatrix} 2 & 1 & -1 \\ 0 & 2 & 1 \\ 5 & 2 & -3 \end{pmatrix}$$

2. Find the eigen values and eigen vectors of

$$\begin{pmatrix} 2 & 2 & 1 \\ 1 & 3 & 1 \\ 1 & 2 & 2 \end{pmatrix}$$

3. If

$$A = \begin{pmatrix} 2 & 0 & 1 \\ 1 & 2 & 3 \\ -1 & 3 & 5 \end{pmatrix} \qquad B = \begin{pmatrix} 1 & 0 & 1 \\ 3 & 2 & 0 \\ 2 & 1 & 1 \end{pmatrix}$$

Find A +B, B − A, 3A − 2B, 3A + 2B.

4. If $A = \begin{pmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{pmatrix}$, show that A² − 4A-5I = 0 Where I is the unit matrix of order 3.

5.Find the Eigen values and Eigen vectors of the following.

$$\begin{pmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{pmatrix}$$

UNIT II

K4, K5 LEVEL QUESTIONS

1. Solve by using Gauss Jordan method.

$x + 2y + z = 3$

$2x + 3y + 3z = 10$

$3x - y + 2z = 13$

2. Solve by using Gauss seidel method.

$28x + 4y - z = 32$

$x + 3y + 10z = 24$

$2x + 17y + 4z = 35$

3. Find the positive root of $2x - 3 \sin x = 5$ Using false position method.

4. Find the Positive root of $3x - \cos x - 1 = 0$ By Newton raphson method correct to 6 decimal

Places.

5.Find the Positive root of X- cosX = 0 byBisectionmethod.

UNIT III

K4, K5 LEVEL QUESTIONS

1. For the following data , find the newton's forward and backward difference at x = 0.25 and   x = 0.35.

      x   :   0.1   0.2   0.3   0.4   0.5

    f(x)   :   1.40   1.56 1.76 2.00 2.28

2. Compute the value of $_1\int^2$ dx/x usingSimpson'srule and Trapezoidalrule. Take h = 0.25.

3.Compute y (0.3) givendy/dx $+xy^2+y=0$, y(0)=1 by taking h = 0.1 using Runge-KuttaMethod offourthOrder, Correct to 4decimal places.

4. Evaluate$_0 \int^6$ dx/1+x^2 by

        i) Trapezoidalrule

        ii) Simpsonsrule

5. Solve this table using by Newton's Forward Law and x=56.

X	10	20	30	40	50
Y=f(x)	46	66	81	93	101

UNIT IV

K4, K5 QUESTIONS

1. Find out the geometricmean.

Yield Of wheat (mounds)	No.ofFarms
7.5-10.5	5
10.5-13.5	9
13.5-16.5	19
16.5-19.5	23
19.5-22.5	7
22.5-25.5	4
25.5-28.5	1

2. Compute the mode of the followingseries.

Size of the item	Frequency
0-5	20
5-10	24
10-15	32
15-20	28
20-25	20
25-30	16
30-35	34
35-40	10
40-45	8
40-46	

3. Find the mode value for the data given below.

Item	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	5	11	19	21	16	10	8	6	3	1

4. Find the Median value and its corresponding item set.

Size	0	10	20	30	40	50
Frequency	18	22	27	32	37	49

5. Calculate the Standard Deviation for the following data
   X: 14, 22, 9, 15, 20, 17, 12, 11

UNIT V

K4 , K5 LEVEL QUESTIONS

1. Find Karl Pearson,s coefficient of correlationfrom the following data.

   Wages   : 100   101 102   102   100   99   97   98   96   95

   Cost of living : 98   99   99   97   95   92   95   94   90   912.

2. Calculatecorrelation coefficient and regression coefficient for the following data.

   X   :   2   4   6   8   10   12   14

   Y   :   4   2   5   10   4   11   12

3. Calculate the co-efficient for the following data

X	12	9	8	10	11	13	7
Y	14	8	6	9	11	12	3

4.Find the rank for given correlation co-efficient

X	85	60	73	40	90
Rank of x	2	4	3	5	1
Y	93	26	13	12	10
Rank of Y	1	3	4	5	2

5. Find the correlation significant between height and weight for the given data

Height	57	59	62	63	64	65	55	58	57
Weight	113	117	126	126	130	129	111	116	112

18UCT204 – Object oriented Programming with C++

K1 Level Questions

UNIT – I

1. Which was the first purely object oriented programming language developed?
a) Java
b) C++
c) SmallTalk
d) Kotlin

Answer: c

2. Who invented OOP?
a) Alan Kay
b) Andrea Ferro
c) Dennis Ritchie
d) Adele Goldberg

Answer: a

3. What is the additional feature in classes that was not in structures?
a) Data members
b) Member functions
c) Static data allowed
d) Public access specifier

Answer: b

4. Which feature of OOP illustrated the code reusability?
a) Polymorphism
b) Abstraction
c) Encapsulation
d) Inheritance

Answer: d

5. ++a is an example of

a) Post-increment
b) Pre-increment
c) Post-decrement
d) Pre-decrement

Answer: b

6. C++ control structures are combined in

a) Control-structure stacking
b) Control-structure nesting
c) Control-structure flow
d) Both A and B

Answer: d

7. What does '\a' escape code represent?
a) alert
b) backslash
c) tab
d) form feed

Answer: a

8. Which type is best suited to represent the logical values?
a) integer
b) boolean
c) character
d) all of the mentioned

Answer: b

9. Identify the user-defined types from the following?
a) enumeration
b) classes
c) both enumeration and classes
d) int

Answer: c

10. The value 132.54 can be represented using which data type?
a) double
b) void
c) int
d) bool

Answer: a

11. C++ provides various types of …………………… tokens that includes keywords, identifiers, constants, strings and operators.

a) tokens

b) expressions
c) structures
d) none

Answer: a

12. …………………. refer to the names of variables, functions, arrays, classes etc. created by programmer.

a) Keywords
b) Identifiers
c) Constants
d) Strings

Answer: b

13. Which of the two operators ++ and — work for the bool data type in C++?
a) None
b) ++
c) —
d) ++ & —

Answer: b

14. Which of the following is not one of the sizes of the floating point types?
a) short float
b) float
c) long double
d) double

Answer: a

15. Which is correct with respect to size of the data types?
a) char > int < float
b) int < char > float
c) char < int < float
d) char < int < double

Answer: d

16. The size of an object or a type can be determined using which operator?
a) malloc
b) sizeof
c) malloc
d) calloc

Answer: b

17. Size of C++ objects are expressed in terms of multiples of the size of a _____ and the size of a char is _____
a) char, 1
b) int, 1
c) float, 8
d) char, 4

Answer: a

18. Which of the following operators cannot be overloaded
 a) . (Member Access or Dot operator)
 b) ?: (Ternary or Conditional Operator)
 c) :: (Scope Resolution Operator)
 d) all of the above

Answer: d

19. Scope resolution operator is used_____

a). To resolve the scope of global variables only
b). To resolve the scope of functions of the classes only
c). To resolve scope of global variables as well as functions of the classes
d). None of these

Answer: c

20. Which of the following is correct with respect to "Jump Statements" in C?
 a) goto
 b) continue
 c) break
 d) All of the above.

Answer: d

UNIT – II

1. Which of the following will not return a value?
a) null
b) void
c) empty
d) free

Answer: b

2. Which of the following is not type of class?
a) Abstract Class
b) Final Class
c) Start Class
d) String Class

Answer: c

3. Class is pass by _____
a) Value
b) Reference
c) Value or Reference, depending on program
d) Copy

Answer: b

4. What is default access specifier for data members or member functions declared within a class without any specifier, in C++ ?
a) Private
b) Protected
c) Public
d) Depends on compiler

Answer: a

5. Which is known as generic class?
a) Abstract class
b) Final class
c) Template class
d) Efficient Code

Answer: c

6. What is scope of a class nested inside another class?
a) Protected scope
b) Private scope

c) Global scope
d) Depends on access specifier and inheritance used

Answer: d

7. Class with main() function can be inherited (True/False)
a) True
b) False
View Answer

Answer: a

8. Which among the following best describes member functions?
a) Functions which are defined within the class
b) Functions belonging a class
c) Functions in public access of a class
d) Functions which are private to class

Answer: b

9. How many types of member functions are generally there in C++?
a) 2
b) 3
c) 4
d) 5
Answer: d

10. How can a static member function be called in main function?
a) Using dot operator
b) Using arrow operator
c) Using dot or arrow operator
d) Using dot, arrow or using scope resolution operator with class name

Answer: d

11. What are inline member functions?
a) Member functions which can be called without object
b) Member functions whose definition is expanded in place of its call
c) Member functions whose definition is faster than simple function
d) Member function which is defined in single line

Answer: b

12. Static member functions _____
a) Contains "this" pointer for data members
b) Contains "this" pointer if used for member functions

c) Doesn't contain "this" pointer
d) Doesn't contain "this" pointer if member functions are referred

Answer: c

13. If a virtual member function is defined, _____
a) It should not contain any body and defined by subclasses
b) It must contain body and overridden by subclasses
c) It must contain body and be overloaded
d) It must not contain any body and should not be derived

Answer: a

14. Member functions of a generic class are _____
a) Not generic
b) Automatically generic
c) To be made generic explicitly
d) Given default type as double

Answer: b

15. Member function of a class can _____
a) Access all the members of the class
b) Access only Public members of the class
c) Access only the private members of the class
d) Access subclass members

Answer: a

16. Simple member functions are _____
a) Ones defined simply without any type
b) Ones defined with keyword simple
c) Ones that are implicitly provided
d) Ones which are defined in all the classes

Answer: a

17. What are const member functions?
a) Functions in which none of the data members can be changed in a program
b) Functions in which only static members can be changed
c) Functions which treat all the data members as constant and doesn't allow changes
d) Functions which can change only the static members

Answer: c

18. Correct syntax to access the static member functions from the main() function is:
a) classObject::functionName();
b) className::functionName();
c) className:classObject:functionName();
d) className.classObject:functionName();

Answer: b

19. Member functions _____
a) Must be defined inside class body
b) Can be defined inside class body or outside
c) Must be defined outside the class body
d) Can be defined in another class

Answer: c

20. Which keyword is used to define the inline member function?
a) No keyword required
b) inline
c) inlined
d) line

Answer: b

UNIT – III

1. Which among the following is called first, automatically, whenever an object is created?
a) Class
b) Constructor
c) New
d) Trigger

Answer: b

2. Which among the following is not a necessary condition for constructors?
a) Its name must be same as that of class
b) It must not have any return type
c) It must contain a definition body
d) It can contains arguments

Answer: c

3. Which among the following is correct?

a) class student{ public: int student(){} };
b) class student{ public: void student (){} };
c) class student{ public: student{}{} };
d) class student{ public: student(){} };

Answer: d

4. In which access should a constructor be defined, so that object of the class can be created in any function?
a) Public
b) Protected
c) Private
d) Any access specifier will work

Answer: a

5.How many types of constructors are available for use in general (with respect to parameters)?
a) 2
b) 3
c) 4
d) 5
Answer: a

6.Which constructor is called while assigning some object with another?
a) Default
b) Parameterized
c) Copy
d) Direct assignment is used
Answer: c

7.Which specifier applies only to the constructors?
a) Public
b) Protected
c) Implicit
d) Explicit
Answer: d

8.Which type of constructor can't have a return type?
a) Default
b) Parameterized
c) Copy
d) Constructors don't have a return type
Answer: d

9.The copy constructor can be used to:
a) Initialize one object from another object of same type
b) Initialize one object from another object of different type
c) Initialize more than one object from another object of same type at a time

d) Initialize all the objects of a class to another object of another class
Answer: a

10. Which returning an object, we can use _____
a) Default constructor
b) Zero argument constructor
c) Parameterized constructor
d) Copy constructor
Answer: d

11. When a destructor is called?
a) After the end of object life
b) Anytime in between object's lifespan
c) At end of whole program
d) Just before the end of object life
Answer: d

12. Choose the correct sequence of destructors being called for the following code:
class A{ };
class B{ };
class C: public A, public B{ };
a) ~A(), ~B(), ~C()
b) ~B(), ~C(), ~A()
c) ~A(), ~C(), ~B()
d) ~C(), ~B(), ~A()
Answer: d

13. When is the destructor of a global object called?
a) Just before end of program
b) Just after end of program
c) With the end of program
d) Anytime when object is not needed
Answer: a

14. Which of the following operators should be preferred to overload as a global function rather than a member method?
a) Postfix ++
b) Comparison Operator
c) Insertion Operator <<
d) Prefix++

Answer: c

15. While overloading binary operators using member function, it requires ___ argument/s.
a). Zero
b). One
c). Two
d). Three
Answer: b

16. In case of operator overloading, operator function must be _____ .

1. Static member functions
2. Non- static member functions
3. Friend Functions

a) Only 2

b) Only 1, 3
c) Only 2 , 3
d) All 1 , 2, 3

Answer: c

17. When overloading unary operators using Friend function,it requires_____ argument/s.

a) Zero
b) One
c) Two
d) None of these.
Answer: b

18. In case of binary operator overloading with member function, which of following statement should be taken into consideration?

a) Right hand operand must be object.
b) Left hand operand must be object.
c) Both the operands must be objects.
d) All of these should be considered.
Answer: b

19. Which keyword is used to declare the friend function?
a) firend
b) friend
c) classfriend
d) myfriend

Answer: b

20. What is the syntax of friend function?
a) friend class1 Class2;
b) friend class;
c) friend class
d) none of the mentioned

Answer: a

UNIT-IV

1. Which among the following best defines single level inheritance?

a) A class inheriting a derived class
b) A class inheriting a base class
c) A class inheriting a nested class
d) A class which gets inherited by 2 classes

Answer: b

2. Which among the following is correct for multiple inheritance?

a) class student{public: int marks;}s; class stream{int total;}; class topper:public student, public stream{ };
b) class student{int marks;}; class stream{ }; class topper: public student{ };
c) class student{int marks;}; class stream:public student{ };
d) class student{ }; class stream{ }; class topper{ };

Answer: a

3. Which programming language doesn't support multiple inheritance?
a) C++ and Java
b) C and C++
c) Java and SmallTalk

Answer: c

4. Where is the derived class is derived from?
a) derived
b) base
c) both derived & base
d) None of the mentioned

Answer: b

5. _____ operator is used to declare the destructor

a) #
b) ~
c) @
d) $

Answer: b

6. Which constructor will initialize the base class data member?
a) derived class

b) base class
c) class
d) none of the mentioned

Answer: b

7. _____ types of inheritance are possible in C++.
a) 2
b) 3
c) 4
d) 5

Answer: d

8. How many types of inheritance can be used at a time in single program?

a) Any two types
b) Any three types
c) Any 4 types
d) Any type, any number of times

Answer: d

9. Which among the following is false?

a) If one class inherits the inherited class in single level inheritance, it is multi-level inheritance
b) Hybrid inheritance always contains multiple inheritance
c) Hierarchical inheritance involves inheriting same class into more than one classes
d) Hybrid inheritance can involve any types of inheritance together

Answer: b

10. If class A has two nested classes B and C. Class D has one nested class E, and have inherited class A. If E inherits B and C, then:

a) It shows multiple inheritance
b) It shows hierarchical inheritance
c) It shows multiple inheritance
d) Multiple inheritance among nested classes, and single level for enclosing classes

Answer: d

11. If multi-level inheritance is used, First class B inherits class A, then C inherits B and so on. Till how many classes can this go on?

a) only till class C

b) only till class J
c) There is no limit
d) Only till class Z

Answer: c

12. _____ is most appropriate definition of a base class

a) It is parent of any of its derived class
b) It is child of one of the parent class
c) It is most basic class of whole program
d) It is class with maximum number of members

Answer: a

13. A base class is also known as _____ class.
a) Basic
b) Inherited
c) Super
d) Sub

Answer: c

14. An abstract class is always a _____ class.
a) Base
b) Derived
c) Template
d) Nested

Answer: a

15. Base class have _____ of abstraction.
a) Higher degree
b) Lower degree
c) Intermediate
d) Minimum degree

 Answer: b

16. How many base classes can a single derived class have in C++?
a) 1
b) 2
c) 3
d) As many as required
 Answer: d

17. Virtual function is _____ class function which expected to be redefined in _____ class, so that when reference is made to derived class object using pointer then we can call virtual function to execute _____ class definition version.

a) Base, derived, derived
b) Derived, Derived, Derived
c) Base, derived, base
d) Base, base, derived

Answer: a

18. Virtual functions are mainly used to achieve _____

a) Compile time polymorphism
b) Interpreter polymorphism
c) Runtime polymorphism
d) Functions code polymorphism

Answer: c

19. Which keyword is used to declare virtual functions?

a) virtual
b) virt
c) anonymous
d) virtually
  Answer: a

20. Virtual functions can never be made _____

a) Static function
b) Parameterized function
c) Default argument function
d) Zero parameter function

 Answer: a

UNIT – V

1. Which header file is used with input and output operations of C in C++?
a) stdio.h
b) cstdio
c) iostream
d) none of the mentioned

Answer: b

2. Which will be used with physical devices to interact from C++ program?

a) Programs

b) Library

c) Streams

d) None of the mentioned

Answer: c

3. How many streams are automatically created when executing a program?

a) 1

b) 2

c) 3

d) 4

Answer: c

4. How many indicators are available in c++?

a) 4

b) 3

c) 2

d) 1

Answer: b

5. Unformatted input functions are handled by

a) ostream class

b) instream class

c) istream class

d) bufstream class

Answer: c

6.C++ uses <iostream.h> directive because

a) C++ is an object oriented language

b) C++ is a markup language

c) C++ does not have any input/output facility

d) All of them

Answer: c

7. Istream class defines the

a) Cin objects

b) Stream extraction operator for formatted input

c) Cout objects

d) Both A and B

Answer: d

8. Class fstream is used for

a) High level stream processing

b) Low level stream processing

c) File stream processing

d) All of them

Answer: c

9. Unformatted input functions are handled by

a) ostream class

b)_instream class

c) istream class

d) bufstream class

Answer: c

10.Istream class defines the

a) Cin objects

b) Stream extraction operator for formatted input

c) Cout objects

d) Both A and B

Answer: d

11. A class that defines cout, cerr, and clog objects and stream insertion operator, is called

a) istream

b) ostream

c) fstream

d) kstream

Answer: b

12. I/O operations that use extraction and insertion operators, are called

a) Formatted I/O

b) Formatted strings

c) Formatted flags

d) All of them

Answer: a

13. Which stream class is to only write on files ?

a) ofstream

b) ifstream

c) fstream

d) iostream

Answer: a

 14. Which stream class is to only read from files ?

a) ofstream

b) ifstream

c) fstream

d) iostream

Answer: b

15. Which stream class is used to both read and write on files ?

a) ofstream

b) ifstream

c) fstream

d) iostream

Answer: c

16. Which is correct syntax ?

a) myfile:open ("example.bin", ios::out);

b) myfile.open ("example.bin", ios::out);

c) myfile::open ("example.bin", ios::out);

d) myfile.open ("example.bin", ios:out);

Answer: b

17. Which among following is correct syntax of closing a file in c++ ?

a) myfile$close();

b) myfile@close();

c) myfile:close();

d) myfile.close();

Answer: d

18. How to find the position at end of fileObject ?

a) fileObject.seekg(0, ios::end);

b) fileObject.seekg(0, ios::end);

c) fileObject.seekg(0, ios::end);

d) fileObject.seekg(0, ios::end);

Answer: a

19. eof() is used to get

a) easy code reivew

b) end of file

c) debug report

d) file close

Answer: b

20.The seekg() and tellg() functions are for

a) input streams
b) ifstream
c) output Streams
d) Both a and b

Answer: d

18UCT204 – Object oriented Programming with C++

UNIT- I

K2 Questions

1. Define Object.
2. Define class?
3. What is Data Encapsulation?
4. What is Inheritance?
5. Define polymorphism.
6. What is the statement used to give input?
7. Which one is the output operator in C++?
8. Define Token.
9. Write the general format of structure.
10. What are the two memory management operators?

UNIT- II

1. Write the definition of main function.
2. Define function over loading.
3. Write the general format for function prototyping.
4. Define data member.
5. What is meant by a member function?
6. Which keyword is used to create CONST member function?
7. Define friend function.
8. What is meant by Array of Objects?
9. Define static member function.
10. What is private member function?

UNIT-III

1. Define constructor.
2. What is meant by default constructor?
3. How to declare and initialize an object from another object?
4. Define destructor.

5. How do we invoke a constructor function?

6. Can we have more than one constructor in a class?

7. Which C++ operators cannot be overloaded?

8. Can we use friend function to overload operators?

9. How many arguments are required in the definition of an overloaded unary operator?

10. How many operands were involved in unary operator overloading?

UNIT-IV

1. Define Inheritance.

2. What is meant by base class?

3. What is meant by derived class?

4. Define single Inheritance.

5. What are the two modes in which a class can be inherited?

6. Define abstract class.

7. How do we make a class virtual?

8. What is a virtual base class?

9. Define compile time polymorphism.

10. What is run time polymorphism?

UNIT-V

1. What is the operator for giving input?

2. What is the operator for printing output?

3. Define stream.

4. What is the use of get () function?

5. What is the use of get line () function?

6. Write the mode for opening and writing in a file.

7. Write the mode for opening and reading in a file.

8. Write the function name which gives the current position of a get pointer.

9. Write the function name which gives the current position of a put pointer.

10. Write the function name which moves the get pointer to a specified location.

18UCT204 – Object oriented Programming with C++

K3 Questions

UNIT – I

1. What is procedure oriented programming?

2. Write the basic concepts of OOPs.

3. What are the benefits of OOPs?

4. Write a simple program to illustrate C++.

5. Write the structure of C++ program.

6. Write short notes on Tokens and keywords in C++.

7. Illustrate basic data types in C++.

8. List some of the operators in C++.

9. Write about Scope Resolution operator.

10. Write about control structures and draw the diagram.

UNIT – II

1. Define function with an example.

2. What is meant by function prototype? Give example

3. Define inline function and write the general format.

4. What is meant by function overloading? Give example

5. How to declare a class? Write any example.

6. What is the general format for defining a member function?

7. What is the use of a private member function?

8. Write the features of a static data member.

9. Write a sample program for defining static member functions.

10. Write short notes on Array of objects.

UNIT – III

1. Analyze about Constructors and write the syntax.

2. What is meant by parameterized constructors? Explain.

3. Define multiple constructors.

4. What is the purpose of copy constructor? Give example.

5. Define Dynamic Constructors? Write an example program.

6. Explain the steps in defining operator overloading?

7. Write short notes on overloading unary operator.

8. What are the rules for overloading operator?

9. Write a program which illustrates overloading unary minus operator.

10. How to overload a binary operator? Explain.

UNIT- IV

1. Write the general format for defining derived classes.

2. Explain single inheritance with the sample program.

3. Write short notes on multiple inheritance with a program.

4. What is multilevel inheritance? Draw the basic structure and write the syntax of derived class.

5. Draw the structure of hierarchical inheritance and explain

6. Write short notes on virtual base class .Explain its use

7. How to declare and initialize a pointer variable?

8. How to create array of pointers? Give its syntax?

9. Define polymorphism. Explain its types.

10. Explain late binding.

UNIT-V

1. Write short notes on C++ streams.

2. Write about ios, istream and ostream.

3. Write about the functions getline (),write () and give its general form.

4. What are the ios format functions available?

5. Write the manipulators for formatting data streams.

6. What are the file input and output stream available?

7. What is function used to open a file ()? Write its format.

8. Write about the statement used to detect the end -of –file

9. List the file modes briefly.

10. Write about the file pointers and their manipulators.

18UCT204 – Object oriented Programming with C++

K4 and K5 (SECTION C)

UNIT-I

1. Write the basic concepts of OOPS in detail.
2. Write the structure of C++ with a sample program.
3. Explain about tokens and keywords in C++ in detail.
4. Briefly explain the data types in C++.
5. Explain about control structures with neat diagram.

UNIT-II

1. Explain function prototype with example program.
2. Write a C++ program illustrating Call by Reference.
3. Write about Inline function with example.
4. How to define a member function?.Give example.
5. Write about friend function with example.

UNIT-III

1. Write a C++ program to illustrate the concept of parameterized constructor
2. Develop a C++ program that demonstrates copy constructor concept.
3. Explain detail about Destructors.
4. Write a C++ program illustrate the concept of binary operator overloading
5. Write a C++ program to demonstrate the function overloading concept.

UNIT-IV

1. Write the general format of Hybrid Inheritance and give an example program
2. Write in detail about Abstract classes.
3. Explain pointer to object concept with a sample program.
4. Write a C++ program that demonstrates the virtual functions.
5. What is a pure virtual function? Explain.

UNIT-V

1. Write in detail about C++ stream classes.
2. Explain about put() and get() functions.
3. How to define a field width for a data? Explain with example.
4. Write in detail about classes for file stream operations.
5. List the functions for manipulation of file pointers.

18UCT102 - Digital Computer Fundamentals (K2)

UNIT – 1

1. Hexadecimal equivalent of binary number 1000 is -------------.

   a) F   **b) 8**   c) 10   d) 1000

2. A Karnaugh map (K-map) is an abstract form of _____ diagram organized as a matrix of squares.

   a) Venn Diagram   b) Cycle Diagram   c) Block diagram   d) Triangular Diagram

3. ASCII stands for

   a) American Standard Code for Information Interchange

   b American Scientific Code for International Interchange

   c) American Standard Code for Intelligence Interchange

   d) American Scientific Code for Information Interchange

4. What is the decimal value of the hexadecimal number 777?

   a) 191   **b) 1911**   c) 19   d) 19111

5. The minterm designation of the term ABCD is

   a) 14   **b) 15**   c) 11   d) none of these

6. NAND gate means

   a) Inversion followed by AND gates

   b) AND gate followed by an inverter

   c) AND gate followed by an OR gate

   d) None of these.

7. A decimal number 6 in excess-3 code is written as

   a) 0110   b) 0011   c) 1101   **d) 1001**

8. The base of the hexadecimal number system is

   a) 6   b) 8   **c) 16**   d) 10

9. The numbers of bits in one nibble are -----------------------.

   a) 2   **b) 4**   c) 8   d) 16

10. Which of the following binary number is equivalent to decimal number 24

   a) 1101111   **b) 11000**   c) 111111   d) 110011

UNIT – 2

1. ------------- gate has only a single unit and always a single output signal.

     a) NAND   **b) NOT**   c) AND   d) OR

2. Boolean algebra can be used to

     a) Simplify any algebraic expressions   **b) Minimize the number of switches in a circuits** c) Solve the mathematical problems   d) Perform arithmetic calculations.

3. An XOR gate gives a high output

     a) If it has odd number of 1's in the input   b) If it has odd number of 0's in the input (c) If it has even number of 0's in the input d) If it has even number of 1's in the input

4. The minterm designation of the term ABCD is

     a) m8   b) m10   c) m14   **d) m15**

5. In Boolean algebra, the OR operation is performed by which properties

     a) Associative properties

     b) Commutative properties

     c) Distributive properties

     d) All of the Mentioned

6. According to Boolean law: A + 1 =?

     a) 1   b) A   c) 0   d) A'

7. DeMorgan's theorem states that

     a) (AB)′ = A′ + B′

     b) (A + B) ′ = A′ * B

     c) A′ + B′ = A′ B'

     d) None of the Mentioned

8. Simplify Y = AB′ + (A′ + B)C

     a) AB′ + C   b) AB + AC   c) A′ B + AC′   d) AB + A

9. The expression for Absorption law is given by

     a) A+AB = A

     b) A+AB = B

     c) AB+AA′ = A

     d) None of the Mentioned

10. Which of following are known as universal gates?

     a) NAND & NOR

     b) AND & OR

c) XOR & OR

d) None of the Mentioned

11. How many two-input AND and OR gates are required to realize Y = CD+EF+G?

 a) 2, 2 b) 2, 3 c) 3, 3 d) None of the Mentioned

12. The prime implicant which has at least one element that is not present in any other implicant is known as

 a) Essential Prime Implicant

 b) Implicant

 c) Complement

 d) None of the Mentioned

13. A variable on its own or in its complemented form is known as a

 a) Product Term **b) Literal** c) Sum Term d) None of the Mentioned

14. The logical sum of two or more logical product terms is called

 a) SOP b) POS c) OR operation d) NAND operation

15. A Karnaugh map (K-map) is an abstract form of diagram organized as a matrix of squares.

 a) Venn Diagram b) Cycle Diagram c) Block diagram d) Triangular Diagram

16. There are _____ cells in a 4-variable K-map.

 a) 12 **b) 16** c) 18 d) None of the Mentioned

UNIT – 3

1) If A and B are the inputs of a half adder, the sum is given by

 a) A AND B

 b) A OR B

 c) A XOR B

 d) A EXOR B

2) Half-adders have a major limitation in that they cannot

 a) Accept a carry bit from a present stage

 b) Accept a carry bit from a next stage

 c) Accept a carry bit from a previous stage

 d) None of the Mentioned

3) How many AND, OR and EXOR gates are required for the configuration of full adder

a) 1, 2, 2

b) 2, 1, 2

c) 3, 1, 2

d) 4, 0, 1

4) The difference between half adder and full adder is

a) Half adder has two inputs while full adder has four inputs

b) Half adder has one output while full adder has two outputs

c) Half adder has two inputs while full adder has three inputs

d) All of the Mentioned

5) What are the two types of basic adder circuits?

a) Sum and carry

b) Half-adder and full-adder

c) Asynchronous and synchronous

d) One and two's-complement

6) The selector inputs to an arithmetic/logic unit (ALU) determine the:

a) Selection of the IC

b) Arithmetic or logic function

c) Data word selection

d) Clock frequency to be used

7) 2's complement of 11001011 is

a) 01010111

b) 11010100

c) 00110101

d) 11100010

8) On addition of 28 and 18 using 2's complement, we get

a) 00101110

b) 0101110

c) 00101111

d) 1001111

9) Half subtractor is used to perform subtraction of

a) 2 bits

b) 3 bits

c) 4 bits

d) 5 bits

10) The full subtractor can be implemented using

a) Two XOR and an OR gates

b) Two half subtractors and an OR gate

c) Two multiplexers and an AND gate

d) None of the Mentioned

11) Let the input of a subtractor is A and B then what the output will be if A = B?

a) 0

b) 1

c) A

d) B

12) On subtracting $(001100)_2$ from $(101001)_2$ using 2's complement, we get

a) 1101100

b) 011101

c) 11010101

d) 11010111

13) On subtracting +28 from +29 using 2's complement, we get

a) 11111010

b) 111111001

c) 010101011

d) 1

14) What do you call the intermediate terms in binary multiplication

a) Multipliers

b) Mid terms

c) Partial Products

d) Multiplicands

15) The multiplication of 110 * 111 is performed. What is a general term used for 111

a) Dividend

b) Quotient

c) Multiplicand

d) Multiplier

16) Which one is a basic comparator?

    a) XOR

    b) XNOR

    c) AND

    d) NAND

17) In a comparator, if we get input as A>B then the output will be

    a) 1

    b) 0

    c) A

    d) B

18) One that is not the outcome of magnitude comparator is

    a) a > b

    b) a − b

    c) a < b

    d) a = b

19) Perform binary addition of 1101 + 0010 is

    a) 1110

    b) 1111

    c) 0111

    d) 1,1101

20) In which operation carry is obtained

    a) Subtraction

    b) Addition

    c) Multiplication

    d) Both addition and subtraction

UNIT – 4

1) Whose operations are faster among the following?

    a) Combinational circuits

    b) Sequential circuits

    c) Latches

    d) Flip-flops

2) A basic S-R flip-flop can be constructed by cross-coupling of which basic logic gates?

a) AND or OR gates

b) XOR or XNOR gates

c) NOR or NAND gates

d) AND or NOR gates

3) One multiplexer can take the place of

a) Several SSI logic gates

b) Combinational logic circuits

c) Several Ex-NOR gates

d) Several SSI logic gates or combinational logic circuits

4) How many types of sequential circuits are?

a) 2

b) 3

c) 4

d) 5

5) The sequential circuit is also called

a) Flip-flop

b) Latch

c) Strobe

d) None of the Mentioned

6) Which sequential circuits generate the feedback path due to the cross-coupled connection from output of one gate to the input of another gate**?**

a. Synchronous

b. Asynchronous

c. Both

d. None of the above

7) The behaviour of synchronous sequential circuit can be predicted by defining the signals at

a. discrete instants of time

b. continuous instants of time

c. sampling instants of time

d. at any instant of time

8) What is a trigger pulse

 a) **A pulse that starts a cycle of operation**

 b) A pulse that reverses the cycle of operation

 c) A pulse that prevents a cycle of operation

 d) None of the Mentioned

9) The circuits of NOR based S-R latch classified as asynchronous sequential circuits, why?

 a) Because of inverted outputs

 b) Because of triggering functionality

 c) **Because of cross-coupled connection**

 d) Both a & b

10) One example of the use of an S-R flip-flop is as:

 a) Transition pulse generator

 b) Racer

 c) **Switch debouncer**

 d) Astable oscillator

11) When both inputs of SR latches are high, the latch goes

 a) Unstable

 b) Stable

 c) **Metastable**

 d) None of the Mentioned

12) Two stable states of latches are

 a) Astable & Monostable

 b) Low input & high output

 c) **High output & low output**

 d) Low output & high input

13) A latch is an example of a

 a) Monostable multivibrator

 b) Astable multivibrator

 c) **Bistable multivibrator**

 d) None of the Mentioned

14) A D flip-flop can be constructed from an _____ flip-flop.

 a) **S-R**

 b) J-K

c) T

d) None of the Mentioned

15) Which of the following is correct for a gated D flip-flop?

a) The output toggles if one of the inputs is held HIGH

b) Only one of the inputs can be HIGH at a time

c) The output complement follows the input when enabled

d) Q output follows the input D when the enable is HIGH

16) The group of bits 11001 is serially shifted (right-most bit first) into a 5-bit parallel output shift register with an initial state 01110. After three clock pulses, the register contains _____

a) 01110

b) 00001

c) 00101

d) 00110

17) A shift register that will accept a parallel input or a bidirectional serial load and internal shift features is called as?

a) Tristate

b) End around

c) Universal

d) Conversion

18) If we record any music in any recorder, such types of process is called

a) Multiplexing

b) Encoding

c) Decoding

d) None of the Mentioned

19) For 8-bit input encoder how many combinations are possible?

a) 8

b) 2^8

c) 4

d) 2^4

20) The word demultiplex means

a) One into many

b) Many into one

c) Distributor

d) One into many as well as Distributor

UNIT – 5

1) Ripple counters are also called

   a) SSI counters

   b) Asynchronous counters

   c) Synchronous counters

   d) VLSI counters

2) Synchronous counter is a type of

   a) SSI counters

   b) LSI counters

   c) MSI counters

   d) VLSI counters

3) BCD counter is also known as

   a) Parallel counter

   b) Decade counter

   c) Synchronous counter

   d) VLSI counter

4) What is the difference between a shift-right register and a shift-left register?

   a) There is no difference

   b) The direction of the shift

   c) Propagation delay

   d) The clock input

5) What is a transceiver circuit?

   a) A buffer that transfers data from input to output

   b) A buffer that transfers data from output to input

   c) A buffer that can operate in both directions

   d) None of the Mentioned

6) In 4-bit up-down counter, how many flip-flops are required?

   a) 2

   b) 3

   c) 4

   d) 5

7) The counter starts counting only if

a) GATE signal is low

b) GATE signal is high

c) CLK signal is low

d) CLK signal is high

8) The number of counters that are present in the programmable timer device 8254 is

a) 1

b) 2

c) 3

d) 4

9) The register is a type of

a) Combinational circuit

b) Sequential circuit

c) CPU

d) Latches

10) Registers capable of shifting in one direction is

a) Universal shift register

b) Unidirectional shift register

c) Unipolar shift register

d) Unique shift register

11) How many types of registers are

a) 2

b) 3

c) 4

d) 5

12) Which of the following is not a type of memory?

a) RAM

b) FPROM

c) EEPROM

d) ROM

13) The chip by which both the operation of read and write is performed

a) RAM

b) ROM

c) PROM

d) EPROM

14) PAL refers to

a) Programmable Array Loaded

b) Programmable Logic Array

c) Programmable Array Logic

d) None of the Mentioned

15) PLA contains

a) AND and OR arrays

b) NAND and OR arrays

c) NOT and AND arrays

d) NOR and OR arrays

16) What do a buffer consist of?

a) memory and register

b) memory and peripheral

c) memory and flag register

d) memory and pointer

17) The copy-back protocol is used _____

a) To copy the contents of the memory onto the cache

b) To update the contents of the memory from the cache

c) To remove the contents of the cache and push it on to the memory

d) None of the mentioned

18) Which of the following can be used as a collection point of data

a) register

b) buffer

c) flag register

d) accumulator

19)) UP-DOWN counter is also known as

a) Dual counter

b) Multi counter

c) Multimode counter

d) None of the Mentioned

20) A counter circuit is usually constructed of

    a) A number of latches connected in cascade form

    b) A number of NAND gates connected in cascade form

    c) A number of flip-flops connected in cascade

    d) None of the Mentioned

18UCT102 - Digital Computer Fundamentals (K2)

UNIT – 1

1. What is an excess-3 code?
2. What is a NOR gate meant by?
3. What is a reflective code?
4. Where the Hollerith code is used?
5. What will be the output , if an input A is given to an inverter?
6. What is a NAND gate meant by?
7. What is Gray code?
8. Define nibble.
9. Expand BCD.
10. Which number system uses both alphabets as well as numerals?
11. What are the two states in a digital Circuit?

UNIT – 2

1. What is an essential prime-implicant?
2. What is a logic circuit?
3. State DeMorgan's first theorem.
4. State DeMorgan's second theorem.
5. What do you mean by don't care combinations?
6. Add 1011010 and 10110
7. What is the use of Karnaugh map?
8. What is an excess-3 code?
9. What is the resulting output of XOR gate when the inputs are A and B?
10. Draw the logic circuit of OR Gate.
11. Define Prime-implicant.

UNIT – 3

1. What are the arithmetic and logic circuits available?
2. Describe Half Adder.
3. Define BCD Adder

4. What is the function of Half subtractor?

5. Show the function of Binary Divider.

6. Summarize about parallel binary subtractors.

7. Define Binary Multiplier.

8. What is the full form of BCD?

9. How many inputs and how many outputs in full subtractor?

10. What is the function of Comparator?

UNIT – 4

1. What is the element a sequential circuit contains?

2. Define Flip Flop.

3. Which flip flop is used as a latch?

4. What is the use of Schmitt trigger?

5. Define D- flip flop.

6. Define T- Flip flop.

7. How many flip flops were used to construct shift left register?

8. What is the use of a decoder?

9. What is the short form of Multiplexer?

10. What is the another name of demultiplexer?

UNIT – 5

1. Define counter.

2. What is the another name of ring counter?

3. Define down counter.

4. Define memory unit.

5. What is meant by ROM?

6. What is the full form of PAL?

7. What is the full form of PLA?

8. Define Buffer.

9. What is the use of cache memory?

10. What is the package density of Bipolar RAM?

18UCT102 - Digital Computer Fundamentals (K3/K4/K5)

UNIT – 1

K3 Level Questions

Section-B (5 Marks)

1. Convert the following Gray Numbers Code to their equivalent Binary Numbers.
   (i) 111011 (ii) 101110101

2. Write a short note on Binary and Hexadecimal number systems with example.

3. Convert the following Binary Numbers to equivalent Octal Numbers

   i) 10101111 (ii) 1101.0110111

4. Examine Floating point Representation of a decimal number in a computer with a suitable example.

5. Convert $(63718)_{10}$ into equivalent (i) Binary and (ii) Hexadecimal Number.

6. Explain Double-Precision Numbers with suitable example.

7. A seven bit Hamming code is received as 1101101. Locate the error position and find the correct code.

8. Write a short note on Alphanumeric Codes.

9. Explain how Hamming code is used to detect and correct the error.

10. Convert hexadecimal number 117.6C into its equivalent binary number. Convert the binary number 10110110.10101 into its equivalent hexadecimal number.

11. Convert decimal number 41 into its equivalent binary number. Convert 1011.1011 into equivalent decimal number.

12. Convert decimal number 63718 into its equivalent (a) binary number (b) octal.

13. Convert $(AA1)_{16}$ into its equivalent decimal and octal numbers.

14. Write a brief note on Integrated Circuits or Chip.

15. Convert 1E8.7 hex into equivalent (a) binary, (b) decimal numbers.

K4 Level Questions
Section-C (10 marks)

16. (i) Perform the following binary additions

 (a) 100101 + 100101

 (b) 1011.01 + 1001.11

 (ii) Perform the following binary multiplications

 (a) 1.01 x 10.1

 (b) 101.01 x 11.

17. (i) Perform the following subtraction using 1's complement arithmetic

 (a) 11001 – 10110

 (b) 1011 – 0101

 (ii) Perform the following subtraction using 2's complement arithmetic

 (a) 0.01111 – 0.01001

 (b) 11101.001 – 00100.111

18. Write short notes on i) BCD ii) Excess-3 code iii) Gray code

19. (i) Convert hexadecimal number 117.6C into its equivalent binary number

 (ii) A seven bit Hamming code is received as 1101101. Locate the error position and find the correct code.

 (iii)Convert gray code number 1101110 into its equivalent binary number.

 (iv) Subtract using 2's complement arithmetic 11011 - 11001.

20. Write short notes on:

 i) Alphanumeric codes

 ii) Weighted codes

 iii)Excess-3 code

 iv) BCD

UNIT – 2

K3 Level Questions

Section-B (5 Marks)

1. Implement the following Boolean expression using NAND gates only Y= ABC + DEF

2. Prove the following identities using Boolean algebra.

(i) $\overline{ABC} + \overline{AB}\overline{C} + A\overline{BC} + AB\overline{C} = \overline{C}$

(ii) $AB + ABC + \overline{A}B + A\overline{B}C = B + AC$

3. Implement the following Boolean expression using NOR gates only Y= A + $\overline{B}$C + AC

4. State and Prove Demorgan's Theorems mathematically and using truth tables.

5. Explain basic logic gates with logic diagram and truth table.

6. Implement the following Boolean expression using NAND gates only.

(i) Y= A+$\overline{B}$C + AC

(ii) Y= $\overline{(A+\overline{B}).\ (\overline{A}+C)}$

7. Simplify the following logic equations using Boolean algebra.

(i)   Z=$(\overline{ABC}+A\overline{B}C+ABC+AB\overline{C})(A+B)$

(ii)   Y=A+$\overline{AB}\overline{C}+\overline{B+C}$

8. Implement the following Boolean expression using minimum number of gates.

(a) Y= ABC + $\overline{ABC}$

(b) Y= A + $\overline{B}$C

9. State and prove De-Morgan's First Theorem.

10. From the truth table given below, express the function in sum of minterms and product of maxterms. Obtain the switching function f(A,B,C) in canonical SOP and POS form and prove that they both minimize to the same value.

Decimal value	A	B	C	f
0	0	0	0	1
1	0	0	1	1

2	0	1	0	0
3	0	1	1	0
4	1	0	0	1
5	1	0	1	1
6	1	1	0	0
7	1	1	1	0

11. Describe Exclusive NOR gate with logic diagram and truth table.

12. Find the minimal expression for the Boolean function $f(w,x,y,z) = \sum (0,1,2,3,4,8,9,10,15)$

K4 Level Questions
Section-C (10 Marks)

1. Is NOR gate an universal gate? Support your answer.

2. Implement the following Boolean expressions using basic gates.

   i) $Y = A.B + C.D + E.F$

   ii) $Y = (A+B).(C+D).(E+F)$

   iii) $Y = (A+B). C + AB = AB + BC + CA$

3. Obtain the minimal SOP expression for the switching function given below, using a four-variable Karnaugh map. $f(A,B,C,D) = \sum (5,6,7,8,9) + \phi(10,11,12,13,14,15)$

4. Show that using Boolean algebra and DeMorgan's theorems:

   i) $\overline{BD} + \overline{ABD} + \overline{ABCD} + AC\overline{D} = \overline{D}$

   ii) $\overline{AB + BC + CA} = \overline{AB} + \overline{BC} + \overline{AC}$

5. Obtain the minimal POS expression for the switching function given below, using a four-variable Karnaugh map. $f(A,B,C,D) = \pi(3,4,6,7,11,12,13,14,15)$

6. State and Prove Demorgan's Theorems mathematically and using truth tables.

7. Obtain the minimal SOP expression for the switching function given below, using a four-variable Karnaugh map. $f(A,B,C,D) = \sum (2,5,6,9,10,12,13,14) + \phi(3,7,11,15)$

8. Obtain the minimal POS expression for the switching function given below, using a four-variable Karnaugh map. $f(A,B,C,D) = \pi(0,1,2,3,4,7,8,11,12,14,15)$

9. Obtain the minimal SOP expression for the switching function given below, using a four-variable Karnaugh map. $f(A,B,C,D) = \sum(2,5,6,9,10,12,13,14) + \phi(3,7,11,15)$

10. Express $f(A,B,C,D)=AB+ABC+CD$ as sum of minterms and product of maxterms.

11. Prove the identities using Boolean algebra:

        i) $AB + CD = (A+C)(A+D)(B+C)(B+D)$

        ii) $(A+B\overline{C}+C)\overline{C}=AB\overline{C}+A\overline{B}\overline{C}+\overline{A}B\overline{C}$

12. Prove the identities using Boolean algebra:

    i) $AB + CD = (A+C)\,(A+D)\,(B+C)\,(B+D)$

    ii) $\overline{ABC} + \overline{AB}\overline{C} + A\overline{BC} + AB\overline{C} = \overline{C}$

    iii) $A(\overline{A} + C).(\overline{A}B)+ \overline{C}$

UNIT – 3
K3 Level Questions
Section-B (5 Marks)

1. Draw and explain four-bit BCD adder.
2. Explain 2's complement adder.
3. Write neatly about the Half adder with a neat diagram.
4. Draw and explain about the Full adder.
5. What is parallel binary adder? Realise binary adder using half adders and full adders to perform the addition of 1011 and 1101.
6. Draw and explain half-subtractor. Find out its difference and borrow bit outputs.
7. Illustrate about the 2's complement subtractor.
8. Summarize on Binary Multiplier.
9. Write a short outline on Binary Divider.
10. Describe Full Subtractor.

K4 Level Questions
Section-C (10 Marks)

11. Draw and explain full-adder. Find out its sum and carry bit outputs, also show how it can be realized using NAND gate only.

12. Explain binary Multiplication. How will you realise a two, 2-bit binary multiplier?

13. Draw and explain half-adder. Find out its sum and carry bit outputs, also show how it can be realized using NOR gate only.

14. Discuss in brief about the BCD Adder and also show its Block diagram.

15. Write in detail about Comparator.

UNIT – 4
K3 Level Questions
Section-B (5 Marks)

1. Define Flip-flop and describe about R-S flip-flops.
2. Examine clocked R-S flip-flops.
3. Analyze on Positive edge triggered J-K flip-flop.
4. Simplify Data latch or D-flip flop.
5. Write a short note on shift-right register.
6. Write an outline on Multiplexers.
7. Examine about shift-left register.
8. Analyze on Positive edge triggered Data flip-flop.
9. Write a conclusion on De-Multiplexers.
10. Analyze about Master slave J-K flip-flop.

K4 Level Questions
Section-C (10 Marks)

11. Give a comparison about Encoder and Decoder.
12. Analyze about Flip – Flops in detail.
13. Classify Registers and explain in brief about shift-right and shift-left registers.
14. Draw and explain Master-Slave JK flip-flop.
15. Write a short note on Positive edge triggered Data flip-flop.

16. Write a short note on Positive edge triggered J-K flip-flop.

17. Define Flip-flop and describe about R-S flip-flops and clocked R-S flip-flops.

UNIT–5

K3 Level Questions

Section-B (5 Marks)

1. Differentiate between Bipolar and MOS-RAMs.

2. Discuss four bit programmable counter.

3. Draw and explain the working of a Ring counter.

4. Describe Programmable array logic (PAL).

5. Explain in short on Cache Memory.

6. Describe Programmable logic array (PLA).

7. Explain the working of Synchronous Up / Down Counter.

8. Define Memory Unit and Concept of Memory Using Registers.

9. Write about Read Only Memories with example.

10. Write about Random Access Memories with suitable examples.

K4 Level Questions

Section-C (10 Marks)

11. Explain cache memory and its use in Microcomputer system.

12. Draw a 4-bit binary ripple counter. Explain it's working.

13. What is Decoder? Draw and explain the working of a 3 to 8 line Decoder.

14. Explain the concept of memory system with neat diagram.

15. Define Memory Unit and write a brief note on RAM and ROM.

DEPARTMENT OF COMPUTER TECHNOLOGY

18UCT2A2 - DISCRETE MATHEMATICS

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Multiple Choice Questions

UNIT - I

1. A _____ is an ordered collection of objects.
a) Relation
b) Function
c) Set
d) Proposition

Answer : c

2. The set O of odd positive integers less than 10 can be expressed by _____
a) {1, 2, 3}
b) {1, 3, 5, 7, 9}
c) {1, 2, 5, 9}
d) {1, 5, 7, 9, 11}

Answer : b

3. Power set of empty set has exactly _____ subset.
a) One
b) Two
c) Zero
d) Three

Answer : a

4. What is the Cartesian product of A = {1, 2} and B = {a, b}?
a) {(1, a), (1, b), (2, a), (b, b)}
b) {(1, 1), (2, 2), (a, a), (b, b)}
c) {(1, a), (2, a), (1, b), (2, b)}
d) {(1, 1), (a, a), (2, a), (1, b)}

Answer :c

5. The Cartesian Product B x A is equal to the Cartesian product A x B. Is it True or False?

a) True

b) False

Answer : b

6. What is the cardinality of the set of odd positive integers less than 10?

a) 10

b) 5

c) 3

d) 20

Answer : b

7. Which of the following two sets are equal?

a) A = {1, 2} and B = {1}

b) A = {1, 2} and B = {1, 2, 3}

c) A = {1, 2, 3} and B = {2, 1, 3}

d) A = {1, 2, 4} and B = {1, 2, 3}

Answer : c

8. The set of positive integers is _____

a) Infinite

b) Finite

c) Subset

d) Empty

Answer : a

9. What is the Cardinality of the Power set of the set {0, 1, 2}.

a) 8

b) 6

c) 7

d) 9

Answer : a

10. The members of the set S = {x | x is the square of an integer and x < 100} is

_____

a) {0, 2, 4, 5, 9, 58, 49, 56, 99, 12}

b) {0, 1, 4, 9, 16, 25, 36, 49, 64, 81}

c) {1, 4, 9, 16, 25, 36, 64, 81, 85, 99}

d) {0, 1, 4, 9, 16, 25, 36, 49, 64, 121}

Answer : b

11. The union of the sets {1, 2, 5} and {1, 2, 6} is the set _____
a) {1, 2, 6, 1}
b) {1, 2, 5, 6}
c) {1, 2, 1, 2}
d) {1, 5, 6, 3}

Answer : b

12. The intersection of the sets {1, 2, 5} and {1, 2, 6} is the set _____
a) {1, 2}
b) {5, 6}
c) {2, 5}
d) {1, 6}

Answer : a

13. Two sets are called disjoint if there _____ is the empty set.
a) Union
b) Difference
c) Intersection
d) Complement

Answer : c

14. Which of the following two sets are disjoint?
a) {1, 3, 5} and {1, 3, 6}
b) {1, 2, 3} and {1, 2, 3}
c) {1, 3, 5} and {2, 3, 4}
d) {1, 3, 5} and {2, 4, 6}

Answer : d

15. The difference of {1, 2, 3} and {1, 2, 5} is the set _____
a) {1}
b) {5}

c) {3}
d) {2}

Answer : c

16. The complement of the set A is _____
a) A – B
b) U – A
c) A – U
d) B – A

Answer : b

17. The bit string for the set {2, 4, 6, 8, 10} (with universal set of natural numbers less than or equal to 10) is _____
a) 0101010101
b) 1010101010
c) 1010010101
d) 0010010101

Answer : a

18. Let Ai = {i, i+1, i+2, …..}. Then set {n, n+1, n+2, n+3, …..} is the _____ of the set Ai.
a) Union
b) Intersection
c) Set Difference
d) Disjoint

Answer : b

19. The bit strings for the sets are 1111100000 and 1010101010. The union of these sets is _____
a) 1010100000
b) 1010101101
c) 1111111100
d) 1111101010

Answer : d

20. The set difference of the set A with null set is _____
a) A

b) null
c) U
d) B

Answer : a

UNIT – II

1. A compound proposition that is always _____ is called a tautology.
a) True
b) False

Answer : a

2. A compound proposition that is always _____ is called a contradiction.
a) True
b) False

Answer : b

3. If A is any statement, then which of the following is a tautology?
a) A ∧ F
b) A ∨ F
c) A ∨ ¬A
d) A ∧ T

Answer : c

4. If A is any statement, then which of the following is not a contradiction?
a) A ∨ ¬A
b) A ∨ F
c) A ∧ F
d) None of mentioned.

Answer : b

5. A compound proposition that is neither a tautology nor a contradiction is called a
_____
a) Contingency
b) Equivalence
c) Condition
d) Inference

Answer : a

6. ¬ (A ∨ q) ∧ (A ∧ q) is a _____
a) Tautology
b) Contradiction
c) Contingency
d) None of the mentioned

Answer : b

7. (A ∨ ¬A) ∨ (q ∨ T) is a _____
a) Tautology
b) Contradiction
c) Contingency
d) None of the mentioned

Answer : a

8. A ∧ ¬(A ∨ (A ∧ T)) is always _____
a) True
b) False

Answer : b

9. (A ∨ F) ∨ (A ∨ T) is always _____
a) True
b) False

Answer : a

10. A → (A ∨ q) is a _____
a) Tautology
b) Contradiction
c) Contingency
d) None of the mentioned

Answer : a

11. Which of the following statements is the negation of the statements "4 is odd or -9 is positive"?
a) 4 is even or -9 is not negative
b) 4 is odd or -9 is not negative
c) 4 is even and -9 is negative
d) 4 is odd and -9 is not negative

Answer : c

12. Which of the following represents: ~A (negation of A) if A stands for "I like badminton but hate maths"?
a) I hate badminton and maths
b) I do not like badminton or maths
c) I dislike badminton but love maths
d) I hate badminton or like maths

Answer : d

13. The compound statement A v ~ (A ∧ B) is always
a) True
b) False

Answer : a

14. Which of the following are De-Morgan's law
1) P ∧ (Q v R) Ξ (P ∧ Q) v (P ∧ R)
2) ~(P ∧ R) Ξ ~P v ~R , ~(P v R) Ξ ~P ∧ ~R
3) P v ~P Ξ True , P ∧ ~P Ξ False
4) None of the mentioned

Answer : b

15. What is the dual of (A ∧ B) v (C ∧ D) ?
a) (A V B) v (C v D)
b) (A V B) ^ (C v D)
c) (A V B) v (C ∧ D)
d) (A ∧ B) v (C v D)

Answer : b

16. ~ A v ~ B is logically equivalent to
a) ~ A → ~ B
b) ~ A ∧ ~ B
c) A → ~B
d) B V A

Answer : c

17. Negation of statement (A ∧ B) → (B ∧ C)
a) (A ∧ B) →(~B ∧ ~C)
b) ~(A ∧ B) v (B v C)
c) ~(A →B) →(~B ∧ C)
d) None of the mentioned

Answer : a

18. Which of the following satisfies commutative law?
a) ∧
b) v
c) <->
d) All of the mentioned

Answer : d

19. If the truth value of A v B is true, then truth value of ~A ∧ B can be
a) True if A is false
b) False if A is false
c) False if B is true and A is false
d) None of the mentioned

Answer : a

20. If P is always against the testimony of Q ,then the compound statement P→(P v ~Q) is a
a) Tautology
b) Contradiction
c) Contingency
d) None

Answer : a

UNIT – III

1. A function is said to be _____ if and only if f(a) = f(b) implies that a = b for all a and b in the domain of f.
a) One-to-many
b) One-to-one
c) Many-to-many
d) Many-to-one

Answer : b

2. The function f(x)=x+1 from the set of integers to itself is onto. Is it True or False?
a) True
b) False

Answer : a

3. The value of ⌊1/2.⌊5/2⌋ ⌋ is _____
a) 1
b) 2

c) 3

d) 0.5

Answer : a

4. Which of the following function f: Z X Z → Z is not onto?

a) f(a, b) = a + b

b) f(a, b) = a

c) f(a, b) = |b|

d) f(a, b) = a − b

Answer : c

5. The domain of the function that assign to each pair of integers the maximum of these two integers is _____

a) N

b) Z

c) Z^+

d) Z^+ X Z^+

Answer : d

6. Let f and g be the function from the set of integers to itself, defined by f(x) = 2x + 1 and g(x) = 3x + 4. Then the composition of f and g is _____

a) 6x + 9

b) 6x + 7

c) 6x + 6

d) 6x + 8

Answer : a

7. _____ bytes are required to encode 2000 bits of data.

a) 1

b) 2

c) 3

d) 8

Answer : b

8. The inverse of function f(x) = x^3 + 2 is _____

a) $f^{-1}(y) = (y - 2)^{1/2}$

b) $f^{-1}(y) = (y - 2)^{1/3}$

c) $f^{-1}(y) = (y)^{1/3}$

d) $f^{-1}(y) = (y - 2)$

Answer : b

9. The function $f(x) = x^3$ is bijection from R to R. Is it True or False?
a) True
b) False

Answer : a

10. The $g^{-1}(\{0\})$ for the function $g(x) = \lfloor x \rfloor$ is _____
a) $\{x \mid 0 \leq x < 1\}$
b) $\{x \mid 0 < x \leq 1\}$
c) $\{x \mid 0 < x < 1\}$
d) $\{x \mid 0 \leq x \leq 1\}$

Answer : d

11. Domain of a function is :
a) the maximal set of numbers for which a function is defined
b) the maximal set of numbers which a function can take values
c) it is set of natural numbers for which a function is defined
d) none of the mentioned

Answer : a

12. What is domain of function $f(x) = x^{1/2}$?
a) $(2, \infty)$
b) $(-\infty, 1)$
c) $[0, \infty)$
d) None of the mentioned

Answer : c

13. Range of a function is :
a) the maximal set of numbers for which a function is defined
b) the maximal set of numbers which a function can take values
c) it is set of natural numbers for which a function is defined
d) none of the mentioned

Answer : b

14. What is domain of function $f(x) = x^{-1}$ for it to be defined everywhere on domain?
a) $(2, \infty)$
b) $(-\infty, \infty) - \{0\}$
c) $[0, \infty)$
d) None of the mentioned

Answer : b

15. State whether the given statement is true or false
The range of function $f(x) = \sin(x)$ is $(-\infty, \infty)$.
a) True
b) False

Answer : b

16. State whether the given statement is true or false
Codomain is the subset of range.
a) True
b) False

Answer : b

17. What is range of function $f(x) = x^{-1}$ which is defined everywhere on its domain?
a) $(-\infty, \infty)$
b) $(-\infty, \infty) - \{0\}$
c) $[0, \infty)$
d) None of the mentioned

Answer : a

18. If $f(x) = 2^x$ then range of the function is :
a) $(-\infty, \infty)$
b) $(-\infty, \infty) - \{0\}$
c) $(0, \infty)$
d) None of the mentioned

Answer : c

19. If $f(x) = x^2 + 4$ then range of f(x) is given by
a) $[4, \infty)$
b) $(-\infty, \infty) - \{0\}$
c) $(0, \infty)$
d) None of the mentioned

Answer : a

20. State True or False.
Let $f(x) = \sin^2(x) + \log(x)$ then domain of f(x) is $(-\infty, \infty)$.
a) True
b) False

Answer : b

UNIT – IV & V

1. The number of possible undirected graphs which may have self loops but no multiple edges and have n vertices is _____
a) $2^{((n*(n-1))/2)}$
b) $2^{((n*(n+1))/2)}$
c) $2^{((n-1)*(n-1))/2)}$
d) $2^{((n*n)/2)}$

Answer : d

2. Given a plane graph, G having 2 connected component, having 6 vertices, 7 edges and 4 regions. What will be the number of connected components?
a) 1
b) 2
c) 3
d) 4

Answer : b

3. Number of vertices with odd degrees in a graph having a eulerian walk is _____
a) 0
b) Can't be predicted
c) 2
d) either 0 or 2

Answer : d

4. How many of the following statements are correct?
i) All cyclic graphs are complete graphs.
ii) All complete graphs are cyclic graphs.
iii) All paths are bipartite.
iv) All cyclic graphs are bipartite.
v) There are cyclic graphs which are complete.
a) 1
b) 2
c) 3
d) 4

Answer : b

5. All paths and cyclic graphs are bipartite graphs.
a) True
b) False

Answer : b

6. What is the number of vertices of degree 2 in a path graph having n vertices,here n>2.
a) n-2
b) n
c) 2
d) 0

Answer : a

7. All trees with n vertices consists of n-1 edges.
a) True
b) False

Answer : a

8. Which of the following graphs are isomorphic to each other?
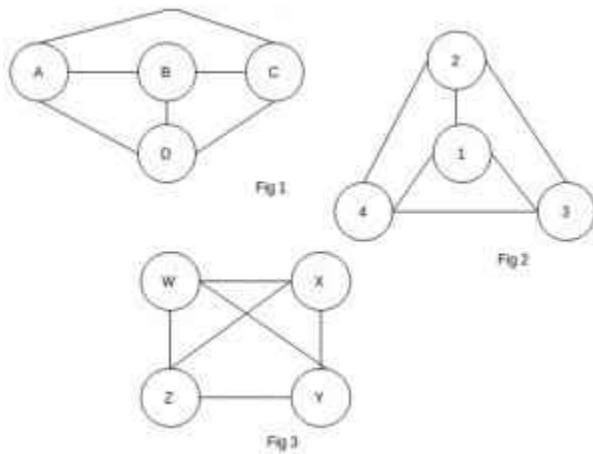
a) fig 1 and fig 2
b) fig 2 and fig 3
c) fig 1 and fig 3
d) fig 1, fig 2 and fig 3

Answer : d

9. In the given graph which edge should be removed to make it a Bipartite Graph?
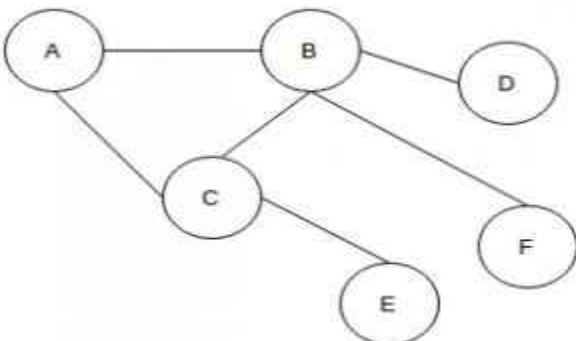
a) A-C
b) B-E
c) C-D
d) D-E

Answer : a

10. What would the time complexity to check if an undirected graph with V vertices and E edges is Bipartite or not given its adjacency matrix?
a) O(E*E)
b) O(V*V)
c) O(E)
d) O(V)

Answer : b

11. Seat of an employee is 4th place in 2nd row, so it corresponds to ordered pair

a) (4, 2)
b) (2, 4)
c) (3, 5)
d) (6, 4)er

Answer : b

12. If °C is degrees Celsius and °F is degrees Fahrenheit then °F is equal to

a) (5∕9 × °C) + 32
b) (5∕9 × °C) - 32
c) (9∕5 × °C) + 32
d) (9∕5 × °C) – 32

Answer : d

13. Point of intersection of two coordinate axes is called

a) quadrants
b) origin
c) vertical plane
d) horizontal plane

Answer : b

14. X-coordinate of a point is called

a) coordinate
b) origin
c) abcissa
d) ordinate

Answer : d

15. Horizontal line XOX' on Cartesian plane is called

a) x-axis
b) y-axis
c) order pair
d) none of above

Answer : a

16. Y-coordinate of a point is called

a) abcissa
b) ordinate
c) origin
d) coordinate

Answer : d

17. Cartesian plane is divided in to

a) 4 quadrants
b) 5 quadrants
c) 3 quadrants
d) 2 quadrants

Answer : a

18. Value of mile in terms of kilometers is

a) 1 mile = 2 km
b) 1 mile = 1.6 km
c) 1 mile = 2.8 km
d) 1 mile = 3.6 km

Answer : c

19. Vertical line XOX' on Cartesian plane is called

a) order pair
b) x-axis
c) y-axis
d) none of above

Answer : a

20. Cartesian plane is also known as _____.

a) vertical plane
b) horizontal plane
c) collinear plane
d) coordinate plane

Answer : c

21. The set O of odd positive integers less than 10 can be expressed by _____
a) {1, 2, 3}
b) {1, 3, 5, 7, 9}
c) {1, 2, 5, 9}
d) {1, 5, 7, 9, 11}

Answer : b

22. The line graph L(G) of a simple graph G is defined as follows: · There is exactly one vertex v(e) in L(G) for each edge e in G. · For any two edges e and e' in G, L(G) has an edge between v(e) and v(e'), if and only if e and e'are incident with the same vertex in G. Which of the following statements is/are TRUE?

(P) The line graph of a cycle is a cycle.

(Q) The line graph of a clique is a clique.

(R) The line graph of a planar graph is planar.

(S) The line graph of a tree is a tree.

a)   P only
b)   P and R only

c) R only
d) P, Q and S only

Answer : a

23. Let G be a simple undirected planar graph on 10 vertices with 15 edges. If G is a connected graph, then the number of bounded faces in any embedding of G on the plane is equal to

a) 3
b) 4
c) 5
d) 6

Answer : c

24.Let G be a complete undirected graph on 6 vertices. If vertices of G are labeled, then the number of distinct cycles of length 4 in G is equal to

a) 15
b) 30
c) 45
d) 360

Answer : C

25. Let $G = (V,E)$ be a graph. Define $\xi(G) = \Sigma d$ id x d, where id is the number of vertices of degree d in G. If S and T are two different trees with $\xi(S) = \xi(T)$,then

a) $|S| = 2|T|$
b) $|S| = |T|-1$
c) $|S| = |T|$
D $|S| = |T|+1$

Answer : c

26. The degree sequence of a simple graph is the sequence of the degrees of the nodes in the graph in decreasing order. Which of the following sequences can not be the degree sequence of any graph?

(I) 7, 6, 5, 4, 4, 3, 2, 1

(II) 6, 6, 6, 6, 3, 3, 2, 2

(III) 7, 6, 6, 4, 4, 3, 2, 2

(IV) 8, 7, 7, 6, 4, 2, 1, 1

a) I and II
b) III and IV
c) IV only
d) II and IV

Answer : d

27. What is the chromatic number of an n-vertex simple connected graph which does not contain any odd length cycle? Assume n >= 2.

a) 2
b) 3
c) n
d) n-1

Answer : a

28. How many perfect matchings are there in a complete graph of 6 vertices ?

a)   15
b)   24
c)   30
d)   60

Answer : a

29.A graph G = (V, E) satisfies $|E| \leq 3\,|V| - 6$. The min-degree of G is defined as   . Therefore, min-degree of G cannot be

a)   3
b)   4
c)   5
d)   6

Answer :

30. The minimum number of colours required to colour the vertices of a cycle with η nodes in such a way that no two adjacent nodes have the same colour is

a) 2
b) 3
c) 4
d) n - 2⌊n/2⌋ + 2

Answer : d

31. Maximum number of edges in a n - node undirected graph without self loops is

a) n^2
b) n(n - 1)/2
c) n – 1
d) (n + 1) (n)/2

Answer : b

32. Let G be a connected planar graph with 10 vertices. If the number of edges on each face is three, then the number of edges in G is _____.

a) 24
b) 20
c) 32
d) 64

Answer : a

33. A graph is self-complementary if it is isomorphic to its complement. For all self-complementary graphs on n vertices, n is

a) A multiple of 4
b) Even
c) Odd
d) Congruent to 0 mod 4, or 1 mod 4

Answer : d

34. In a connected graph, a bridge is an edge whose removal disconnects a graph. Which one of the following statements is True?

a) A tree has no bridge
b) A bridge cannot be part of a simple cycle
c) Every edge of a clique with size ≥ 3 is a bridge (A clique is any complete subgraph of a graph)
d) A graph with bridges cannot have a cycle

Answer : b

35. What is the number of vertices in an undirected connected graph with 27 edges, 6 vertices of degree 2, 3 vertices of degree *4* and remaining of degree 3?

a) 10
b) 11
c) 18
d) 19

Answer : d

36. The minimum number of colours that is sufficient to vertex-colour any planar graph is _____ [This Question was originally a Fill-in-the-blanks Question]

a) 1
b) 2
c) 3
d) 4

Answer : d

37. If all the edge weights of an undirected graph are positive, then any subset of edges that connects all the vertices and has minimum total weight is a

a) Hamiltonian cycle
b) Grid
c) hypercube
d) Tree

Answer : d

38. Let G be an arbitrary graph with n nodes and k components. If a vertex is removed from G, the number of components in the resultant graph must necessarily lie down between

a) k and n
b) k-1 and k+1
c) k-1 and n-1
d) k+1 and n-k

Answer : c

39. A graph in which all nodes are of equal degree, is known as

a) Multigraph
b) Non regular graph
c) Regular graph
d) Complete graph

Answer : a

40. In a graph G there is one and only one path between every pair of vertices then G is a

a) Path
b) Walk
c) Tree
d) Circuit

Answer : c

****

DISCRETE MATHEMATICS
18UCT2A2 - DISCRETE MATHEMATICS
K2 - Level Questions
UNIT-1

1. Define set.

2. Compare unit set and null set.

3. Classify the types of set Description.

4. Show the Venn diagram for union.

5. Define roster method.

6. What are the Fundamental properties of set.

7. State De-Morgan's law.

8. State laws of set operation.

9. Define Distributive law of set.

10. Solve: In group 20 persons, 10 are interested in music, 7 are in photography, 4 persons like swimming and in those people 4 are interested in music and photography, 3 are in music and swimming and 1 interested in music, photography and swimming. How many are interested in photography but not in music and swimming.

UNIT-II

1. Check whether the following is contradiction or tautology.

    1) (P^Q)^(~Pv~Q)

    2) Pv~(P^Q)

2. Chjeck whether the condition is valid or invalid argument.

    R<->R
    P->S
    P->Q

    ~(P^Q)^(PvQ)

3. Draw the truth table for inverse statement.

4. Compare NAND gate and NOR gate.

5. Name some logical operators.

6. Define premises.

7. Show that all the premises are true, then the conclusion is---------------

8. Draw the truth table for (P^Q)v(Qv~P)

9. Check valid or invalid.

   P->Q

   Q->P

    PvQ

10. Draw the truth table

    1) ~(P^Q)<->~Pv~Q

    2) (~Pv~Q)^(~QvP)=P=Q

UNIT – III

1. Define functions.
2. State the law of composition of function.
3. What is meant by relation?
4. State the properties of relation.
5. Check the relation > = defined on set positive integers is a partial order relation.
6. Compare Binary relation and relation.
7. Difference between equivalence relation and partial order relation.
8. Name some types of functions.
9. Write the equation of symmetric relation.
10. Define void relation.

UNIT – IV

1. Compare disconnected graph, strongly and sub graph.

2. What is meant by directed graph?

3. Name some of types of vertex.

4. Write the types of graph.

5. What are the operations can done on graph?

6. Compare and contrast isomorphic and homomorphism graphs.

7. Distinguish between path and walk.

8. Relate in degree and out degree of graph.

9. How graph is used in computer memory?

10. Show the representation of directed graph in computer memory.

UNIT – V

1. Define adjacency matrix.

2. Compare with incidence matrix and adjacency matrix.

3. State multi-graph.

4. How will you represent

5. Draw a Hamiltonian graph.

6. Check whether the graph is isomorphic or not.
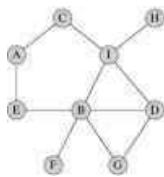
7. Check whether the graph (a) and (b) are/is planar graph or not.

(a)   (b)

8. Define un-weighted graph

9. What is meant by non-planar graph?

10. State planar graph.

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18UCT2A2 - DISCRETE MATHEMATICS

K3 Level Questions

UNIT - I

1. Simplify the following, Let A={1,2,3,5,6}   B={1,2,4,7,8}   U={1,2,3,4,5,6,7,8}

    i) AUB   ii) A∩B   iii) A-B   iv) B-A   v) A^c

2. Draw a Venn Diagram for Commutative law and also prove with roster method

    A={1,2,3}   B={4,1,5,6,7}

3. Analyse and Prove the Idempotent law.

4. Simplify the Complement of set for following set   A={1,2,3,5}   U={1,2,3,4,5,6}

5. Let A={1,2,5,6,7,8}   B$_1$={1,2,5}   B$_2$={5,6,7} and find the following

    i) B$_1$∩ B$_2$^{c} ii) B$_1$∩B$_2$ iii) B$_2$∩B$_1$^{c} iv) A∩B$_1$^{c}∩B$_2$^{c}

6. Solve the Set by using Commutative Law A= {a, b, c, d, e}, B= {f, g, h, i, d}

    C={a, b, d, b, f, g, i, j, k, l}

7. Discuss about Distributive law with suitable example.

8. List out the categories of Equivalent of set and Explain about De-Morgan law with

    given set A={1,2,3}   B={4,5,6}   U={1,2,3,4,5,6}

9. Compare the Minset and Universal Set with Venn diagrams.

10. Simplify   **i)** n(A) = n[(A∩B) U (A∩B)] = n[(A-B) U (A∩B)] = n(A-B) + n(A∩B)

    ii) n (AUB) = n(A-B) + n(A∩B) + n(B-A)

UNIT - II

1. Examine the validity of an argument with truth table

    ~Pv~R

    P=>~Q

    P=>R
    _____

    (~Rv~Q)

2. Evaluate the truth table for (~PvQ)⇔(~Qv~P) ⇔ ~(~P⇔~Q)

3. Analyse the question and prove the condition is valid or invalid

    R⇔R

    P=>S

    P=>Q
    _____

    ~(P^Q)^(PvQ)

4. Check whether valid or invalid Argument

$$P \Leftrightarrow Q$$

$$\sim Q$$

$$\underline{P \Rightarrow R}$$

$$(P \wedge Q) \wedge \sim Q$$

5. Write the steps to examine validity of arguments with your own examples.

6. Distinguish the term tautology and contradiction with examples.

7. Write about the Contra positive statements with suitable truth table.

8. Prove the following statements are tautology or not

    i) $(P \vee Q) \vee S \Leftrightarrow (P \vee S) \vee Q$

    ii) $(P \Leftrightarrow S) \Leftrightarrow (S \Leftrightarrow P)$

9. Simplify the following equation i) $\sim (P \wedge Q) = (\sim p \wedge \sim Q)$ ii) $\sim (P \vee Q) \Leftrightarrow (P \wedge Q)$

10. Find the validity of an arguments $(P \vee Q)$ and $(Q \vee P \wedge S)$ gives $(P \vee Q \vee S)$

UNIT- III

1. Show that the relation $<=$ defined on a set positive integers is a partial order relation.

2. Let A={1,2,3,4,5} if any set of numbers relation R on a set is defined by $>$ then prove that the relation R is an Equivalence relation?

3. Let relation R on a set of real numbers A is defined as $_AR_A$ if and only if $1+ab<0$. Show that this relation is reflexive and symmetric but not transitive.

4. If R and S from the relation A to B. prove that,

    i. $(R \cap S)^{-1} = R^{-1} \cap S^{-1}$

    ii. $(R \cup S)^{-1} = R^{-1} \cup S^{-1}$

    iii. $R^{-1} \subseteq S^{-1}$ where R is a $\subseteq$ of S.

5. Let A={1,2,3,4,5}, B={a,b,c,d,e}, c={s,t,u,v}

    $R_1 = \{(1,a) (1,d) (2,e) (3,b) (5,a) (3,d)\}$ which is formed by AXB.

    $R_2 = \{(a,s) (c,v) (b,u) (e,v) (d,t)\}$.which is formed by BXC. Find $R_1 0 R_2$.

6. Sate and prove the relation is equivalence relation with your own example set.

7. Composition of function: let A= {1,2,3,4,5,6,7} ,B= {a,b,c,d}, C= {m,n,o,p,q}

    f(x)= {(1,a)(1,b)(3,c)(5,d)}, g(x)= {(a,m)(b,n)(c,q)(c,p)(d,o)} and find the **gof** value.

8. A={2,3,5}, B={6,7,8}, C={2,3}, D={8,10} are hole non empty set of a relation R from set A $\rightarrow$ B is defined as R={(2,6)(2,8)(3,10)} and the relation S from C$\rightarrow$D if defined as S={(2,8)(3,10)}.find $R \cup S$, $R \cap S$, R^{-1}, R-S , then S-R.

9. Justify that the relation $>=$ defined on a set whole numbers is a partial order relation.

10. Prove the invertible function for the equation : $f(x) = 3x^2 - 2$.

UNIT- IV

1. List the types of degree of vertex with own examples.

2. Discuss about the types of graphs with suitable example

3. Describe about operation on graph with suitable examples

4. Compare strongly connected graph and weekly connected graphs with example

5. Writ about the concept of path, open and closed walk.

6. Examine sub graph with example.

7. Build a graph with v={v1,v2,v3,v4,v5,v6,v7}

   E={(v1,v2)(v2,v5)(v2,v4)(v3,v5)(v1,v6)(v5,v6)(v6,v7)}

8. Categorize graphs with examples

9. Analyse forward and backward edges and length of the path

10. Classify the types of disconnected graphs.

UNIT- V

1. Compare shortest path in a weighted graph and unweighted graph.

2. Simplify the shortest path from vertex V1 to V6 and its length in the graph
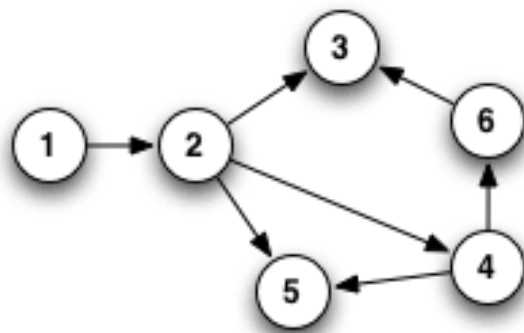
3. Classify the Hamiltonian graph with suitable example.

4. Justify the eulerian Circuit with suitable example.

5. Examine shortest path problems of BFS and BTS.

6. Simplify the planner graph with example.

7. Classify the non-planner graph with example.

8. Show that the graph is Hamiltonian.

v1   v2   v3

V4   v5   v6
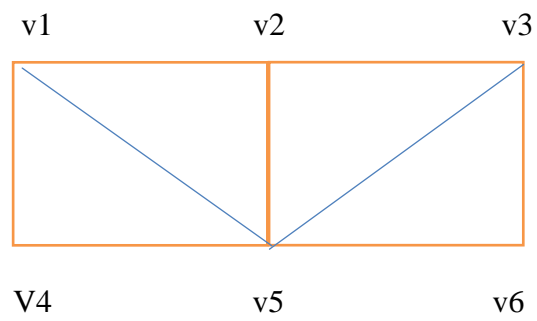
9. Compare with Eulerian and Hamiltonian graph.

10. Simplify the representation of directed graph with your own graph.

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DEPARTMENT OF COMPUTER TECHNOLOGY

18UCT2A2 - DISCRETE MATHEMATICS

K4 & K5 Level Questions

Unit – I

1. In a pollution study of 1500 Indian rivers, the following data were reported. 520 were polluted by sulphur compounds, 335 were polluted by phosphates, 425 were polluted by crude oil, 100 were polluted by crude oil and sulphur compounds, 180 were polluted by sulphur compounds and phosphates, 150 were polluted by both phosphates and crude oil and 28 were polluted by sulphur compounds, phosphates and crude oil.

    i) How many of the rivers were polluted by at least one of the three impurities?

    ii) How many rivers were not polluted by exactly one of the three impurities?

2. State and Prove Associative and Distributive law of sets.

3. State and Prove (A - B) $\cap$ (A $\cap$ B) = ϕ with example.

4. If A = {a, b, c. d, e} B = { f, g, h, a } ,C = { a, b, c, d, e, f, g } then verify that

    $$A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$$

5. Define set and explain its types with suitable example.

Unit – II

1. Draw a truth table for the following logical operations

    i) Conjunction ii) Dis-Junction iii) Negation iv) NAND v) NOR vi) XOR

2. Explain about Converse, Inverse, Contra positive with examples.

3. Draw truth Table for followings

    i) P V ~P   ii) (P VQ) =>Q   iii) ~p=>~Q   iv) (P $\Leftrightarrow$ Q)=(Q$\Leftrightarrow$~P)

4. Examine the validity of the following arguments.

    i) PVQ
       P=>~Q
       P=>R
    _____

    .. R

5. Write the methods to find the validity of arguments with suitable examples.

Unit – III

1. Describe about Relation and its types with example.
2. Write about functions and its types with suitable example.
3. Compare Partial order relation and Equivalence relation with proof.
4. Let A= {1,2,3,4} B={ a,b,c} c={x,y,z} and f(X)= { (1,a) (1,b) (3,c)} and g(y)={(a,x) (b,y) (b,z) (c,z)} find composition of function gof.
5. Let A= {1,2,3,} B={ a,b,c,d} c={x,y,z,w} and f(X)= { (1,a) (1,b) (3,c)(3,d)} and g(y)={(a,x) (b,x) (b,z) (d,w)} find composition of relation R1OR2.

Unit – IV

1. Explain about types of Graphs with suitable examples.
2. Explain about Isomorphic Graph with suitable graph.
3. Draw a Homeomorphism Graph with Necessary Steps.
4. Discuss about Basic terminology of a graph with suitable examples.
5. Write about i) Path ii) Cycle iii) Loop iv) Sub Graph v) Un weighted graph

Unit – V

1. Find Adjacency matrix for the following directed graph.
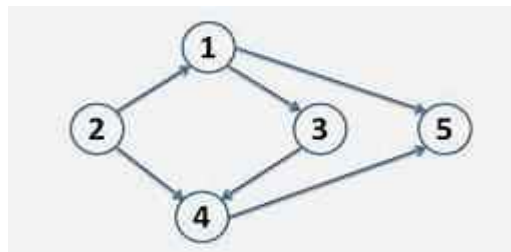
2. Find Adjacency matrix for the following un directed graph
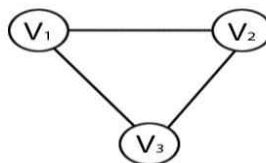
3. Find Adjacency and Incidence matrix for the following directed graph
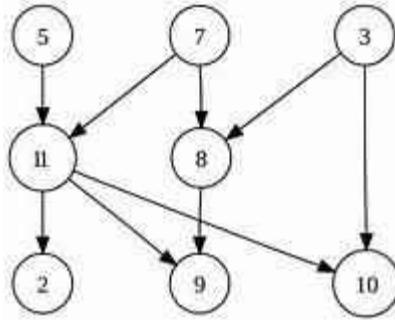
4. Draw a planner graph for the following graph and vertex can be denoted as by own.
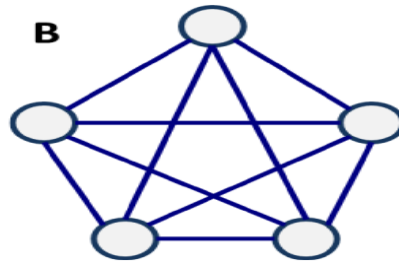
5. Find shortest path for the given graph.

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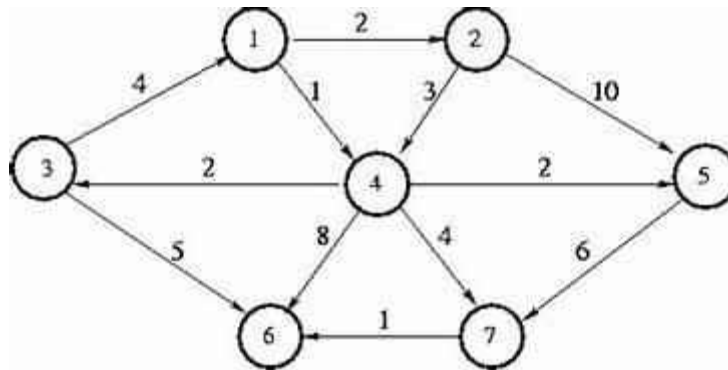
17UCT307 – JAVA PROGRAMMING

UNIT – I

1. Which of these values can a Boolean variable contain?

a) True & False   b) 0 & 1   c) Any integer value   d) Both a & b

2. Which of the following function returns the smallest whole number greater than or equal to x?

a) ceil(x)   b) floor(x)   c) round(x)   d) abs(x)

3. API stands for

a) Advance programming interface   b) Applet programming interface

c) Application programming interface   d) Application programming inheritance

4. Which is a valid keyword in java?

 a) interface   b) string

c) Float   d) unsigned

5. javah stands for_____

a) java compiler   b) java interpreter

c) java disaasembler   **d) java header file**

6. The package which contains the set of classes for implementing GUI is called?

     a) Java.applet   **c) java.awt**

     b) Java.io   d) java.net

7. Java is a .... language.

     a) weakly typed   **b) strongly typed**

     c) moderate typed d) None of these

8. Java is designed for .... environment of the Internet.

   a) Development   b) Deduction

   c) Distributed   d) Web Design

9. What is the order of variables in Enum?

a) Ascending order

b) Descending order

c) Random order

d) depends on the order() method

10. What is the range of short data type in Java?

a) -128 to 127

b) -32768 to 32767

c) -2147483648 to 2147483647

d) None of the mentioned

11. An expression involving byte, int, and literal numbers is promoted to which of these?

a) int

b) long

c) byte

d) float

12. Which data type value is returned by all transcendental math functions?

a) int

b) float

c) double

d) long

13. Which of the following can be operands of arithmetic operators?

a) Numeric

b) Boolean

c) Characters

d) Both Numeric & Characters

14. Modulus operator, %, can be applied to which of these?

a) Integers

b) Floating – point numbers

c) Both Integers and floating – point numbers

d) None of the mentioned

15. Decrement operator, ––, decreases the value of variable by what number?

a) 1

b) 2

c) 3

d) 4

16. Which of these is not a bitwise operator?

a) &   b) &= c) |=   **d) <=**

17. Which operator is used to invert all the digits in a binary representation of a number?

a) ~   b) <<<   c) >>>   d) ^

18. What is the output of relational operators?

a) Integer

b) Boolean

c) Characters

d) Double

19. Which of these operators can skip evaluating right hand operand?

a) !   b) | c) &   **d) &&**

20. Which of these have highest precedence?

a) ()   b) ++   c) *   d) >>

21. Which of these selection statements test only for equality?

a) if   **b) switch**   c) if & switch   d) none of the mentioned

22. Which of these are selection statements in Java?

a) if()   b) for()   c) continue   d) break

23. Which of the following loops will execute the body of loop even when condition controlling the loop is initially false?

a) do -while

b) while

c) for

d) none of the mentioned

24. Which of these is long data type literal?

a) 0x99fffL

b) ABCDEFG

c) 0x99fffa

d) 99671246

25. Which of these can be returned by the operator &?

a) Integer

b) Boolean

c) Character

d) Integer or Boolean

26. Literals in java must be appended by which of these?

a) L

b) l

c) D

d) L and I

27. Literal can be of which of these data types?

a) integer

b) float

c) boolean

d) all of the mentioned

28. Which of these cannot be used for a variable name in Java?

a) identifier

b) keyword

c) identifier & keyword

d) none of the mentioned

UNIT - II

1. --------------- variables are used when we want to have a variable common to all instances of a class?

a) local   b) user-defined   **c) static**   d) integer

2. Which of these keywords is used to define packages in java?

a) pkg   b) Pkg   **c) package**   d) Package

3. ---------------- Class can be used to create a generic dynamic array that can hold objects of any type?

a) Final   b) String   c) String buffer   **d) Vector**

4. A class cannot be sub-classed is called as -------- class?

a) Public   **b) final**   c) Super   d) Sub class

5. Which of the following is a correct interface?

    a) interface A { void print() { } }

    b) abstract interface A { print(); }

    c) abstract interface A { abstract void print(); { }}

    d) interface A { void print(); }

6. Which of these keywords is used to define interfaces in Java?

    a) interface   b) Interface   c) intf   d) Intf

7. Which of the following is not OOPS concept in Java?

a) Inheritance

b) Encapsulation

c) Polymorphism

d) Compilation

8. Which of the following is a type of polymorphism in Java?

a) Compile time polymorphism

b) Execution time polymorphism

c) Multiple polymorphism

d) Multilevel polymorphism

9. Which of these packages contain classes and interfaces used for input & output operations of a program?

a) java.util

b) java.lang

c) java.io

d) all of the mentioned

10. Which of these classes is not a member class of java.io package?

a) String

b) StringReader

c) Writer

d) File

11. Which of these interface is not a member of java.io package?

a) DataInput

b) ObjectInput

c) ObjectFilter

d) FileFilter

12. What is the return type of a method that does not return any value?

a) int

b) float

c) void

d) double

13. What is the process of defining more than one method in a class differentiated by method signature?

a) Function overriding

b) Function overloading

c) Function doubling

d) None of the mentioned

14. When does method overloading is determined?

a) At run time

b) At compile time

c) At coding time

d) At execution time

15. Which of the following is a method having same name as that of it's class?

a) finalize

b) delete

c) class

d) constructor

16. Which method can be defined only once in a program?

a) main method

b) finalize method

c) static method

d) private method

17. Which of this keyword must be used to inherit a class?

a) super

b) this

c) extent

d) extends

18. A class member declared protected becomes a member of subclass of which type?

a) public member

b) private member

c) protected member

d) static member

19. Which of these class is superclass of every class in Java?

a) String class

b) Object class

c) Abstract class

d) ArrayList class

20. Which of these method of Object class is used to obtain class of an object at run time?

a) get()

b) void getclass()

c) Class getclass()

d) None of the mentioned

21. Which of these keywords can be used to prevent inheritance of a class?

a) super

b) constant

c) class

d) final

22. Which of these classes encapsulate runtime state of an object?

a) Class

b) System

c) Runtime

d) Cache

23. What is not type of inheritance?

a) Single inheritance

b) Double inheritance

c) Hierarchical inheritance

d) Multiple inheritance

24. Using which of the following, multiple inheritance in Java can be implemented?

a) Interfaces

b) Multithreading

c) Protected methods

d) Private methods

25. All classes in Java are inherited from which class?

a) java.lang.class

b) java.class.inherited

c) java.class.object

d) java.lang.Object

26. In order to restrict a variable of a class from inheriting to subclass, how variable should be declared?

a) Protected

b) Private

c) Public

d) Static

UNIT - III

1. Exception generated in try block is caught in........... block.

    a) catch   b) throw   c) thows   d)finally

2. Which exception is thrown when divide by zero statement executes?

a) NumberFormatException   b) **ArithmeticException**

c) NullPointerException   d) None of these

3. What is the name of the method used to start a thread execution?

    a) init();   **b) start();** c) run();   d) resume();

4. Which of these keywords is not a part of exception handling?

   a) try   b) finally   **c) thrown**   d) catch

5. Which of the following keywords is used for throwing exception manually?

    a) finally   b) try   **c) throw**   d) catch

6. Which part of code gets executed whether exception is caught or not?

    a) finally   b) try c) catch   d) throw

7. Which of the following will directly stop the execution of a Thread?

a) wait()   b) notify()   c) notifyall()   d) exits synchronized code

8. What is multithreaded programming?

a) It's a process in which two different processes run simultaneously

b) It's a process in which two or more parts of same process run simultaneously

c) It's a process in which many different process are able to access same information

d) It's a process in which a single process can access information from many sources

9. Which of these are types of multitasking?

a) Process based

b) Thread based

c) Process and Thread based

d) None of the mentioned

10. Thread priority in Java is?

a) Integer

b) Float

c) double

d) long

11. What will happen if two thread of the same priority are called to be processed simultaneously?

a) Anyone will be executed first lexographically

b) Both of them will be executed simultaneously

c) None of them will be executed

d) It is dependent on the operating system

12. Which of these statements is incorrect?

a) By multithreading CPU idle time is minimized, and we can take maximum use of it

b) By multitasking CPU idle time is minimized, and we can take maximum use of it

c) Two thread in Java can have the same priority

d) A thread can exist only in two states, running and blocked

13. Which of these are types of multitasking?

a) Process based

b) Thread based

c) Process and Thread based

d) None of the mentioned

14. What is true about threads?

a) Threads consumes CPU in best possible manner

b) Threads enables multi processing.

c) Multi threading reduces idle time of CPU

d) All

15. A thread can acquire a lock by using which reserved keyword?

a) volatile

b) synchronized

c) locked

d) none

16. How many threads can a process contain?

a) 1

b) 2

c) Multiple

d) None

17. What is sometimes also called a lightweight process?

a) Thread

b) Process

c) JVM

d) All

18. What are valid points about thread

a) Thread are subdivision of Process.

b) One or more Threads runs in the context of process.

c) Threads can execute any part of process. And same part of process can be executed by multiple Threads.

d) **All**

19. Which is thread safe?

a) StringBuffer

b) StringBuilder

c) All

d) None

20. How can we create Thread?

a) By Extending Thread class

b) Implementing Runnable interface

c) By using Executor framework - which can internally form threads

d) All

21. Which of these is not a Thread state?

a) New

b) Runnable

c) sleep

d) terminated

22. Multiple threads within same process may be allocated to separate

 a) Applications

 b) Programs

 c)Processors

d)Processes

23. Multithreading refers to ability of an operating system to support multiple

a) Executions

b) Updations

c) Processing

d) Surfing

24. User threads are supported above kernel and managed without

   a) Kernel support

   b) Memory

   c) Registers

   d) Operating system

25. Synchronized instance methods acquire lock on?

a) object

b) class

c) All

d) None

26. What state does Thread enter in when it has been created and started?

    a.   New

    b.   Runnable

    c.   Running

    d.   Waiting

27. Which method can be used to find whether Thread hasn't entered dead state?

    a)   isAlive()

    b)   isRunning()

    c)   isNotDead

    d)   All

UNIT – IV

1. What invokes immediately after the start () method and also any time the applet needs to repaint itself in the browser?

    a) stop()   b) init()   **c) paint()**   d) destroy()

2. What is used to run an Applet?

    a) An html file   b) An AppletViewer tool (for testing purpose)

c) Both A & B   d) None of the above

3. In java applet, we can display numerical values by first converting them into string and then using the ………………… method.

    a) paint ( )   **b) drawString( )**

    c) draw ( )   d) convert( )

4. What does AWT stands for?

a) All Window Tools   b) All Writing Tools

c) **Abstract Window Toolkit**   d) Abstract Writing Toolkit

5. Which of these methods can be used to output a string in an applet?

a) display()   b) print()   **c) drawString()**   d) transient()

6. Which of these functions is called to display the output of an applet?

    a) display()   **b) paint()**   c) displayApplet()   d) PrintApplet()

7.   When the ………………. method of the Applet class is called, it displays the result of the Applet code on the screen.

a) paint( )

b) repaint( )

c) update( )

d) reupdate( )

8.   Before we try to write applets, we must make sure that Java is installed properly and also ensure that either the java is installed properly and also ensure that either the java …………….. or a java-enabled browser is available.

a) viewer( )

b) appletviewer( )

c) appletrunner( )

d) browserviewer( )

9.   Arrange the steps involved in developing and testing the applet in correct order.

i) creating an executable applet (.classfile)

ii) preparing <APPLET> tag

iii) creating HTML file

iv) building an applet code (.java file)

v) testing the applet code

a) 1-i, 2-ii, 3-iii, 4-iv, 5-v

b) 1-ii, 2-iii, 3-iv, 4-v, 5-i

c) 1-iv, 2-i, 3-ii, 4-iii, 5-v

d) 1-iii, 2-iv, 3-v, 4-i, 5-ii

10.   State whether the following statements about the Applets are True or False.

i) Applets can communicate with other services on the network.

ii) Applets cannot run any program from the local computer.

a) True, False

b) False, True

c) True, True

d) False, False

11. Applet class is a subclass of the panel class, which is again a subclass of the ………………….. class.

a) object

b) component

c) awt

d) container

12. The ………………. method called the first time an applet is loaded into the memory of a computer.

a) init( )

b) start( )

c) stop( )

d) destroy( )

13. The ……………………… method is called every time the applet receives focus as a result of scrolling in the active window.

a) init( )

b) start( )

c) stop( )

d) destroy( )

14. Which of the following applet tags is legal to embed an applet class named Test into a webpage?

a) <applet class=Test width=200 height=100>

</applet>

b) <applet>

code=Test.class width=200 height=100>

</applet>

c) <applet

code=Test.class width=200 height=100>

</applet>

d) <applet

param=Test.class width=200 height=100>

</applet>

15. If you want to assign a value of 88 to the variable year, then which of the following lines can be used within an <applet> tag.

a) number = getParameter(88)

b) <number=99>

c) <param = radius value=88>

d) <param name=number value=88>

16. The …………………. class is an abstract class that represents the display area of the applet.

a) display

b) graphics

c) text

d) area

17. The graphics class provides methods to draw a number of graphical figure including

i) Text   ii) Lines   iii) Images   iv) Ellipse

a) i, ii and iii only

b) ii, iii and iv only

c) i, iii and iv only

d) All i, ii, iii and iv

18. The ………………. method is called to clear the screen and calls the paint( ) method.

a) update( )

b) paint( )

c) repaint( )

d) re-update( )

19. The ………………….. method is automatically called the first time the applet is displayed on the screen and every time the applet receives focus.

a)update()

c)paint()

C)repaint()

D) reupdate()

20. The ………………. method is defined by the AWT which causes t he AWT runtime system to execute a call to your applet's update( ) method.

a)update()

b)paint()

c)repaint()

d) reupdate()

21. Text field can be created by which of the following methods.

i) TextField()   ii) TextFieldString( )

iii) TextField(int)   iv) TextField(string, int)

a) i, ii and iii only

b) ii, iii and iv only

c) i, ii and iv only

d) All i, ii, iii and iv

22. In java applet, we can display numerical values by first converting them into string and then using the ………………… method.

A) paint( )

B) drawstring( )

C) draw( )

D) convert( )

23. We can change the text to be displayed by an applet by supplying new text to be displayed by an applet by supplying new text to the applet through a ……………………… tag.

A) <EDIT>

B) <CHANGE>

C) <REPLACE>

D) <PARAM>

24.   Which of the following is/are the possible values for alignment attribute of Applet tag.

i) Top   ii) Left   iii) Middle   iv) Baseline

A) i, ii and iii only

B) ii, iii and iv only

C) i, iii and iv only

D) All i, ii, iii and iv

25.   The ……………….. attribute of applet tag specifies the amount of horizontal blank space the browser should leave surrounding the applet.

a) SPACE=pixels

b) HSPACE=piexls

c) HWIDTH=piexls

d) HBLANK=pixels

26. . ……………………. attribute of applet tag specify the width of the space on the HTML page that will reserved for the applet.

a) WIDTH=pixels

b) HSPACE=piexls

c) HWIDTH=piexls

d) HBLANK=pixel

UNIT – V

1. Which of these exceptions is thrown in cases when the file specified for writing it not found?

   a) IOException   b) FileException

c) FileNotFoundException   d) FileInputException

2. Which of these classes can return more than one character to be returned to input stream?

a) BufferedReader   b) Bufferedwriter

c) PushbachReader   d) CharArrayReader

3. Which of these methods are used to read in from file?

   a) get()   **b) read()**   c) scan()   d) readFileInput()

4. Which of these values is returned by read() method is end of file (EOF) is encountered?

   a) 0   b) 1   **c) -1**   d) Null

5. Which of these exception is thrown by close() and read() methods?

   a) IOException   b) FileException

   c) FileNotFoundException   d) FileInputOutputException

6. Which of these methods is used to write() into a file?

   a) put()   b) putFile()   **c) write()**   d) writeFile()

7. Which of these class contains the methods used to write in a file?

   a) FileStream   **b) FileInputStream**

   c) BufferedOutputStream   d) FileBufferStream

8. Which of these stream contains the classes which can work on character stream?

   a) InputStream   b) OutputStream

   c) Character Stream   d) All of the mentioned

9. Which of these class is used to read characters in a file?

   a) FileReader   b) FileWriter

   c) FileInputStream   d) InputStreamReader

10. Which of these method of FileReader class is used to read characters from a file?

    a) read()   b) scanf()   c) get()   d) getInteger()

11. The …………………… package contains a large number of stream classes that provide capabilities for processing all types of data.

a) java.awt

b) java.io

c) java.util

d) java.net

12. State whether the following statements about the stream in Java.

i) The two basic streams used are the input and the output streams.

ii) Filters are used to read data from one stream and write it to another stream.

a) True, True

b) True, False

c) False, True

d) False, False

13. The InputStream class defines methods for performing input functions such as

i) reading bytes   ii) closing streams

iii) skipping ahead in a stream   iv) flushing streams

a) ii, iii and iv only

b) i, ii and iii only

c) i, iii and iv only

d) All i, ii, iii and iv

14. The OutputStreams includes methods that are designed to perform the following tasks.

i) closing streams   ii) flushing streams

iii) reading bytes   iv) writing bytes

a) ii, iii and iv only

b) i, ii and iii only

c) i, ii and iv only

d) All i, ii, iii and iv

15. Which of the following method(s) not included in InputStream class.

a) available( )

b) reset( )

c) flush( )

d) close( )

16. The method ………………….., force writes whenever the data accumulates in the output stream.

a) write( )

b) skip( )

c) close( )

d) flush( )

17. The class DataInputStream extends …………………….. and implements the interface DataInput.

a) FileInputStream

b) SequenceInputStream

c) FilterInputStream

d) InputStream

18. The method …………………., force writes whenever the data accumulates in the output stream.

a) write( )

b) flush( )

c) read( )

d) reset( )

19. The DataInputStream and DataOutputStream classes are …………………….. streams that allow the reading and writing of java primitive data types.

a) file

b) sequence

c) object

d) filter

20. The ……………………… class provides the capacity to read primitive data types from an input stream.

a) pushbackInputStream

b) DataInputStream

c) BufferedInputStream

d) PipeInputStream

21. Which of the following is/are the methods of the DataOutputStream class.

i) void writeChar(intV)   ii) void writeLong(longV)

iii) void writeInt(intV)   iv) int size( )

a) ii, iii and iv only

b) i, ii and iii only

c) i, ii and iv only

d) All i, ii, iii and iv

22. DataInput is

a) an abstract class defined in java.io

b) a class we can use to read primitive data types

c) an interface that defines methods to open files

d) an interface that defines methods to read primitives data types

23. Which exception is thrown by the read( ) method of InputStream class.

a) Exception

b) IOException

c) ReadException

d) File Not Found Exception

24. The ……………………… method of the BufferedReader class is used for reading lines
of text from the console, the file or other input streams.

a) read( )

b) read(byte[]b)

c) readLine( )

d) readByte( )

25. ……………………. class is used to increase the efficiency of input operations.

a) DataInputStream

b) FileInputStream

c) BufferedInputStream

d) PipeInputStream

26. State whether the following statements about DataInputStream class are True.

i) readBoolean( ) reads one byte and returns true if that byte is nonzero, false if it is zero.

ii) readByte( ) reads a byte as an 8-bit signed value.

iii) readChar( ) reads a unicode character.

a) True, False, True

b) False, True, False

c) True, False, False

d) True, True, True

27. The ……………………. class implements the DataInput and DataOutput interfaces for performing I/O using the primitive data types.

a) RandomAccessFile

b) OutputStream Reader

c) InputStreamReader

d) DataOutputStream

28. The class ………………………. is a subclass of object class which can be used for breaking up a stream of text from an input text file into meaningful pieces.

a) Stream Tokenizer

b) RandomAccessFile

c) InputStreamReader

d) DataOutputStream

29. Combining two or more input streams into a single input stream can be achieved using the ………………. class.

a) SequenceOutputStream

b) BufferedInputStream

c) BufferedOutputStream

D) SequenceInputStream

30. ……………….. streams provide functionally for threads to communicate and exchange data between them.

a) Object

b) Piped

c) Pushback

d) Filtered

17UCT307 – JAVA PROGRAMMING

UNIT – I

1.   What is the use of constants?

Constants are basically variables whose value can't change. In C/C++, the
keyword const is used to declare these constant variables. In Java, you use the
keyword final. For example:

  public static final int RED = 5;

  public void someMethod()

  { setColor(RED); }

2.   Write the syntax for variable declaration.

Declare all variables before they can be used. Following is the basic form of a variable
declaration −

data type variable [= value][, variable [= value] ...] ;

3.   What are the different data types used in java?

There are two data types available in Java −

Primitive Data Types:byte,short,int,long,float,double,char,Boolean.

Reference/Object Data Types:class and objects.

4.   Write about relational operators.

a relational operator is a programming language constructor operator that tests or
defines some kind of relation between two entities.

==,!=,<,>,<=,>=

5.   How is if() condition used in java?Give a example.

An if statement consists of a boolean expression followed by one or more statements.

if (condition) {

 // block of code to be executed if the condition is true

}

6.   What is syntax for switch case?

 Use the switch statement to select one of many code blocks to be executed.

Syntax

```
switch(expression) {
 case x:
   // code block
   break;
 case y:
   // code block
   break;
 default:
   // code block
}
```

7.   What is the use of decrement operator?

 the previous value is obtained for the use in expression, and then the operand is modified.

Ex:-d = a--

8.   How was literals used?

Any constant value which can be assigned to the variable is called as literal/constant.

Ex:- Here 100 is a constant/literal.

int x = 100;

9.   What are the different types of condtional statements?

the if-else statement, to choose between two alternatives;

the switch statement, to choose between multiple alternatives.

10.   Write any two features of java.

Any two (Simple, Object-Oriented, Portable, Platform Independent, Secured, Robust, Architecture Neutral, Dynamic, High Performance, Multi-Threaded, Distributed)

11.   What are the two types of Java programs?

   Application program.

   Applet programming.

12.   What are the uses of final keyword?

   final keyword in **java**. final keyword is used in different contexts. First of all, final is a **non**-access modifier applicable only to a variable, a method or a class.Following are different

contexts where final is used. When a variable is declared with final keyword, its value can't be modified, essentially, a constant.

13.   What is an infinite loop?

An **infinite loop** is an instruction sequence that **loops** endlessly when a terminating condition isn't met. Creating an **infinite loop** might be a programming error, but may also be intentional based on the application **behavior.**

14.   What is type casting?

Assigning a value of one **type** to a variable of another**type** is known as **Type Casting**. Example : int x = 10; byte y = (byte)x; In **Java**, **type casting** is classified into two **types**, Widening **Casting**(Implicit)

UNIT - II

1.   How is objects are used in java?

Answer: A Java program can have as many objects as it requires, objects in Java interact through methods. Java objects correspond to real life entities.

2.   Write the syntax for array decalaration.

Answer: var-name = new type [size];

3.   Explain multiple inheritance.

Answer: In Java, multiple inheritances are only possible with 'interfaces', this allows a base class to have more than one superclass.
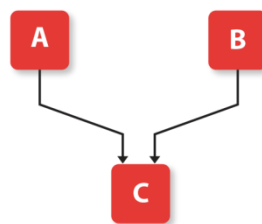
Multiple Inheritance

4.   Explain about importing packages.

Answer: Java has import statement that allows you to import an entire package (as in earlier examples), or use only certain classes and interfaces defined in the package. The general form of import statement is:

import package.name.ClassName;   // To import a certain class only

import package.name.*   // To import the whole package

For example,

import java.util.Date; // imports only Date class

import java.io.*;   // imports everything inside java.io package

5.   What is the use of inheritance?

Answer: Inheritance in Java, allows us to carry the features of the parent class to the subclasses. This feature saves a lot of time and also data redundancy, as a writer of the codes gets reduced.

Some of the important terms used in Inheritance are –

Super Class – A superclass in Java is the class from which the features are inherited.

Sub Class – A subclass in Java is the class which inherits the features of the superclass. I can have its own features and methods as well.

Reusability – The concept of reusability is supported by inheritance, the codes can be reused by the subclasses.

6.   What are the types of arrays?

Answer: One-dimensional array,Two-dimensional array and multi-dimensional array.

7.   Explain method overloading.

Answer:Method Overloading is a feature that allows a class to have more than one method having the same name, if their argument lists are different. It is similar to constructor overloading in Java, that allows a class to have more than one constructor having different argument lists. example: This is a valid case of overloading is:add(int, int),add(int, int, int)

8.   How a class can be extended?

Answer:extends means that you are creating a subclass of the base class you are extending. You can only extend one class in your child class, but you can implement as many interfaces as you would like.

9.   Define string.

Answer:strings in Java are a collection of Java characters and they are immutable, i.e. they cannot be changed once created.

There are two ways to create a Java string.

a. Using a string literal in Java

String s = "DataFlair";

b. Using a new Java keyword

String s = new String ("DataFlair");

10.   How to pass arguments in java?

Answer: The two most common mechanisms in modern programming languages are "Pass-by-Value" and "Pass-by-Reference".

Pass-by-Value

When a parameter is pass-by-value, the caller and the called method operate on two different variables which are copies of each other. Any changes to one variable don't modify the other.

Pass-by-Reference

When a parameter is pass-by-reference, the caller and the callee operate on the same object.It means that when a variable is pass-by-reference, the unique identifier of the object is sent to the method.

11. How does String class differ from the StringBuffer class?

In **Java** programming language, **strings are** treated as objects. The **Java** platform provides the **String class** to create and manipulate **strings**. Whereas, **StringBuffer class is** a thread-safe, mutable sequence of characters. A **string buffer is** like a**String**, but **can** be modified.

12. Define Method Overriding.

Java – **Overriding**-The benefit of **overriding** is: ability to**define** a behavior that's specific to the subclass type, which means a subclass can implement a parent class **method**based on its

requirement. In object-oriented terms, **overriding** means to **override** the functionality of an existing **method**.

13. In which package does Vector class defined?

 java.util.Vector

14. What are the similarities between interfaces and classes?

An **interface** contains the only signature of members. A **class** can only be inherited from a single **class** but can be inherited from more than one **interfaces**. **Interfaces** are always implemented whereas **classes** are extended. **Classes** represent the "real object" and do all the work

15. Can a class implement more than one interfaces?

A Java **class can** only **extend one** parent **class**. **Multiple** inheritance (extends) is not allowed. **Interfaces** are not **classes**, however, and a **class can implement more than one interface**. The parent **interfaces** are declared in a comma-separated list, after the **implements** keyword.

16. Why do we need the import statement?

The **import statement** in Java allows to refer to classes which are declared in other packages to be accessed without referring to the full package name. You **do** not**need** any **import statement** if you are willing to always refer to java.util. List by its full name, and so on for all other classes.

17. What is the use of Vector class in Java?

Class java.util.Vector. The **Vector class** implements a growable array of objects. Like an array, it contains components that can be accessed using an integer index. However, the size of a **Vector** can grow or shrink as needed to accommodate adding and removing items after the **Vector** has been created.

18. What is a package?

Package in Java is a mechanism to encapsulate a group of classes, sub packages and interfaces.

UNIT - III

1. What is the difference between Process and Thread?

A process is a self contained execution environment and it can be seen as a program or application whereas Thread is a single task of execution within the process. Java runtime environment runs as a single process which contains different classes and programs as processes. Thread can be called lightweight process. Thread requires less resources to create and exists in the process, thread shares the process resources.

2. What are the benefits of multi-threaded programming?

In Multi-Threaded programming, multiple threads are executing concurrently that improves the performance because CPU is not idle incase some thread is waiting to get some resources. Multiple threads share the heap memory, so it's good to create multiple threads to execute some task rather than creating multiple processes. For example, Servlets are better in performance than CGI because Servlet support multi-threading but CGI doesn't.

3. What is difference between user Thread and daemon Thread?

When we create a Thread in java program, it's known as user thread. A daemon thread runs in background and doesn't prevent JVM from terminating. When there are no user threads running, JVM shutdown the program and quits. A child thread created from daemon thread is also a daemon thread.

4. How can we create a Thread in Java?

There are two ways to create Thread in Java – first by implementing Runnable interface and then creating a Thread object from it and second is to extend the Thread Class. Read this post to learn more about <u>creating threads in java</u>.

5. What are different states in lifecycle of Thread?

When we create a Thread in java program, its state is New. Then we start the thread that change it's state to Runnable. Thread Scheduler is responsible to allocate CPU to threads in Runnable thread pool and change their state to Running. Other Thread states are Waiting, Blocked and Dead. Read this post to learn more about <u>life cycle of thread</u>.

6. Can we call run() method of a Thread class?

Yes, we can call run() method of a Thread class but then it will behave like a normal method. To actually execute it in a Thread, we need to start it using **Thread.start()** method.

7. How can we pause the execution of a Thread for specific time?

We can use Thread class sleep() method to pause the execution of Thread for certain time. Note that this will not stop the processing of thread for specific time, once the thread awake from sleep, it's state gets changed to runnable and based on thread scheduling, it gets executed.

8. What do you understand about Thread Priority?

Every thread has a priority, usually higher priority thread gets precedence in execution but it depends on Thread Scheduler implementation that is OS dependent. We can specify the priority of thread but it doesn't guarantee that higher priority thread will get executed before lower priority thread. Thread priority is an *int* whose value varies from 1 to 10 where 1 is the lowest priority thread and 10 is the highest priority thread.

9. What is context-switching in multi-threading?

Context Switching is the process of storing and restoring of CPU state so that Thread execution can be resumed from the same point at a later point of time. Context Switching is the essential feature for multitasking operating system and support for multi-threaded environment.

10. How can we make sure main() is the last thread to finish in Java Program?

We can use Thread join() method to make sure all the threads created by the program is dead before finishing the main function. Here is an article about Thread join method.

11. What is volatile keyword in Java

When we use volatile keyword with a variable, all the threads read it's value directly from the memory and don't cache it. This makes sure that the value read is the same as in the memory.

12. List some of the most common types of exceptions that might occur in Java.

- Arithmetic **Exception**
- ArrayIndexOutOfBoundException
- ClassNotFoundException
- FileNotFoundException
- IOException
- InterruptedException
- NoSuchFieldException
- NoSuchMethodException

13. What are the two ways to create threads in Java?

There are **two ways** to specify what code the **thread** should execute. The first is to**create** a subclass of **Thread** and override the run() **method**. The **second method**is to pass an object that implements Runnable (**java**.lang.Runnable to the **Thread**constructor.

14. Which keyword is used to explicitly throw an exception?

    throw keyword is used to **throw an exception explicitly**. **throws keyword is used** to declare an **exception** possible during its execution. **throw keyword** is followed by an instance of Throwable class or one of its sub-classes.

15. What is a finally block?

Java **finally block** is a **block** that is used to execute important code such as closing connection, stream etc. Java **finally block**is always executed whether exception is handled or not. Java**finally block** follows try or catch **block**.

16. What Java interface must be implemented by all threads?

java.lang.Runnable is an interface that is to be implemented by a class whose instances are intended to be executed by a thread. There are two ways to start a new Thread –
Subclass Thread and implement **Runnable** .

17. Mention the two broad categories of errors.

  In the Essential Tools Module model, **errors** are divided into **two broad categories**: internal and external Internal **errors**, which are further classified as either recoverable or non-recoverable, are due to **errors** in the internal logic of the program.

UNIT - IV

1. **What is an applet?**

Applet is a Java program with special syntax to execute in a browser. Applet does not contain main() method.

2. **What is the importance of applets in Java coding?**

Applets can be loaded on client-side so that they can communicate with server (most probably with a servlet).

3. **What is life cycle?**

Different states in which an applet exist between its object creation, by the browser, and garbage collection is known as life cycle.

4. **What are life cycle methods of applet?**

There are 5 life cycle methods and an applet exists in one of these methods during it's life cycle. They are **init()**, **start()**, **stop()** and **destroy()** all defined in **java.applet.Applet** and paint() method defined in java.awt.Component, an indirect super class of Applet.

5. **What is the tag used to embed an applet in HTML file?**

It is <applet> tag.

6. **What is AppletContext class?**

It is used to get the reference of the execution area of an applet in the browser. Programmer can use the object of AppletContext to communicate between two servlets.

7. **How many ways exist to display messages to the user in applets?**

There exists two ways using drawString() method of java.awt.Graphics class
and showStatus() method of java.applet.Applet.

8. **Which method is called only once during the run time of your applet?**

init()

9. **When an applet is terminated which of the sequence of methods calls take place?**

stop(),destroy()

10. **Which method is used to suspend threads that don't need to run when the applet is not visible?**

stop()

11. What is the purpose of drawOval method?

drawOval() The method drawOval() is one of the methods of a Graphics object. This draws a circle or an oval that fits within the rectangle specified by the X, Y, width and height arguments. The oval is drawn inside a rectangle whose **upper** left hand corner is at (X, Y), and whose width and height are as specified.

12. Which method is used to draw a rectangle in the applet?

Java comes with two methods to draw right-angled **rectangles**. void drawRect(int x, int y, int width, int height): Draws an outline **rectangle** with the left-top coordinates of x and y and with the width and height specified.

UNIT - V

1. What is an I/O filter?

An I/O filter is an object that reads from one stream and writes to another, usually altering the data in some way as it is passed from one stream to another.

2. What is the purpose of the File class?

The File class is used to create objects that provide access to the files and directories of a local file system.

3. What interface must an object implement before it can be written to a stream as an object?

An object must implement the Serializable or Externalizable interface before it can be written to a stream as an object.

4. What is the difference between the File and RandomAccessFile classes?

The File class encapsulates the files and directories of the local file system. The RandomAccessFile class provides the methods needed to directly access data contained in any part of a file.

5. What class allows you to read objects directly from a stream?

The ObjectInputStream class supports the reading of objects from input streams.

6.   What value does read( ) return when it has reached the end of a file?

The read( ) method returns – 1 when it has reached the end of a file.

7.   What value does readLine( ) return when it has reached the end of a file?

The readLine( ) method returns <u>null</u> when it has reached the end of a file.

8. What is meant by StreamTokenizer?

StreamTokenizer breaks up InputStream into tokens that are delimited by sets of characters. It has the constructor : StreamTokenizer(Reader inStream). Here inStream must be some form of Reader.

9.   What is Serialization and deserialization?

Serialization is the process of writing the state of an object to a byte stream. Deserialization is the process of restoring these objects.

10. What does AWT stands for?

AWT stands for Abstract Window Toolkit, it is used by applets to interact with the user.

11. Which method of FileReader class is used to read characters from a file?

Java FileReader class is used to read data from the file. It returns data in byte format like FileInputStream class. It is character-oriented class which is used for file handling in java.

12.   What is the use of FileInputStream Class?

Java FileInputStream class **obtains** input bytes from a file. It is used for **reading** byte-oriented data (streams of raw bytes) such as image data, audio, video etc. You can also **read** character-stream data. But, for **reading** streams of characters, it is recommended to use FileReader class.

13. What are the two types of Java Streams?

There are **two** basic **types of stream** defined by **Java**, called byte **stream** and character **stream**.

17UCT307 – Java Programming

Section – B (5 Marks)

K3 Level Questions

UNIT – I

1. List at least five major differences between C++ and Java.

2. Briefly explain the Java program structure with a suitable example.

3. Using command line arguments, write a java program.

4. Write a program to display the grade of a student by using else...if ladder.

5. Using command line arguments, write a program to find maximum and minimum of 'n' given numbers.

6. Write a program to determine the sum of the following harmonic series for a given value of n:

    $1+1/2+1/3+\ldots+1/n$

7. List a few areas of application of OOP technology.

8. Write a program for method overriding in java.

9. Write a program for method overloading in java..

10. Explain briefly about the evolution of Java language.

11. Write a short note on Java environment

12. Describe about Java virtual machine.

13. Illustrate with a flowchart, how various java tools are used in the application development.

14. What is Package? What is the use of packages in java?

15. Short note on data types in Java?

16. What are the operators used in Java?

17. Compare in terms of their functionality:

    i. While and Do-while

    ii. While and For

    iii. Break and Continue

UNIT – II

K3 Level Questions

1. Explain about user defined packages with an example.
2. Give a brief discussion on string manipulation in java.
3. Write a java program, by implementing Runnable interface.
4. Explain about Vectors with an example program.
5. Discuss about an interface. Develop a standalone Java program to illustrate the same.
6. Explain interface in java with example.
7. Discuss the various levels of access protection available for packages and their implications.
8. Write about defining a class and adding methods in Java with an example.
9. What is constructor? Explain the different types of constructor?.
10. What are objects? How are they created from class?
11. Write a brief note on String class and its methods.
12. Write a short on: Declaration of Arrays.
13. What is a Vector? How is it different from an array?
14. Discuss about Wrapper class.
15. Distinguish between an interface and a class?
16. Write a Java program to illustrate single inheritance.

UNIT - III

K3 Level Questions

1. Write a java program, by extending Thread class.

2. Write a short note on throwing our own exceptions.

3. Explain how exception handling mechanism in Java.

4. What is a finally block? When and how is it used? Give a suitable example.

5. Give the difference between multithreading and multitasking.

6. Give the difference between multithreading and multitasking.

7. Discuss the different levels of access protection available in Java.

8. Discuss briefly on stopping and blocking threads.

9. What are the thread class methods? Explain it.

10. Explain the Synchronization of thread with an example program.

11. Explain the two ways of creating multithreading in Java.

12. Describe the types of errors in Java.

13. Discuss briefly on Thread Priority with example.

14. What is the importance of try-catch block in exception handling with example?

15. Explain user defined exception with an example.

UNIT – IV
K3 Level Questions

1. Briefly explain how an applet program works.

2. How do Applets differ from Applications?

3. Write the steps for converting Java application to the applets? Explain with example.

4. Describe the different ways of running Applet.

5. Explain about various AWT classes used in Java.

6. Explain the concept of passing parameter from HTML to Applet with example program.

7. Illustrate the concept of getting input from user with example program.

8. Write a note on Mouse Event Handling with example.

9. Explain Graphics class. Give example implementing any 4 methods of Graphics class.

10. List the necessary methods for drawing a Line and Rectangle.

11. Explain the concept of line graphs and control loops in applets.

12. Describe the three ways of drawing polygons.

13. How to draw arcs in an applet? Explain with a program

UNIT – V

K3 Level Questions

1. Elaborate on Byte Stream classes.

2. Write a java program to copy from one file to another file using command line arguments.

3. Elucidate on character stream classes.

4. Explain the Byte Stream Classes with the block diagram for its hierarchy of Input and Output stream classes.

5. Describe the functions of a File class with a program.

6. Explain the Character Stream Classes with the block diagram for its hierarchy of reader and writer stream classes.

7. Explain about Input Stream classes.

8. Write about creation of files with example.

9. Explain about I/O Exception.

10. Write short notes on File stream used for I/O.

11. Explain about Output stream classes in detail.

12. How to concatenate the files in Java? Explain.

13. Explain about Buffered I/O operation.

17UCT307 – Java Programming
K4 & K5 Level Questions
UNIT – I

1. Discuss the salient features of java.
2. Write a Java program to print the largest of given three numbers.
3. Write a detailed note on Decision making and branching.
4. Using Bubble sort algorithm, write a program to sort the given numbers.
5. Write a java program using a do…while loop to calculate and print the first m Fibonacci numbers.
6. Discuss briefly on data types in Java with examples.
7. Explain branching and looping statements in Java with suitable example.
8. Explain the different types of operators in Java?

UNIT – II

1. Discuss the various forms of implementing interfaces. Give examples of java code for any one case.
2. Compare and contrast method overloading and method overriding with an example.
3. Write a java program to demonstrate hierarchical inheritance.
4. Explain different forms of inheritance in Java with examples.
5. Write a program to demonstrate multilevel Inheritance.
6. Write a short note on Vector class.
7. Discuss about an interface. Develop a standalone Java program to illustrate the same.
8. What are objects? How are they created from a class explain with a program?
9. Explain in detail about how to create an user defined package.

UNIT – III

1. Explain in detail the life cycle of a thread with a neat diagram.

2. Discuss about the user defined exception by using keyword throw and throws.

3. Write a java program for creating multithreads by extending Thread class.

4. Using Heapsort algorithm, write a java program to sort the given numbers.

5. How to create and run Thread? Explain with example.

6. Write a Java program to illustrate how to implement the Runnable interface.

7. What is an exception? Discuss on the types of exceptions.

8. Explain the concept of Exception handling mechanism in detail.

UNIT – IV

1. With a neat diagram, explain the applet life cycle.

2. Discuss the various drawing methods of the Graphics class.

3. Discuss about applet tag and HTML tags.

4. Develop an applet that receives three numeric values as input from the user and then displays the largest of the three on the screen. Write a HTML page and test the applet.

5. Discuss the different types of event handling in Java.

6. Briefly explain about the adapter classes in Java.

7. Explain the various Event Listener interfaces with examples.

8. Write Applet program for a) Drawing polygons b) Drawing a line graph

UNIT – V

1. Write a brief note on File class and explain its methods with a program.

2. Give an account on handling primitive data types.

3. Write a program that will count the number of lines and characters in a given file.

4. Write a program to copy characters from one file to another File.

5. Explain about random access files in Java with example.

6. Explain about Reader and Writer classes.

7. Describe the usage of ByteStream classes with examples.

DEPARTMENT OF COMPUTER TECHNOLOGY

17UCT413 - RELATIONAL DATA BASE MANAGEMENT SYSTEM

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Multiple Choice Questions

UNIT – I

1. Choose the correct statement regarding super keys
a) A super key is an attribute or a group of multiple attributes that can uniquely identify a tuple
b) A super key is a tuple or a set of multiple tuples that can uniquely identify an attribute
c) Every super key is a candidate key
d) A super key is an attribute or a set of attributes that distinguish the relation from other relations

Answer : a

2. What is an Instance of a Database?
a) The logical design of the database system
b) The entire set of attributes of the Database put together in a single relation
c) The state of the database system at any given point of time
d) The initial values inserted into the Database immediately after its creation

Answer : c

3. What is a foreign key?
a) A foreign key is a primary key of a relation which is an attribute in another relation
b) A foreign key is a super key of a relation which is an attribute in more than one other relations
c) A foreign key is an attribute of a relation that is a primary key of another relation
d) A foreign key is the primary key of a relation that does not occur anywhere else in the scheme

Answer : c

4. What action does ⋈ operator perform in relational algebra
a) Output specified attributes from all rows of the input relation and remove duplicate tuples from the output
b) Outputs pairs of rows from the two input relations that have the same value on all attributes that have the same name
c) Output all pairs of rows from the two input relations (regardless of whether or not they have the same values on common attributes
d) Return rows of the input relation that satisfy the predicate

Answer : a

5. What does the "x" operator do in relational algebra?
a) Output specified attributes from all rows of the input relation. Remove duplicate tuples from the output
b) Output pairs of rows from the two input relations that have the same value on all attributes that have the same name
c) Output all pairs of rows from the two input relations (regardless of whether or not they have the same values on common attributes)
d) Returns the rows of the input relation that satisfy the predicate

Answer : c

6. An attribute is a _____ in a relation.
a) Row
b) Column
c) Value
d) Tuple

Answer : b

7. What is the method of specifying a primary key in a schema description?
a) By writing it in bold letters
b) By underlining it using a dashed line
c) By writing it in capital letters
d) By underlining it using a bold line

Answer : d

8. Statement 1: A tuple is a row in a relation
Statement 2: Existence of multiple foreign keys in a same relation is possible
a) Both the statements are true
b) Statement 1 is correct but Statement 2 is false
c) Statement 1 is false but Statement 2 is correct
d) Both the statements are false

Answer : a

9. Choose the option that correctly explains in words, the function of the following relational algebra expression
$\sigma_{year \geq 2009}$ (book $\bowtie$ borrow)
a) Selects all tuples from the Cartesian product of book and borrow

b) Selects all the tuples from the natural join of book and borrow wherever the year is lesser than 2009
c) Selects all the tuples from the natural join of book and student wherever the year is greater than or equal to 2009
d) Selects all tuples from the Cartesian product of book and borrow wherever the year is greater than or equal to 2009

Answer : b

10. State true or false: If a relation consists of a foreign key, then it is called a referenced relation of the foreign key dependency.
a) True
b) False

Answer : b

11. The _____ of the entity set is an actual collection of entities belonging to that entity set.
a) Extension
b) Intention
c) Description
d) Availability

Answer : a

12. A _____ is an association among several entities.
a) Relationship
b) Association
c) Set
d) Combination

Answer : a

13. The attributes of a relationship are called as _____ attributes
a) Relational
b) Conjunctive
c) Descriptive
d) None of the mentioned

Answer : c

14. What are composite attributes?

a) They are those attributes which cannot be further divided into other attributes

b) They are those attributes which can further be divided into other attributes

c) They are those attributes which are essentially the primary keys of the relation

d) None of the mentioned

Answer : b

15. Let E be an entity set in a relationship set R. If every entity in E participates in at least one relationships in R, Then the participation of E in R is _____

a) Partial

b) Total

c) Complete

d) Incomplete

Answer : b

16. Let E be an entity set in a relationship set R. If only some entities in E participate in relationships in R, Then the participation of E in R is _____

a) Partial

b) Total

c) Complete

d) Incomplete

Answer : b

17. State true or false: We cannot specify keys in the Entity-Relationship model

a) True

b) False

Answer : b

18. State true or false: Multiple attributes combined together can be primary keys

a) True

b) False

Answer : a

19. Which of the following is a good database management practice?
a) Adding redundant attributes
b) Removing redundant attributes
c) Not specifying primary keys
d) None of the mentioned

Answer : b

20. In relationship the M:N represents_____.

a) Many –to- Many
b) One – to- Many
c) Many –to- One
d) Many –to – N

. Answer : a

UNIT – II

1. Which of the following information does an SQL DDL not specify?
a) The schema for each relation
b) The integrity constraints
c) The operations on the tuples
d) The security and authorization information for each relation

Answer : c

2. Which of the following data types does the SQL standard not support?
a) char(n)
b) String(n)
c) varchar(n)
d) float(n)

Answer : b

3. Which command is used to create a new relation in SQL

a) create table(, …)

b) create relation(, …)

c) new table(, …)

d) new relation(, …)

Answer : a

4. If a1, a2, a3 are attributes in a relation and S is another relation, which of the following is an incorrect specification of an integrity constraint?

a) primary key(a1, a2, a3)

b) primary key(a1)

c) foreign key(a1, a2) references S

d) foreign key(a1, a2)

Answer : d

5. What is the syntax to load data into the database? (Consider D as the database and a, b, c as data)

a) enter into D (a, b, c);

b) insert into D values (a, b, c);

c) insert into D (a, b, c);

d) insert (a, b, c) values into D;

Answer : b

6. Which of the following commands do we use to delete a relation (R) from a database?

a) drop table R

b) drop relation R

c) delete table R

d) delete from R

Answer : a

7. Which of the following commands do we use to delete all the tuples from a relation (R)?

a) delete table R

b) drop table R

c) delete from R

d) drop from R

Answer : c

8. Choose the correct command to delete an attribute A from a relation R

a) alter table R delete A

b) alter table R drop A

c) alter table drop A from R

d) delete A from R

Answer : b

9. create table apartment(ownerID varchar (5), ownername varchar(25), floor numeric(4,0), primary key (ownerID));

Choose the correct option regarding the above statement

a) The statement is syntactically wrong

b) It creates a relation with three attributes ownerID, ownername, floor in which floor cannot be null.

c) It creates a relation with three attributes ownerID, ownername, floor in which ownerID cannot be null.

d) It creates a relation with three attributes ownerID, ownername, floor in which ownername must consist of at least 25 characters.

Answer : c

10. What does the notnull integrity constraint do?

a) It ensures that at least one tuple is present in the relation

b) It ensures that at least one foreign key is present in the relation

c) It ensures that all tuples have a finite value on a specified attribute

d) It ensures that all tuples have finite attributes on all the relations

Answer : c

11.Which of the following is not a valid Date and Time data type?

a) date

b) time

c) datestamp

d) timestamp

Answer : d

12. What is a timestamp?

a) A combination of date and time with date first

b) A combination of date and time with time first

c) A combination of time and place with time first

d) A combination of time and place with place first

Answer : a

13. What does p indicate in the following data type?

time(p)

a) The amount of delay that needs to be added to the time

b) The number of fractional digits for the seconds

c) The maximum number of allowed hours

d) None of the mentioned

Answer : b

14. What is a default value?

a) It is a value that automatically creates a primary key

b) It is a value that cannot be altered during insertion of values in the tuple

c) It is a value that is initially loaded into the attribute

d) None of the mentioned

Answer : c

15. Which of the following is an illegal data type in SQL

a) number

b) clob

c) blob

d) lint

Answer : d

16. State true or false: Users can define new data types in SQL
a) True
b) False

Answer : a

17. What does the following statement do?
create table temp_inst like institute
a) It creates a new relation temp_inst with all the tuples and attributes of the institute relation
b) It creates a new relation temp_inst with the same schema as that of the institute relation
c) It creates a new relation named temp_inst with institute as its only attribute
d) It does not create any relations and returns an error

Answer : b

18. Which of the following is a privilege in SQL standard?
a) select
b) insert
c) update
d) All of the mentioned

Answer : d

19. The _____ statement is used in SQL to confer authorization.
a) grant
b) confer
c) implement
d) permit

Answer : a

20. revoke select on takes from amit;
What does the above query perform?
a) It revokes all authorizations from amit

b) It revokes select authorization from amit

c) It revokes takes authorization from amit

d) It gives an error

Answer : b

UNIT - III

1. What is a view?
a) An brief description of the schema diagram.
b) A relation that is not a part of the schema but is a virtual relation
c) Any relation that is a part of the schema
d) A relation that is a part of the schema but which needs to be specified in every operation made on that particular relation.

Answer : b

2. What is the command used to define view in SQL?
a) define view
b) new view
c) create view
d) none of the mentioned
3. create view studentdet
select ID, address, name
from student;

Answer : c

3.What is the result of the above query?
a) It creates a view named studentdet with 3 attributes
b) It creates a view named studentdet with 1 attribute
c) It creates a view named ID with 2 attributes
d) It is syntactically wrong and does not give a result

Answer : d

4. State true or false: One view can be used in the expression defining another view
a) True
b) False

Answer : a

5. If the actual relations used in the view definition change, the view is updated immediately.
Such views are called _____
a) Instant views
b) Instantaneous views
c) Materialistic views
d) Materialized views

Answer : d

6. The process of maintaining views up to date is called _____
a) View maintenance
b) View updating
c) View materialization
d) View isolation

Answer : a

7. How can we insert data into a view?
a) insert into ();
b) create data values ();
c) enter ();
d) insert into values ();

Answer : d

8. State true or false: We can update a view if it has multiple database relations in the from
clause
a) True
b) False

Answer : b

9. The _____ statement makes the updates performed by the transaction permanent.
a) Finalize work
b) Finish work
c) Commit work
d) None of the mentioned

Answer : c

10. Which of the following is not an integrity constraint?
a) not null

b) unique
c) identical
d) check

Answer : c

11. What is the function of the not null constraint?
a) It prevents illegal data from being entered into the database
b) It ensures that data is entered into the database
c) It ensures that the data entered is unique
d) None of the mentioned

Answer : b

12. What is the function of the unique constraint?
a) It ensures that no two values under an attribute are identical
b) It ensures that all the attributes are perfectly unique in their data type
c) It ensures that all the relations in the database have a unique set of attributes
d) It does not have any function in SQL

Answer : a

13. What are the functions of on delete cascade?
a) It is used to delete a tuple in a table
b) It is used to specify the precise attribute that needs to be deleted in a single relation.
c) It is used to preserve referential integrity in a relation
d) It is used to execute sub-queries in the from clause.

Answer : c

14. What does the following condition do?
check(name in('Ryan', 'Cristiano', 'Leo'))
a) The condition checks whether the name attribute includes the three mentioned names
b) The condition allows the name attribute to possess only the three mentioned names
c) The condition checks whether the given names are sub-strings in at least one of the values
d) None of the mentioned

Answer : b

15. Referential integrity constraints are also called as _____
a) Functional dependencies

b) Subset dependencies
c) Superset dependencies
d) Primary dependencies

Answer : b

16. _____ is a predicate that we expect the database to always satisfy
a) Assertion
b) Reason
c) Mandate
d) Verify

Answer : a

17. State true or false: Oracle does not support complex check conditions
a) True
b) False

Answer : a

18. What statement is used to define a new assertion in SQL?
a) create check ;
b) create assertion where ;
c) create where ;
d) create assertion check ;

Answer : d

19. DDL, DML, TCL are SQL Languages?

a) True
b) False
Answer: a

20. DCL is SQL Languages?
a) True
b) False
Answer: a

UNIT – IV

1. What is the function of the union operation?
a) It combines the results of any two different queries
b) It combines the results of two different queries which have the same set of attributes in the select clause
c) It combines the results of two different queries which have the same condition in the where clause
d) It gives the Cartesian product of the results of any 2 queries

Answer: b

2. What is the function of the intersect operation?
a) It returns the intersection of the results of the results of any two different queries
b) It returns the intersection of the results of two different queries which have the same set of attributes in the select clause
c) It returns the intersection of the results of two different queries which have the same condition in the where clause
d) None of the mentioned

Answer: b

3. What is the function of the except operation?
a) It excludes all the results present in both the queries
b) It includes the results of the second query but excludes the results of the first query
c) It includes the results of the first query but excludes the results of the second query
d) It includes all the results of both queries but removes duplicates

Answer: c

4. When does the predicate is null succeed?
a) If the value on which it is applied is finite
b) If the value on which it is applied is invalid
c) If the value on which it is applied is blank
d) If the value on which it is applied is more than the allowed limit

Answer: c

5. Using the _____ clause retains only one copy of identical tuples

a) distinct

b) is not null

c) no repeat

d) from

Answer: a

6. Observe the following query and choose the correct option

SELECT DISTINCT name
FROM student
WHERE ID **IS NOT NULL**;

a) The query is syntactically wrong

b) The query gives all the possible student names where a finite value exists for ID

c) The query gives the names of the students that have a null ID and it also excludes identical names

d) The query gives the student names where a finite value exists for ID and it excludes identical names

Answer: d

7. What will be the result of the following query?

(**SELECT** studentid
FROM student
WHERE SECTION = 'c')
EXCEPT
(**SELECT** studentid
FROM student
WHERE roll <10);

a) All the values of the studentid for which section is c and roll < 10

b) All the values of the studentid for which section is c and roll > 10

c) All the values of the studentid for which section not c and roll < 10

d) All the values of the studentid for which section not c and roll > 10

Answer: b

8. Which of the following correctly describes the between predicate in the where clause?

a) It is used to check whether a value is in between two specified values

b) It is used to check whether a value is exactly in the center of the relation alphabetically

c) It is used to check whether a value is in between any two other values in the database

d) None of the mentioned

Answer: a

9. The on condition appears at the _____ of the join expression
a) Beginning
b) End
c) Between
d) The on condition is not related to join expression

Answer: b

10. What is the difference between a join and an outer join operation?
a) There is no difference
b) Join preserves a few tuples that are otherwise lost in the outer join
c) Outer join preserves a few tuples that are otherwise lost in the join
d) An outer join can be used only on outer queries whereas a join operation can be used in Subqueries

Answer: c

11. The join operations that do not retain mismatched tuples are called as _____ operations
a) outer join
b) natural join
c) full outer join
d) inner join

Answer: d

12. What is the function of a left outer join?
a) It preserves tuples only in the relation named before the operation
b) It preserves tuples only in the relation named after the operation
c) It preserved tuples in the relations named on both the sides of the operation
d) It does not preserve any tuples on either side of the relation

Answer: a

13. What is the function of a full outer join?
a) It preserves tuples only in the relation named before the operation
b) It preserves tuples only in the relation named after the operation
c) It preserved tuples in the relations named on both the sides of the operation
d) It does not preserve any tuples on either side of the relation

Answer: c

14. What is the function of a right outer join?
a) It preserves tuples only in the relation named before the operation
b) It preserves tuples only in the relation named after the operation
c) It preserved tuples in the relations named on both the sides of the operation

Answer: b

15. What is the function of inner join?
a) It preserves tuples only in the relation named before the operation
b) It preserves tuples only in the relation named after the operation
c) It preserved tuples in the relations named on both the sides of the operation
d) It does not preserve any tuples on either side of the relation

Answer: d

16. State true or false: on and where behave differently for outer join
a) True
b) False

Answer: a

17. Which off the following is not a valid type of join?
a) left outer join
b) outer join
c) join

Answer: d

18. If a left outer join is performed and the tuple on the left hand side does not match with the tuple on the right hand side, what happens to the values that are preserved on the left hand side?
a) They are given null values
b) They are given a random value
c) The user is asked to enter data
d) The query is declared invalid by the compiler

Answer: a

19. The dependency rules specified by the database designer are known as _____
a) Designer dependencies
b) Database rules
c) Functional dependencies
d) None of the mentioned

Answer : c

20. If the decomposition is unable to represent certain important facts about the relation, then such a decomposition is called as?
a) Lossless decomposition
b) Lossy decomposition
c) Insecure decomposition
d) Secure decomposition

Answer :b

UNIT- V

1. A _____ is a special kind of a store procedure that executes in response to certain action on the table like insertion, deletion or updation of data.
a) Procedures
b) Triggers
c) Functions
d) None of the mentioned

Answer: b

2. Triggers are supported in
a) Delete
b) Update
c) Views
d) All of the mentioned

Answer: c

3. The CREATE TRIGGER statement is used to create the trigger. THE _____ clause specifies the table name on which the trigger is to be attached. The _____ specifies that this is an AFTER INSERT trigger.

a) for insert, on
b) On, for insert
c) For, insert
d) None of the mentioned

Answer: b

4. What are the after triggers?

a) Triggers generated after a particular operation
b) These triggers run after an insert, update or delete on a table
c) These triggers run after an insert, views, update or delete on a table
d) All of the mentioned

Answer: b

5. The variables in the triggers are declared using

a) –
b) @
c) /
d) /@

Answer: b

6. The default extension for an Oracle SQL*Plus file is:

a) .txt
b) .pls
c) .ora
d) .sql

Answer: d

7. Which of the following is NOT an Oracle-supported trigger?

a) BEFORE

b) DURING

c) AFTER

d) INSTEAD OF

Answer: b

8. What are the different in triggers?

a) Define, Create

b) Drop, Comment

c) Insert, Update, Delete

d) All of the mentioned

Answer: c

9. Triggers _____ enabled or disabled

a) Can be

b) Cannot be

c) Ought to be

d) Always

Answer: a

10. Which prefixes are available to Oracle triggers?

a) : new only

b) : old only

c) Both :new and : old

d) Neither :new nor : old

Answer: c

11. Which of the following blocks are used for error handling in SQL Server ?
a) TRY…CATCH
b) TRY…FINAL
c) TRY…END
d) CATCH…TRY

Answer: a

12. Point out the correct statement :
a) While executing some DML Statement like INSERT, DELETE, UPDATE we can handle the error for checking proper output
b) If transaction fails, then we need to commit – This can be done by error handling
c) If transaction succeeds, then we need to rollback – This can be done by error handling
d) None of the mentioned

Answer: a

13. Which of the following statements can be checked for Errors ?
a) CREATE
b) DROP
c) DELETE
d) INSERT

Answer: d

14. Purpose of TRY…CATCH block in SQL Server is :
a) Error handling
b) Stored Procedure handling
c) Message handling
d) None of the mentioned

Answer: a

15. Point out the wrong statement:
a) If an error occurs in the TRY block, control is not passed to another group of statements that is enclosed in a CATCH block
b) If an error occurs in the TRY block, control is passed to another group of statements that is enclosed in a CATCH block
c) If an error does not occur in the TRY block, control is passed to another group of statements that is enclosed in a CATCH block
d) None of the mentioned

Answer: b

16. Which of the following benefit does Exception handling with the TRY and CATCH blocks provide ?
a) Exceptions provide a mechanism to signal errors directly rather than using some side effects
b) Exceptions can be seen by the programmer and checked during the compilation process

c) Exceptions provide a clean way to check for errors without cluttering code
d) All of the mentioned

Answer: d

17. Exception handling is possible in SQL Server using :
a) THROW
b) FINAL
c) FINALLY
d) All of the mentioned

Answer: a

18. Which of the following is a Error function used within CATCH block ?
a) ERROR_STATE()
b) ERROR_STATUS()
c) ERROR_MSG()
d) All of the mentioned

Answer: a

19. ERROR_SEVERITY() returns the _____level of the error.
a) State number
b) Full text
c) Severity
d) None of the mentioned

Answer: c

20. Which of the following is global variable for error handling ?
a) @@ERRORS
b) @@ERROR
c) @@ERR
d) None of the mentioned

Answer: b

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DEPARTMENT OF COMPUTER TECHNOLOGY

17 UCT 413 - RELATIONAL DATABASE MANAGEMENT SYSTEM

K2 Level Questions

UNIT- I

1. Define DBMS.
2. Give an outline about Normalization.
3. Compare foreign key and composite key.
4. Rephrase the term cardinality.
5. Name some database software packages.
6. Define weak entity.
7. Relate dependencies and its types.
8. Infer the types of relationship.
9. Classify the types of anomalies.
10. What is meant by metadata?

UNIT-II

1. Compare primary key and foreign key.
2. Name some of the data types in oracle.
3. Name some DDL commands.
4. Classify the different forms of CONSTRAINTS.
5. Define Spooling.
6. Write about oracle error codes.
7. Compare oracle errors and online helps.
8. Demonstrate the uses of DROP keyword.
9. Compare DROP and TRUNCATE.
10. Write a syntax for creating an oracle table.

UNIT – III

1. Name some of the DML Commands.

2. Define Substitution Variable.

3. List out the uses of Customized prompts.

4. How will you Restrict data with a WHERE Clause.

5. Demonstrate the uses of Wild Cards.

6. Compare Define Command and Data Command with example.

7. What is meant by Data types?

8. Classify the various methods of Entering Null Values.

9. Define Column alias.

10. Show the various types of Distinct Function

UNIT - IV

1. Define join.

2. Draw a structure of PL/SQL programming language.

3. Show the levels of PL/SQL Block structure.

4. Name some Data Types.

5. How will you print the statement in SQL?

6. Compare about substitution variables and normal variables.

7. List the keywords of Data manipulation language.

8. Compare the PL/SQL and SQL.

9. Write the syntax of Extended Nested blocks.

10. Define Anchor declaration.

UNIT - V

1. Compare implicit cursor and explicit cursor.

2. Define Cursor.

3. Define Cursor For Loops.

4. How will you declare an explicit cursor?

5. Write the types of Exception.

6. Define Composite Data type.

7. Name some uses of Triggers.

8. Define Packages.

9. Give the uses of Function.

10. What is meant by varray?

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DEPARTMENT OF COMPUTER TECHNOLOGY

17UCT413 – Relational Database Management System

K3 - Level Questions

UNIT- I

1. Examine the concepts of Relational Database Management System.

2. Write about Dependencies and their types with example.

3. Build an Oracle query to create an oracle table with necessary examples.

4. Compare DBMS and RDBMS.

5. Conclude the concept of Data Modelling with suitable diagram.

6. Categorize the various forms of Normal Forms with example.

7. Compare the conversions from1NF to 2NF and 2NF to 3NF.

8. List out the types of relationships with example.

9. List the various types of Keys and their rules.

10. Discuss the concept of Relational Calculus with sample query.

UNIT- II

1. Compare and Contrast the concept of SQL and SQL* plus.

2. List out the various methods that are available for logging into SQL environment.

3. Examine the functions of SQL *plus environment with sample diagram.

4. Categorize the various tools provided by the Oracle9i.

5. Discuss the concept TRUNCATE statement with necessary examples.

6. Write about the concept of Integrity constraints in oracle.

7. Distinguish Primary key and foreign key with example.

8. Describe about basic commands in SQL* plus.

9. Build an oracle query for Data Definition Language with example.

10. Conclude the advanced data types in Data Definition Language.

UNIT- III

1. Describe the concept of functions with example.

2. Explain about CASE structure with syntax and example.

3. Discuss about the concept of sorting with an example.

4. Create an oracle query for bank details using HAVING clause.

5. List the various types of Date functions with example.

6. Classify the various methods of Character functions with example.

7. Evaluate the concept of Concatenation with example query.

8. How will you Update an existing rows/records in a table?

9. Write the methods of inserting a NULL values in a column.

10. Build an oracle query for grouping data with example.

UNIT- IV

1. Compare the Basic loop and While loop with syntax.

2. Discuss about selection statements with example.

3. Describe about the DML statements to manipulate employee details.

4. Construct an PL/SQL query to find average of n numbers using WHILE loop.

5. Write about IF...THEN...ELSIF...END IF statement with example.

6. Create and Build an PL/SQL block structure with example.

7. How will you declare a Host variable? Explain it.

8. Illustrate the concept of substitution variables with example.

9. Write about the fundamentals of PL/SQL programming structure.

10. Compare Equijoin and Non Equijoin with example.

UNIT- V

1. Discuss about the parts of packages in a PL/SQL blocks.

2. Compare Actual and Formal parameters in procedures with suitable query.

3. Construct an oracle program for calling a function.

4. Write the benefits of using a package in oracle.

5. Write down the uses of PL/SQL records in oracle

6. List the methods of Assigning a values to row in a PL/SQL table.

7. Categorize the uses of array and v_array.

8. Compare implicit cursor and explicit cursor with example.

9. Write the uses of cursor attributes with examples.

10. Classify the types of user defined exceptions and explain it.

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DEPARTMENT OF COMPUTER TECHNOLOGY

17UCT413 – Relational Database Management System

K4 & K5 - Level Questions

UNIT- I

1. Discuss about the Theoretical Relational Languages with example.

2. Describe about Database design with Block Structure.

3. Classify the different forms of keys in RDBMS.

4. Compare Data Model and Relational Data Model.

5. Examine about De-normalization with examples.

UNIT- II

1. Discuss the types of data types in oracle llg.

2. Classify the different types of Constraints with example.

3. Compare online helps and online errors.

4. How will you altering the details/information in an existing table? Explain it.

5. How will you Delete an existing row/records from Oracle table? Explain with example.

UNIT- III

1. Describe about DEFINE commands with suitable example.

2. Discuss about various types of single row functions in PL/SQL.

3. Build an SQL query using GROUP command and functions with necessary example.

4. Create an SQL query for student details using WHERE clause.

5. Classify the DML and DDL statements with Example.

UNIT- IV

1. Write about different forms of Joins with suitable example.

2. Describe about various set operators with example.

3. Evaluate the Scalar data types in PL/SQL blocks with example.

4. Create an oracle query for TCL statements with example.

5. Examine the concept of looping structure with suitable syntax and example.

UNIT- V

1. Discuss about Exceptions and their handling methods.

2. Construct a cursor with use of Parameters and explain it.

3. How will you create a PL/SQL block and how that can perform one or more task at a time? Explain it.

4. Examine the uses of function in a PL/SQL block with suitable example.

5. Compare the working principal of BEFORE and AFTER triggers with example.

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17UCT309 - OPERATING SYSTEM

K1 Level Questions

UNIT -I

1._____ a collection of related information defined by its creator

a) **File**

b) Device driver

c) Process

d) Main-memory

2. _____ is a collection of processors that do not share memory, peripheral devices or clock

a) Networking system

b) **Distributed system**

c) Secondary Storage management

d) I/O system management

3. _____ is the interface between user and operating system

a) HTTP

b) FTP

c) **Command Interpreter**

d) Control statements

4. Os provides environments for_____ of programs

a**) Execution**

b) Distributed

c) Networking

d) I/O system

5. _____ is a technique which packets of information are moved between processes by OS.

a) Resource allocation

b) Error detection

c) Communication

d) **Message passing**

6. _____ is the interface between process and operating system

a) Memory management

b) Application programs

c) **System call**

d) System programs

7. _____ uses map memory system calls to gain access to regions of memory owned by other process.

a) Message passing

b) System mapping

c) **Shared-memory model**

d) Real-time Mapping

8. Main advantages of layered approach is_____

a) **Modularity**

b) Ease of use

c) Flexibility

d) Hardware

9. Kernel is _____ of user threads

a) a part of

b) the creator

c) **unaware of**

d) aware of

10. _____ is a example of an operating system that support single user process and single thread

a) UNIX

b) **Ms-Dos**

c) OS/2

D) Windows 2000

UNIT -II

1. The state of a process is defined by:
   a) the final activity of the process
   b) the activity just executed by the process
   c) the activity to next be executed by the process
   d) **the current activity of the process**

2. Which of the following is not the state of a process?
   a) New

b) **Old**

c) Waiting

d) Running

3. The entry of all the PCBs of the current processes is in:

a) Process Register

b) Program Counter

c) **Process Table**

d) Process Unit

4. When a process terminates :

a) **It is removed from all queues**

b) It is removed from all, but the job queue

c) Its process control block is de-allocated

d) Its process control block is never de-allocated

5. What is a long-term scheduler ?

a) **It selects which process has to be brought into the ready queue**

b) It selects which process has to be executed next and allocates CPU

c) It selects which process to remove from memory by swapping

d) None of the mentioned

6. The only state transition that is initiated by the user process itself is :

a) **block**

b) wakeup

c) dispatch

d) none of the mentioned

7. The primary distinction between the short term scheduler and the long term scheduler is :

a) The length of their queues

b) The type of processes they schedule

c) **The frequency of their execution**

d) None of the mentioned

8. Suppose that a process is in "Blocked" state waiting for some I/O service. When the service is completed, it goes to the :

a) Running state

b) **Ready state**

c) Suspended state

d) Terminated state

9. What is a short-term scheduler ?

a) It selects which process has to be brought into the ready queue

b) **It selects which process has to be executed next and allocates CPU**

c) It selects which process to remove from memory by swapping

d) None of the mentioned

10. To ensure difficulties do not arise in the readers – writers problem, _____ are given exclusive access to the shared object.

a) readers

b) **writers**

c) readers and writers

d) none of the mentioned

11. The dining – philosophers problem will occur in case of :

a) **5 philosophers and 5 chopsticks**

b) 4 philosophers and 5 chopsticks

c) 3 philosophers and 5 chopsticks

d) 6 philosophers and 5 chopsticks

12. The bounded buffer problem is also known as

a) Readers – Writers problem

b) Dining – Philosophers problem

c) **Producer – Consumer problem**

d) None of the mentioned

UNIT- III

1. Which of the following condition is required for deadlock to be possible?

   a) mutual exclusion

   b) a process may hold allocated resources while awaiting assignment of other resources

   c) no resource can be forcibly removed from a process holding it

   d) **all of the mentioned**

2. The circular wait condition can be prevented by

   a) **defining a linear ordering of resource types**

   b) using thread

   c) using pipes

   d) all of the mentioned

3. What is the drawback of banker's algorithm?

   a) in advance processes rarely know that how much resource they will need

   b) the number of processes changes as time progresses

   c) resource once available can disappear

   d) **all of the mentioned**

4. A problem encountered in multitasking when a process is perpetually denied necessary resources is called

   a) deadlock

   b) **starvation**

   c) inversion

   d) aging

5. To avoid deadlock

    a) **there must be a fixed number of resources to allocate**

    b) resource allocation must be done only once

    c) all deadlocked processes must be aborted

    d) inversion technique can be used

6. Run time mapping from virtual to physical address is done by

    a) **Memory management unit**

    b) CPU

    c) PCI

    d) None of the mentioned

7. The page table contains

    a) **base address of each page in physical memory**

    b) page offset

    c) page size

    d) none of the mentioned

8. In segmentation, each address is specified by :

    a) **a segment number & offset**

    b) an offset & value

    c) a value & segment number

    d) a key & value

9. The offset 'd' of the logical address must be :

    a) greater than segment limit

    b) **between 0 and segment limit**

    c) between 0 and the segment number

    d) greater than the segment number

10. A deadlock can be broken by

    a) **abort one or more processes to break the circular wait**

b) abort all the process in the system

c) preempt all resources from all processes

d) none of the mentioned

UNIT- IV

1. _____ is the concept in which a process is copied into main memory from the secondary memory according to the requirement.

   a) Paging

   b) **Demand paging**

   c) Segmentation

   d) Swapping

2. The pager concerns with the

   a) **individual page of a process**

   b) entire process

   c) entire thread

   d) first page of a process

3. When a program tries to access a page that is mapped in address space but not loaded in physical memory, then

   a) segmentation fault occurs

   b) fatal error occurs

   c) **page fault occurs**

   d) no error occurs

4. Effective access time is directly proportional to

   a) **page-fault rate**

   b) hit ratio

   c) memory access time

   d) none of the mentioned

5. Which algorithm chooses the page that has not been used for the longest period of time whenever the page required to be replaced?

a) first in first out algorithm

b) additional reference bit algorithm

c) **least recently used algorithm**

d) counting based page replacement algorithm

6. Working set model for page replacement is based on the assumption of

a) modularity

b) **locality**

c) globalization

d) random access

7. Virtual memory allows

a) **execution of a process that may not be completely in memory**

b) a program to be smaller than the physical memory

c) a program to be larger than the secondary storage

d) execution of a process without being in physical memory

8. A swapper manipulates _____ whereas the pager is concerned with individual _____ of a process.

a) the entire process, parts

b) all the pages of a process, segments

c) **the entire process, pages**

d) none of the mentioned

9. A page fault occurs when :

a) a page gives inconsistent data

b) **a page cannot be accessed due to its absence from memory**

c) a page is invisible

d) all of the mentioned

10. To create a file

    a) allocate the space in file system

    b) make an entry for new file in directory

    c) **allocate the space in file system & make an entry for new file in directory**

    d) none of the mentioned

11. File type can be represented by

    a) file name

    b) **file extension**

    c) file identifier

    d) none of the mentioned

12. File system fragmentation occurs when

    a) **unused space or single file are not contiguous**

    b) used space is not contiguous

    c) unused space is non-contiguous

    d) multiple files are non-contiguous

UNIT-IV

1. The file organization module knows about

    a) files

    b) logical blocks of files

    c) physical blocks of files

    d) **all of the mentioned**

2. For processes to request access to file contents, they need to :

    a) they need to run a seperate program

b) they need special interrupts

c) **implement the open and close system calls**

d) none of the mentioned

3. When in contiguous allocation the space cannot be extended easily :

   a) **the contents of the file have to be copied to a new space, a larger hole**

   b) the file gets destroyed

   c) the file will get formatted and lost all its data

   d) none of the mentioned

4. The major disadvantage with linked allocation is that :

   a) internal fragmentation

   b) external fragmentation

   c) there is no sequential access

   d) **there is only sequential access**

5. A section of disk at the beginning of each partition is set aside to contain the table in

   a) **fat**

   b) linked allocation

   c) hashed allocation

   d) indexed allocation

6. Indexed allocation _____ direct access.

   a) **supports**

   b) does not support

   c) is not related to

   d) none of the mentioned

7. For any type of access, contiguous allocation requires _____ access to get a disk block.

   a) **only one**

   b) at least two

c) exactly two

d) three

8. The set of tracks that are at one arm position make up a _____

   a) magnetic disks

   b) electrical disks

   c) assemblies

   d) **cylinders**

9. The time taken for the desired sector to rotate to the disk head is called :

   a) positioning time

   b) random access time

   c) seek time

   d) **rotational latency**

10. SSTF algorithm, like SJF _____ of some requests.

a) **may cause starvation**

b) will cause starvation

c) does not cause starvation

d) causes aging

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17UCT309 - OPERATING SYSTEM

K2 Level Questions

UNIT -1

1. Define operating system
2. State program counter
3. Mention any two activities of file management
4. What is distributed system
5. Expand NFS
6. State application programs
7. List two types of communication model
8. Define command-line Interpreter
9. What is the use of system calls?
10. Write any two services of operating system

UNIT -2

1. Define process
2. What is scheduler?
3. What is the use of fork system call?
4. Mention any two types of scheduler
5. What is critical section problem?
6. How will you evaluate an average waiting time in SJF scheduling?
7. What are the three types of scheduling queues?
8. Define semaphore
9. What is meant by throughput?
10. What is critical section?
11. Name some classical problem of synchronization.
12. Define Dispatch Latency

UNIT -3

1. Define deadlock
2. Expand GDT & LDT
3. What is meant by pages?
4. What are the data structures available in banker's algorithm
5. When the deadlock situation can occur?
6. Define race condition
7. What is meant by race condition?
8. What is Resource-Allocation Graph?
9. Define fragmentation
10. List the need of inverted page table

UNIT -4

1. State Belady's Anomaly
2. Define memory-mapping
3. When page-fault trap occurs?
4. Define Lazy Swapper
5. Expand LRU
6. What is mean by Best fit?
7. What is reference string?
8. What is the use of page table
9. What is the use of valid-invalid bits in paging?
10. What is executable file?

UNIT -5

1. What is mean by Linked allocation?
2. Define C-Scan scheduling
3. Distinguish file from directory
4. Expand MFD
5. List the advantages of Two-level directory
6. What are the allocation methods of a disk space?

7. Mention any 2 drawbacks of contiguous allocation of disk space

8. Expand FAT

9. List down various disk-scheduling algorithms

10. What is the use of boot block?

11. What is seek time?

12. List the components of LINUX system

13. Mention some LINUX network services.

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17UCT309 - OPERATING SYSTEM

K3 Level Questions

UNIT -1

1. List out operating system services
2. What are the system programs available in operating system?
3. Discuss Layered approach in system architecture
4. Write a short note on secondary-storage management
5. State File management system calls
6. Describe Message-Passing model
7. Describe process management in system components
8. Classify device management system calls
9. Write a short notes on shared-memory model
10. Discuss simple structure of operating system

UNIT -2

1. Classify process scheduling in process management
2. Elaborate Dining Philosophers problem
3. Discuss in detail about process states
4. Differentiate preemptive and Non-preemptive scheduling
5. Write a note on Round-Robin scheduling with example
6. State various scheduling criteria for CPU scheduling
7. Describe Real-Time scheduling
8. What is PCB? Explain information associated with PCB
9. Distinguish between CPU bounded and I/O bounded processes
10. Priority inversion is a condition that occurs in real-time scheduling –Analyze this statement

UNIT -3

1. List the necessary conditions of deadlocks
2. What is paging? Write its basic method.
3. State the methods for handling Deadlock? Discuss
4. What are the common strategies to select a free holes from a set of available holes?
   Discuss
5. Analyze contiguous memory allocation
6. Elaborate how deadlock can be prevented
7. Explain swapping in memory management
8. Discuss Resource-Allocation Graph algorithm
9. Describe Inverted Page table
10. Write a note on shared pages in page table

UNIT -4

1. List out various file attributes
2. Mention the steps to handle a page fault
3. State common file types and it functions
4. Discuss memory –mapped files in virtual memory
5. What is Demand paging? Discuss its basic concept
6. Demonstrate FIFO page replacement
7. Discuss File Access method
8. What are all the various file operations available? Discuss
9. Illustrate working principle of optimal page replacement
10. Illustrate LRU page replacement

UNIT -5

1. Write a note on components of LINUX system
2. Explain system components of WindowsXP with block diagram
3. Discuss file system carried out in WindowsXP

4. Write a note on disk management with neat diagram

5. What are the data structures used for directory implementation?

6. Write in detail about contiguous allocation method in file system implementation

7. Demonstrate shortest-seek time first disk scheduling

8. Discuss the disadvantages of Linked allocation.

9. What is Bad Block in disk management? Discuss

10. Determine common schemes for defining logical structure of a directory

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17UCT309 - OPERATING SYSTEM

K4 & K5 Level Questions

UNIT -1

1. Explain system structure in operating system
2. Elaborate various operating system services
3. What is system call? List down various system calls used for process control
4. Explain in detail about purpose of system programs
5. Illustrate System components in Operating system

UNIT -2

1. Illustrate critical-section problem with example
2. What is semaphore? Explain management implementation of semaphore
3. What is CPU scheduling? Explain SJF scheduling and priority scheduling
4. Demonstrate three methods of message-passing parameters to operating system with example
5. Elaborate Short-term, Long-term, Long-term scheduling with suitable example.

UNIT -3

1. Explain in detail about Banker's algorithm to avoid deadlock with example
2. How deadlock can be detected? Explain
3. What is the use of segmentation in memory management? Explain with neat diagram
4. Explain in detail about Contiguous memory allocation
5. Illustrate various types of structure in page table.

UNIT -4

1. What is demand paging? Demonstrate its concept
2. Consider the following page-reference string:

   1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6

   How any page faults would occur for following replacement algorithm

   i)   LRU replacement   ii) FIFI replacement   iii) Optimal replacement
3. Explain in detail about directory structure and its types.
4. Illustrate optimal page replacement and LRU page replacement algorithm with example
5. Elaborate various file access methods.

UNIT -5

1. Explain in detail about allocation methods of a file
2. What is meant by Disk scheduling? Explain its types briefly
3. Illustrate system components of WindowsXP
4. Explain about Indexed Allocation methods in file system implementation
5. Elaborate files system in LINUX system
6. Distinguish design principles of LINUX system with WindowsXP.

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17 UCT 3A3 - ALLIED III: COMPUTER SYSTEM ARCHITECTURE
Section - A
UNIT – 1

K1 Questions

1.Floating point representation is used to store _____

    (a)Boolean values

    (b)Whole number

    (c) Real number

    (d)Integers

2.The circuit used to store one bit of data is known as _____

    (a)Register

    (b)Encoder

    (c)Decoder

    (d)FlipFlop

3.AStack-organization computer uses instruction of _____

    (a)Indirect addressing

    (b)Two-addressing

    (c)Zero addressing

    (d)Index addressing

4.In computers subtraction is generally carried out by_____

    (a)9's complement

    (b)10's complement

    (c)1's complement

    (d)2's complement

5.Cache memory acts between_____

   (a)CPU and RAM

   (b)RAM and ROM

   (c)CPU and Hard disk

   (d)None of these

6.Virtual memory consistsof_____

   (a)Static memory

   (b)Dynamic RAM

   (c)Magnetic memory

   (d)None of these

7.Cache memory works on the principle of_____

   (a)Locality of data

   (b)Locality of memory

   (c)Locality of reference

   (d)Locality of reference &memory

8.The circuit converting binary data in to decimal is _____

   (a)Encoder

   (b)Multiplexer

   (c)Decoder

   (d)Code converter

9.A group of bits that tell the computer to perform a specific operation is known as_____

   (a)Instruction code

   (b)Micro-operation

   (c)Accumulator

   (d)Register

10.A flip flop is a binary cell capable of storing information of_____

(a)One bit

(b)Byte

(c) Zero bit

(d)Eight bit

UNIT II

K1 Questions

1.What is full form of ALU ?

a) **Arithmetic logic unit**

b)Allowed logic unit

c)Ascii logic unit

d)Arithmetic least unit

2. Which cycle refers to the time period during which one instruction is fetched and executed by the CPU.

a. Fetch cycle
b. Instruction cycle
c. Decode cycle
d. Execute cycle

3. Which are stages of instruction cycle:_____

a. Fetch
b. Decode
c. Execute
d. **All of these**

4.The _____stack can be 4-word memory addressed by 2 bits from an up/down counter known as the stack pointer:
a. FIFO
b. PIPO
c. SISO
d. LIFO

5. Which is a type of microprocessor that is designed with limited number of instructions_____?

a. CPU

b. RISC

c. ALU

d. MUX

6. The group of binary bits assigned to perform _____

a specified operation is known as:

b. Stack register

c. Control word

d. Both

7. How many binary selection inputs in the control word_____

a. 1

b. 7

c. 14

d. 28

8. In stack organization the insertion operation is known as _____:

a. Pop

b. Push

c. Both

d. None

9. In stack organization the deletion operation is known as _____:

a. Pop

b. Push

c. Both

d. None

10. In stack organization address register is known as the:

a. Memory stack

b. Stack pointer

c. Push operation

d Pop operation

UNIT III

K1 Questions

1. Which is an algorithm or techniques used to multiply two numbers_____?

a. Addition algorithm

b. Subtraction algorithm

c. Multiplication algorithm

d. All of these

2. Which is data manipulation types are_____

a. Arithmetic instruction

b. Shift instruction

c. Logical and bit manipulation instructions

d. All of these

3. Which algorithm is a multiplication algorithm which multiplies two signed binary numbers in

2's complement notation_____

a. Usual multiplication

b. Booth's multiplication

c. Both

 d. None of these

4. Which are arithmetic operation are_____

a. Addition

b. Subtraction

c. Multiplication

d. **All of these.**

5.Which are the types of addition in the 2's complement system_____

a. Both number positive

b. A Positive number and a smaller negative number

c. A negative number and a smaller positive number

d. **All of these**

6. Which algorithm is used to find GCD of two integers_____

a. Multiplication algorithm

b. Division algorithm

c. Addition algorithm

d. Simple algorithm

7. _____of a number from another can be accomplished by adding the complement of the subtrahend to the minuend:

a. Subtraction

b. Multiply

c. Divide

d. All of these

8. How many main approaches to algorithm for division_____

a. 2

b. 3

c. 4

d. 5

9. How many algorithm based on add/subtract and shift category_____

a. 2

b.4

c.3

d. 6

10. Complement the subtrahend by converting all _____and all _____:

a. 1's to 0's

b. 0's to 1's

c. Both

d. None of these

UNIT IV

K1 Questions

1. In memory-mapped I/O _____

    a) **The I/O devices and the memory share the same address space**

    b) The I/O devices have a separate address space

    c) The memory and I/O devices have an associated address space

    d) A part of the memory is specifically set aside for the I/O operation

2. The usual BUS structure used to connect the I/O devices is _____

    a) Star BUS structure

    b) Multiple BUS structure

    c) **Single BUS structure**

    d) Node to Node BUS structure

3. The advantage of I/O mapped devices to memory mapped is _____

    a) The former offers faster transfer of data

    b) The devices connected using I/O mapping have a bigger buffer space

    c) **The devices have to deal with fewer address lines**

d) No advantage as such

4. The system is notified of a read or write operation by _____

    a) Appending an extra bit of the address

    b) Enabling the read or write bits of the devices

    c) Raising an appropriate interrupt signal

    d) **Sending a special signal along the BUS**

5. To overcome the lag in the operating speeds of the I/O device and the processor we use _____

    a) BUffer spaces

    b) **Status flags**

    c) Interrupt signals

    d) Exceptions

6. The method of accessing the I/O devices by repeatedly checking the status flags is _____

    a) **Program-controlled I/O**

    b) Memory-mapped I/O

    c) I/O mapped

    d) None of the mentioned

7. The method of synchronising the processor with the I/O device in which the device sends a signal when it is ready is

    a) Exceptions

    b) Signal handling

    c) **Interrupts**

    d) DMA

8. The method which offers higher speeds of I/O transfers is _____

    a) Interrupts

    b) Memory mapping

    c) Program-controlled I/O

    d) **DMA**

9. The process wherein the processor constantly checks the status flags is called as

    a) **Polling**

    b) Inspection

    c) Reviewing

    d) Echoing

10. The DMA differs from the interrupt mode by

    a) The involvement of the processor for the operation

    b) The method of accessing the I/O devices

    c) The amount of data transfer possible

    d) **None of the mentioned**

11. The DMA transfers are performed by a control circuit called as

    a) Device interface

    b) **DMA controller**

    c) Data controller

    d) Overlooker

12. In DMA transfers, the required signals and addresses are given by the

    a) Processor

    b) Device drivers

    c) **DMA controllers**

    d) The program itself

13. After the completion of the DMA transfer, the processor is notified by

    a) Acknowledge signal

    b) **Interrupt signal**

    c) WMFC signal

    d) None of the mentioned

14. The DMA controller has _____ registers

    a) 4

    b) 2

    c) 3

    d) 1

15. When the R/W bit of the status register of the DMA controller is set to 1.

    a) **Read operation is performed**

    b) Write operation is performed

    c) Read & Write operation is performed

    d) None of the mentioned

16. The controller is connected to the ____

    a) Processor BUS

    b) **System BUS**

    c) External BUS

    d) None of the mentioned

17. The technique whereby the DMA controller steals the access cycles of the processor to operate is called

    a) Fast conning

    b) Memory Con

    c) **Cycle stealing**

d) Memory stealing

18. The technique where the controller is given complete access to main memory is

    a) Cycle stealing

    b) Memory stealing

    c) Memory Con

    d) **Burst mode**

19. The controller uses _____ to help with the transfers when handling network interfaces.

    a) **Input Buffer storage**

    b) Signal enhancers

    c) Bridge circuits

    d) All of the mentioned

20. To overcome the conflict over the possession of the BUS we use _____

    a) Optimizers

    b) **BUS arbitrators**

    c) Multiple BUS structure

    d) None of the mentioned

UNIT V

K1 Questions

1. Device that has backup storage are called _____.

    a) Main memory
    b) **Auxiliary memory**
    c) Catch memory
    d) ROM

2. A very high-speed memory is called _____
    a) **Cache**
    b) Virtual memory

c) RAM

d) Main memory

3. Size of the _____ memory mainly depends on the size of the address bus.
   a) Main
   b) Virtual
   c) Secondary
   d) Cache

4. The number successful accesses to memory stated as a fraction is called as _____
   a) Hit rate
   b) Miss rate
   c) Success rate
   d) Access rate

5. In memory interleaving, the lower order bits of the address is used to
   a) Get the data
   b) Get the address of the module
   c) Get the address of the data within the module
   d) None of the mentioned

6. A memory unit accessed by content is called _____
   a) **Content addressable memory**
   b) Associative memory
   c) Main memory
   d) catch memory

7. Disks that are permanently attached and cannot be removed by the user is called _____
   a) Floppy disk
   b) **Hard disk**
   c) Magnetic disk
   d) Magnetic tape

8. Abbreviation of LRU
   a) Light Recently Used
   b) Line Replacement Unit
   c) **Least Recently Used**
   d) d) Lowest Replaceable Unit

9. A hard disk drive with removable disk is called _____
    a) **Floppy disk**
    b) Hard disk
    c) Magnetic disk
    d) magnetic tape

10. An address in main memory is called _____

    a) Address space
    b) Virtual address
    c) **Physical address**
    d) Memory space

11. An address used by a programmer is called _____

    a) Physical address
    b) **Virtual address**
    c) Logical address
    d) None of the above

12. The physical memory is broke into group of equal size is called _____
    a) Page frame
    b) Pages
    c) **Blocks**
    d) Sectors

13. The set of address locations is called _____
    a) Address space
    b) **Memory space**
    c) Virtual space
    d) Above a & c

14. The associatively mapped virtual memory makes use of _____
    a) **TLB**
    b) Page table
    c) Frame table
    d) None of the mentioned

15. _____ refers to a group of address space of the same size
    a) **Page**

b) Page frame
c) Table
d) Frame

16. The content of each entry in segment table is called _____
    a) Segment register
    b) **Descriptor**
    c) Page frame
    d)) page entry

17. Abbreviate TLB
    a) **Translate lookaside buffer**
    b) Translate Lookaside buffer
    c) Translator length buffer
    d) Translation Lookaside buffer

18. The main aim of virtual memory organisation is _____
    a) To provide effective memory access
    b) To provide better memory transfer
    c) To improve the execution of the program
    d) **All of the mentioned**

19. _____ translates the logical address into a physical address.
    a) **MMU**
    b) Translator
    c) Compiler
    d) Linker

20. The effectiveness of the cache memory is based on the property of _____
    a) **Locality of reference**
    b) Memory Localization
    c) Memory size
    d) None of the above

****

17UCT3A3 - COMPUTER SYSTEM ARCHITECTURE

Section - A

K2 LEVEL QUESTIONS

UNIT I

1.What is mean by operation code?

2.Draw the block diagram of instruction set?

3.Expand INTR.

4.What is the use of address register?

5.Write the types of control organization?

6.Expand DR?

7. Give an Example for Indirect Addressing?

8.Define Hardwire control?

9.What is mean by direct addressing?

10.Define Micro program control?

UNIT - II

K2 LEVEL QUESTIONS

1. Which operation is done by increment or decrement the stack pointer?

2. The stack pointer contains the address of the word that is currently on____:

3. In register stack items are removed from the stack by which operation.

4. RPN stands for.

5. EA stands for.

6. In which addressing the operand is actually present in instruction.

7. In which addressing the simplest addressing mode where an operand is fetched from memory.

8. Which addressing is a way of direct addressing?

9. In which mode the main memory location holds the EA of the operand.

10. Which addressing is an extremely influential way of addressing?

UNIT - III

K2 LEVEL QUESTIONS

1. Which method required 8 multiplications and 4 additions?

2. Arithmetic instruction is used to perform in which type of operations?

3. How many basic arithmetic operations are available?

4. Which algorithm includes repeated addition of two predetermined values A and S to a product and then performs a rightward arithmetic shift on P?

5. How many types of basically Data manipulation?

6. What is the inverse operation of addition?

7. Which algorithm is used as a general variant of theorems, in the domain of integral numbers?

8. Which operation with floating point numbers are more complicated then arithmetic operation with fixed point number?

9. How many types of addition in the 2's complement system?

10. Which algorithm in mathematics expresses the outcome of the process of division of integers by another?

UNIT IV

K2 Questions

1. What are the functions of I/O interface?

2. How does the processor handle an interrupt request?

3. What are the three types of channel usually found in large computers?

4. Why does a DMA have priority over the CPU when both request a memory transfer?

5. What is the advantage of using interrupt initiated data transfer?

6. Why do you need DMA?

7. What is the difference between subroutine and interrupt service routine?

8. What is the need for interrupt masks?

9. How does bus arbitration typically works?

10. How does a processor handle an interrupt?

11. Distinguish synchronous bus and asynchronous bus.

12. Why I/O devices cannot be directly be connected to the system bus?

13. What are the major functions of I/O system?

14. What is an I/O interface?

15. Explain Direct Memory Access.

16. Define DMA controller.

17. What is polling?

18. What is the need of Interrupt controller?

19. What is a priority interrupt?

20. Define bus.

21. Define synchronous bus

22. Define asynchronous bus

23. Define Interrupt

24. Define Exception

25. What is PCI bus?

26. What is SCSI?

27. Define USB.

28. What is serial port?

29. What is a parallel port?

30. What is port?

UNIT V

K2 Questions

1. Define main memory.
2. State multi programming.
3. List out types of operating modes.
4. What is meant by memory address map?
5. Define floppy disk.
6. Expand CAM
7. What is hit ratio?
8. Define virtual memory
9. What is physical address?
10. State Translation Lookaside buffer.

****

17UCT3A3 – COMPUTER SYSTEM ARCHITECTURE

Section - B

UNIT I

K3 LEVEL QUESTIONS

1. Write about Instruction codes?

2. Give an outline about basic computer structure?

3. Write a short note on common bus system?

4. Discuss about Instruction format?

5. Illustrate about program counter?

6. What are the uses of Timing and control unit?

7. Summarize about Computer instruction with example?

8. Write brief about Instruction and completeness?

9. Different between Direct and Indirect address?

10. Explain about Control organization and types?

UNIT II

K3 LEVEL QUESTIONS

1. Explain the types of CPU.

2.Explain stack organization.

3.What is reverse polish notation?

4.Explain types of addressing instruction.

5.What is addressing nodes?

6.Explain instruction cycle and it's type?

7.Explain direct and effective address.

8.Explain indirect and relative address.

9. What are the types of data transfer and explain it?

10. What are the types of manipulation and explain it?

UNIT III

K3 LEVEL QUESTIONS

1.Write about arithmetic operations?

2.Whatis the algorithm of arithmetic operations?

3.Draw the structure of additions?

4.Explain multiplication algorithm?

5.Explain about register configurations?

6.Explain about booth multiplication?

7.Draw a flow chart of multiplication?

8.Draw aglow chart of division?

9.Draw the structure of subtraction?

10.Explain about division algorithm?

UNIT IV

K3 LEVEL QUESTIONS

1. Explain the types of ports available.

2. Explain the various methods used for handling the situation when multiple interrupts.

3. Discuss the DMA driven data transfer technique.

4. Discuss the operation of any two input devices.

5. Explain the importance of I/O interface? Compare the features of SCSI and PCI interfaces.

6. Explain the use of vectored interrupts in processes. Why is priority handling desired in interrupt controllers?

7. Explain the different priority scheme work?

8. Explain the factors considered in designing an I/O subsystem?

9. Explain the differences between memory mapped I/O and I/O mapped I/O.

10. List out the necessary operations needed to start an I/O operation using DMA?

UNIT V

K3 LEVEL QUESTIONS

K3

1. Write a short note on a memory hierarchy.
2. Describe RAM and ROM chips
3. What is direct mapping? Discuss with example
4. Discuss associative memory.
5. Write a note on memory protection.
6. What is memory address mapping? Discuss.
7. Write a note on associative memory with neat diagram.
8. Discuss page replacement
9. Compare address space and memory space in virtual memory
10. Elaborate magnetic disk with neat diagram

****

17UCT3A3 – COMPUTER SYSTEM ARCHITECTURE

Section - C

UNIT I

K4 &K5 LEVEL QUESTIONS

1.Explain about Instruction cycle?

2.Illustrate about computer register?

3.Write briefly about Input/output and Interrupt?

4.Explain about Memory Reference instruction?

5.Explain about common bus system?

UNIT - II

K4 &K5 LEVEL QUESTIONS

1. What is stack operations and explain it's types?

2.Explain infix, prefix, postfix notation with example?

3.Explain addressing nodes and instruction cycle?

4. Explain data transfer and manipulationwithit's types?

5.Explain logical and shift operator.

UNIT - III

K4 & K5 LEVEL QUESTIONS

1. Explain about computer arithmetic operation and it's algorithm?

2. Draw a flow chart of addition and Subtraction?

3. Draw a flow chart of multiplication?

4. Draw a flow chart of Division?

5. Explain about multiplication algorithm and booth multiplication algorithm?

UNIT - IV

K4 & K5 LEVEL QUESTIONS

1. Explain the function t be performed by a typical I/O interface with a typical input output interface.

2. Explain in detail about interrupt handling.

3. Explain in detail about standard I/O interfaces.

4. Describe the functions of SCSI with a neat diagram.

5. Discuss on the following: Bus arbitration , printer process communication , USB

UNIT - V

K4 & K5 LEVEL QUESTIONS

1. Explain briefly about memory management hardware with example.

2. What are the three types of mapping procedure in cache? Briefly explain with example.

3. Illustrate   i) Address mapping using pages

                  ii) Associative memory page table.

4. Elaborate magnetic disk and magnetic tape with neat diagram

5. What is associative memory? Explain in detail about write and read operation with neat diagram.

****

1) AWT stands for _____.
  A) Applet Windowing Toolkit
  B) **Abstract Windowing Toolkit**
  C) Absolute Windowing Toolkit
  D) None of the above

2) Swing components are _____.
  A) Heavy-weight components
  B) **Light-weight components**
  C) Window
  D) Container

3) Swing components are platform _____.
  A) Dependent
  B) **Independent**
  C) neither dependent nor independent
  D) both dependent and independent

4) Abstract superclass for Swing buttons are
  A) Component
  B) JComponent
  C) **AbstractButton**
  D) none of the above

5) The Swing related classes are contained in _____ package.
  A) java.Swing
  B) javax.swing
  C) java.Swings
  D) None of the above

6) JApplet supports _____
  A) **panes**
  B) object
  C) code
  D) None of the above

7) Which class provides many methods for graphics programming?
   A) java.awt
   B) java.Graphics
   C) **java.awt.Graphics**
   D) None of the above

8) The _____ method of container can be used to add a component to a ContentPane.
   A) **add()**
   B) adds()
   C) label()
   D) None of the above

9) In Swing , icons are encapsulated by the _____ class.
   A) **ImageIcon**
   B) Image
   C) Icon
   D) None of the above

10) In which places can put the event handling code
    A) Same class
    B) Other class
    C) Anonymous class
    D) **All mentioned above**

11) Which package provides many event classes and Listener interfaces for event handling?
    A) java.awt
    B) java.awt.Graphics
    C) **java.awt.event**
    D) None of the above

12) Swing labels are instances of the _____ class.
    A) java.awt
    B) Label
    C) **JLabel**
    D) None of the above

13) The Swing textField is encapsulated by the _____ class.
    A) **JTextComponent**
    B) TextComponent
    C) JtextArea
    D) None of the above

14) The _____ class provides the functionality of a push button.
    A) **JButton**
    B) JCheckbox
    C) JMenuItem
    D) All of these

15) Which is the container that doesn't contain title bar and MenuBars.
  A) Window
  B) Frame
  C) **Panel**
  D) Container

16) The _____ method gets the text for that checkbox and uses it to set the text inside the text field.
  A) **getText()**
  B) setText()
  C) set()
  D) text()

17) Which are passive controls that do not support any interaction with the user?
  A) Choice
  B) List
  C) **Labels**
  D) Checkbox

18) By which **method** you can set or change the text in a **Label**?
  A) **setText()**
  B) getText()
  C) Both A & B
  D) None of the above

19) A _____ is a component that displays rows and columns of data.
  A) List
  B) **table**
  C) Labels
  D) Checkbox

20) A _____ object generates events when a node is expanded or collapsed.
  A) Labels
  B) **JTree**
  C) List
  D) Checkbox

21) What is the name of the Swing class that is used for frames?
  A) Window
  B) Frame
  C) **JFrame**
  D) SwingFrame

UNIT – II
K1 Level Questions

1) Which of the following package contains servlet classes?
    A) javax.servlet
    B) javax.servlet.http
    C) **Both of the above**.
    D) None of the above.

2) Which of the following is the correct order of servlet life cycle phase methods?
    A) **init, service, destroy**
    B) initialize, service, destroy
    C) init, execute, destroy
    D) init, service, delete

3) When init method of servlet gets called?
    A) **The init method is called when the servlet is first created**.
    B) The init method is called whenever the servlet is invoked.
    C) Both of the above.
    D) None of the above.

4) When service method of servlet gets called?
    A) The service method is called when the servlet is first created.
    B) **The service method is called whenever the servlet is invoked**.
    C) Both of the above.
    D) None of the above.

5) When destroy method of servlet gets called?
    A) **The destroy method is called only once at the end of the life cycle of
      a servlet.**
    B) The destroy method is called after the servlet has executed service
      Method.
    C) Both of the above.
    D) None of the above.

6) What is javax.servlet.Servlet?
    A) **interface**
    B) abstract class
    C) concreate class
    D) None of the above.

7) What is javax.servlet.http.HttpServlet?
    A) interface
    B) **abstract class**
    C) concreate class
    D) None of the above.

8) Which of the following method can be used to get the value of form parameter?
    A) **request.getParameter**
    B) request.getParameterValues
    C) request.getParameterNames
    D) None of the above.

9) Which of the following code is used to get PrintWriter object in servlet?
    A) **response.getWriter**
    B) request.getWriter
    C) new PrintWriter
    D) None of the above.

10) Which of the following code is used to get cookies in servlet?
    A) response.getCookies
    B) **request.getCookies**
    C) Cookies.getCookies
    D) None of the above.

11) Which of the following code is used to get names of the attributes in servlet?
    A) response.getAttributeNames
    B) **request.getAttributeNames**
    C) Header.getAttributeNames
    D) None of the above.

12) Which of the following code is used to get names of the headers in servlet?
    A) response.getHeaderNames
    B) **request.getHeaderNames**
    C) Header.getHeaderNames
    D) None of the above.

13) Which of the following code is used to get names of the parameters in servlet?
    A) **request.getParameterNames**
    B) response.getParameterNames
    C) Header.getParameterNames
    D) None of the above.

14) Which of the following code is used to get session in servlet?
    A) **request.getSession**
    B) response.getSession
    C) new Session

D) None of the above.

15) Which of the following code is used to get locale in servlet?
   A) **request.getlocale**
  B) response.getLocale
  C) new Locale
  D) None of the above.

16) Which of the following code is used to get a particular attribute in servlet?
  A) **request.getAttribute*name***
  B) response.getAttribute*name*
  C) new Attribute*name*
  D) None of the above.

17) Which of the following code retrieves the name of the HTTP Method?
  A) Header.getMethod
  B) response.getMethod
  C) **request.getMethod**
  D) None of the above.

18) Which of the following code retrieves name and version of the protocol?
  A) Header.getProtocol
  B) response.getProtocol
  C) **request.getProtocol**
  D) None of the above.

19) The life cycle of a servlet is managed by
  A) servlet context
  B) **servlet container**
  C) the supporting protocol (such as http or https)
  D) all of the above

20) How many ServletContext objects are available for an entire web application?
  A) One each per servlet
  B) One each per request
  C) One each per response
  D) **Only one**

21) are generic extension to java-enabled servers.
  A) TCP/IP
  B) Client
  C) Server
  D) **Servlets**

22) Java applets are programs that are embedded directly into _____.
    A) CGI
    B) Server
    C) **Webpages**
    D) Servlets

23) CGI stands for_____.
    A) **Common Gateway Interface**
    B) Common Gate Interface
    C) Communicate Gateway Interface
    D) Common Gateway Initial

24) A webserver creates a new process every time it receives a _____ request.
    A) CGI
    B) Server
    C) **CGI**
    D) Servlets

25) _____ is the method which returns the authentication scheme of this request in Servlet.
    A) getAuthentication()
    B) getpermission()
    C) **getAuthType()**
    D) None of the above

UNIT - III
K1 Level Questions
    1) The _____ enables to embedded a java servlet within an HTML document.
    A) Servlet
    B) Server
    C) **Server-Side Include**
    D) None of the above

2) The servlet invoked by _____ is the SSI mentioned earlier.
    A) Servlet
    B) Server
    C) **alias**
    D) None of the above

3) The _____ is the technique in which two or more servlets can cooperate in
   servicing a single request.
    A) SSI
    B) Filter
    C) **Servlet - Chaining**
    D) None of the above

4) JDBC stands for_____
    A) **Java Database Connectivity**
    B) Java Driver for Basic Connection
    C) Joint Database Connectivity
    D) None of the above

5) Which of the following is a component/class of JDBC API?
    A) DriverManager
    B) Translation
    C) Joint
    D) Section

6) Which of the following is not a component/class of JDBC API?
    A) Statement
    B) ResultSet
    C) Connection
    D) **Section**

7) _____ can manages a list of database drivers in JDBC.
    A) Statement
    B) ResultSet
    C) Connection
    D) **DriverManager**

8) _____ gives out the connection to the database and implements the protocol for transferring the query and result between client and database.
    A) DriverManager
    B) **JDBCDriver**
    C) Connection
    D) Statement

9) _____ consists of methods for connecting a database.
    A) DriverManager
    B) **Connection**
    C) Connection
    D) Statement

10) _____ encapsulates an SQL statement which is passed to the database to be parsed, compiled, planned and executed.
    A) DriverManager
    B) ResultSet
    C) Connection
    D) **Statement**

11) _____ holds data retrieved from a database after execute an SQL query using Statement objects.
    A) DriverManager
    B) Connection
    C) **ResultSet**
    D) JDBCDriver

12) _____ is type of JDBC driver, calls native code of the locally available ODBC driver.
    A) **JDBC-ODBC Bridge plus ODBC driver**
    B) Native-API, partly Java driver
    C) JDBC-Net, pure Java driver
    D) Native-protocol, pure Java drive

13) _____ is a type of JDBC driver, calls database vendor native library on a client side. This code then talks to database over network.
    A) JDBC-ODBC Bridge plus ODBC driver
    B) **Native-API, partly Java driver**
    C) JDBC-Net, pure Java driver
    D) Native-protocol, pure Java driver

14) _____ is a type of JDBC driver, talks with the server-side middleware that then talks to database.
    A) JDBC-ODBC Bridge plus ODBC driver
    B) Native-API, partly Java driver
    C) **JDBC-Net, pure Java driver**
    D) Native-protocol, pure Java driver

15) The JDBC – Net drivers are a _____ tier solution.
    A) 2
    B) **3**
    C) 1
    D) 4

16) _____ is a type of JDBC driver, which communicate directly with the vendor's database.
    A) JDBC-ODBC Bridge plus ODBC driver
    B) Native-API, partly Java driver
    C) JDBC-Net, pure Java driver
    D) **Native-protocol, pure Java driver**

17) When _____ the method is called , it creates the instances of the driver and registers it with the DriverManager.
    A) Driver.connection()
    B) conncetion()
    C) con.getConnection()
    D) **Class.forName()**

18) _____ method is used to perform execute a query.
    A) **executequery()**
    B) executeupdate()
    C) con.getConnection()
    D) **None of the above**

19) _____is a type of JDBC driver, is also called Type 1 JDBC driver.
    A) **JDBC-ODBC Bridge plus ODBC driver**
    B) Native-API, partly Java driver
    C) JDBC-Net, pure Java driver
    D) Native-protocol, pure Java driver

20) _____ is a type of JDBC driver, is also called Type 2 JDBC driver.
    A) JDBC-ODBC Bridge plus ODBC driver
    B) **Native-API, partly Java driver**
    C) JDBC-Net, pure Java driver
    D) Native-protocol, pure Java driver

UNIT IV
K1 Level Questions

1) _____ are simple but powerful technology used to generate dynamic HTML on the server side.
    A) **JSP**
    B) JDBC
    C) JDBC-Net
    D) Protocol

2) How many types of Java Beans are used in JSP documents?
    A) **2**
    B) 4
    C) 3
    D) 5

3) JSP stands for _____
    A) Java Service Programming
    B) Java Server Programming
    C) Java Service Pages
    D) **Java Server Pages**

4) request is instance of which class?
      A) Request
      B) HttpRequest
      C) **HttpServletRequest**
      D) ServletRequest

5) response is instance of which class?
      A) Response
      B) HttpResponse
      C) **HttpServletResponse**
      D) ServletResponse

6) _____ is not a implicit object.
      A) request
      B) response
      C) **cookie**
      D) session

7) This object can be used to access other implicit objects in JSP.
      A) request
      B) page
      C) context
      D) **pageContext**

8) session is instance of _____ class.
      A) Session
      B) **HttpSession**
      C) HttpServletSession
      D) ServletSession

9) _____ provide the ability to directly insert code into an HTML document.
      A) Session
      B) **Scriptlet**
      C) Declaration
      D) Implicit variable

10) How many types of directives are available in JSP?
      A) **3**
      B) 4
      C) 3
      D) 5

11) The _____ is a type of directive, which display whether the current JSP document results in error.
        A) language
        B) **errorpage**
        C) import
        D) Implicit variable

12) If a jsp is to generate a xml page, what attribute of page directive it should Use.
        A) contentXML
        B) generateXML
        C) typeXML
        D) **contentType**

13) _____ is not a directive.
        A) include
        B) page
        C) **export**
        D) useBean

14) _____ is a server side technology.
        A) html
        B) **jsp**
        C) javaScript
        D) css

15) The session tracking in the JSP can be done by _____.
        A) URL rewriting
        B) Cookies
        C) **User-Authorization**
        D) Hidden value

16) How is the possible way of communication between applet and Servlet ?
        A) HTTP Communication (Text-based and object-based)
        B) Socket Communication
        C) RMI Communication
        D) **All of the above**

17) The _____ attribute is used to indicate the Serialized bean
        A) **jsp:useBean**
        B) jsp:session
        C) jsp:import
        D) All of the above

18) The _____ is the capability of a server to maintain the current state of a single client's sequential requests.
        A) **Session tracking**
        B) Session
        C) Server
        D) All of the above

19) A _____ is a keyed piece of data that is created by the server and stored by the client browser.
        A) **cookie**
        B) Session
        C) Server
        D) All of the above

20) The _____ class encapsulates persistent cookies.
        A) **Cookie**
        B) Session
        C) SSI
        D) Session tracking

UNIT V
K1 Level Questions

1) A _____ is a software component that has been designed to be reusable in a variety of different environment.
        a) **Java Bean**
        b) Java Classes
        c) Java Method
        d) Interface

2) The configuration settings of a Bean can be saved in _____ storage and restored at a later time.
        a) **Persistent**
        b) Memory
        c) Locale
        d) None of the above

3) A ___ is provided that lists all of the available Beans.
        a) **Palette**
        b) Design area
        c) Textarea
        d) Frame

4) BDK stands for _____
        a) **Bean Development Kit**
        b) Bean Deployment Kit
        c) BeanBox Kit
        d) None of the above

5) The _____ Bean displays a three dimentional view of a molecule.
   a) Molecule
   b) OurButton
   c) Color Bean
   d) Button Bean

6) _____ Bean provides a push-button functionality.
   a) Molecule
   b) OurButton
   c) Color Bean
   d) Button Bean

7) A _____ file allows to efficiently deploy a set of classes and their associated resources.
   a) JAR
   b) Manifest
   c) Bean
   d) Textfile

8) The _____ command is used to change directories during command execution.
   a) C
   b) i
   c) X
   d) A

9) The _____ command is used to provide the index information.
   e) C
   f) i
   g) X
   h) S

10) The _____ command is used to update existing JAR file.
    a) **u**
    b) e
    c) C
    d) r

11) _____ is the process of analyzing a bean to determine its capabilities.
a) **IntroSpection**
b) Persistance
c) State
d) Bound

12) A _____ is a subset of a Bean's state.
a) **property**
b) Value
c) IntroSpection
d) Intended value

13) An Indexed property consist of _____
a) Single value
b) **Multiple value**
c) Zero
d) None of the above

14) A Bean that has a _____ property generates an event when the property is changed.
a) **Bound**
b) Perssitence
c) BeanInfo
d) Multiple Item

15) _____ is the extension of manifest file name .
a) **. mft**
b) .mfile
c) .manifestl
d) .fm

16) _____ class is used to obtain information about a Bean.
a) **Beans**
b) Applet
c) Swing
d) Servlet

17) _____ interface allows a dsigner to provide a graphical user interface through which a Bean configured.
a) **Customizer**
b) PropertyDescriptor
c) BeanInfo
d) Beans

18) The _____ used to read a Bean from an XML document.
a) **XML decoder**
b) XML Encoder
c) XML document
d) BeanProperty

19) The _____ used to write a Bean to an XML document.
a) XML decoder
b) **XML Encoder**
c) XML document
d) BeanProperty

20) The ___- is a instances of this class describe a property of a Bean.
a) **PropertyDescriptor**
b) Persistence
c) BeanProperty
d) BeanInfo

UNIT - I

1. What are the advantages over Swing Components than AWT Components?

2. Write any 4 Constructors to create JButton Class.

3. Write the appropriate method for changing the state of the JCheckbox.

4. What is the use ofJTable swing component?

5. What is the use of Swing Components?

6. Which method of container can be used to add a component to a content pane?

7.Which is super class for push buttons, check box and radio buttons?

8. What are the two types of database access models in JDBC?

9. _____ is the capability of a server to maintain the current state of a single client's sequential requests.

10. Explain the use of scrollpane constants in JScrollPane class.

11. Write any two constructor of RadioButton Class.

12. Which swing component is used to present hierarchical view of data?

13. What is the use of JTextField swing component?

14. What is a Java Swing?

15. Which method can set or change the text in a Label?

16. Which object can be constructed to show any number of choices in the visible window?

17. Which method is used to display icon on a component?

18. What is Generic Servlet class?

Generic servlet is the super class of all servlets. This class is extended by all other classes and it is protocol independent.

19. What is HttpServlet?

HttpServlet extends from GenericServlet and inherits the properties of Genericservlet.

20. What are the uses of servlets?

Servlets are used to process and store data submitted by HTML form, dynamic content, handle multiple request concurrently and manage state information on top of stateless HTTP.

UNIT- II

1. What is a Java Servlet?

2. Mention any two advantages of Java Servlets.

3. Write the various phases in Servlet Life cycle.

4. What is Servlet Chaining?

5. Expand CGI.

6. What are two main Servlet classes?

7. What is the use of a service method in a Generic Servlet class?

8. What is the use of getServletInfo ( ) method?

9. How to get the server information in a Servlet?

10. Why servlet is mostly used?

11. Which interface should be implemented by all servlets?

UNIT- III

1. Expand JDBC.

2. What is meant by a Servlet Aliases.

3. Which type of JDBC driver is also called Type 3 JDBC driver?

4. What are the two ways to invoke a servlet chain

5. Write an SQL Query to delete a particular record in a table.

6. List down the JDBC Driver types.

7. Which method will be called by using statement object to create table in JDBC?

8. How many JDBC driver types does Sun define?

9. Which type of JDBC driver is also called Type 4 JDBC driver?

10. Which method is used to establish the connection with the specified url in a Driver Manager class?

11. What is Servlet Chaining?

Chaining is one of the methods where out of one servlet is given to the second servlet. This chaining can happen for any number of servlets.

UNIT- IV

1. Write the Syntax for Expressions in JSP.

2. What is meant by Implicit variable?

3. Write the full form of JSP.

4. Define cookies.

5. What is the use of a cookie?

6. Which tag is used to execute java source code in JSP?

7. Write the general syntax for usebean tag in user defined java beans.

8. What is called a session?

9. What is called Session Tracking?

   Session tracking is used to maintain a state on the series of requests from the same user for a given period of time.

17. Why session tracking is needed?

   Every HTTP request needs to be captured by HTTP protocol and for that, state is captured. Tracking of state is called session tracking.

18. What are the types of Session Tracking ?

   There are following types of session tracking:
   - URL rewriting
   - Hidden Form Fields
   - Cookies
   - Secure Socket Layer (SSL)

19. What are the advantages of cookies?

   Cookies are used to store long term information that can be maintained without server interaction. Small and Medium size data are kept in a queue.

20. What is URL rewriting?

   URL rewriting is one of the methods of session tracking in which additional data is appended at the end of each URL. This additional data identifies the session.

21. What is called Scriptlet?

   A scriptlet contains any language statements, variables, expressions that can be valid in the page scripting language. Scriptlet is a part of generated servlet service method.

UNIT - V

1. What is the use of a JAR File?

2. What is a Java Bean?

3. What is meant by Introspection?

4. Define Persistence.

5. Write any two advantages of JavaBeans.

6. What is meant by a Customizer in Java bean?

7. What is the use of manifest file?

8. Give the abbreviation of BDK.

9. What is bean persistence property?

10. Which property of Java Bean represents a single value?

DEPARTMENT OF COMPUTER TECHNOLOGY

16UCT623 – J2EE TECHNOLOGY

Section-B

(K3 LEVEL) QUESTIONS

UNIT - I

1. Write a short note on Icons and Labels swing components.

2. Discuss JRadioButton class with an example program.

3. Explain how to use JComboBox in an application.

4. Elucidate on JButton swing component

5. Explain the swing component JTextArea with example

6. Write a program to create JCheckbox.

7. Write a code to create a JTable using swing.

8. Discuss the use of JScrollPane component.

9. Create a simple swing applet to contain two button alpha and beta and display appropriate

message when clicked.

10. Explain the swing component JTextField with example.

UNIT – II

1. What are the most common problems with CGI?

2. With a neat diagram, explain the life cycle of a servlet.

3. Discuss about the list of information contained in the HttpServletRequest object.

4. What are the advantages of Servlet over CGI?

5. Write a simple GenericServlet program to illustrate its application.

6. Differentiate between doGet() and doPost() methods in HttpServlet class.

7.Differentiate between GenericServlet and HttpServlet class.

8. List and explain the need of core classes and interfaces of servlet.

9. List out the four method overridden by the BasicServlet and explain it in detail.

10. Where does the BasicServlet fit into the servlet framework?

11. Write the Practical applications of java servlet.

UNIT –III

1. What do you mean by concept of SSI(Server Side Includes)? Explain.

2.Write a program to fetch data from a student table and print it. Student (sid, sname, scourse)

3. What is servlet chain? Explain how to invoke a servlet chain with appropriate example.

4. Explain the attributes in SSI syntax with example.

5. Discuss on parsing initialization parameters with example.

6. How to create and execute SSI?

7. List out the uses of servlet chaining.

8. How to invoke a servlet chaining?

9. Write about two and three tier architecture with neat diagaram in JDBC.

10. Write the steps to install and setting up the Type I drive in JDBC.

UNIT –IV

1. How does Cookies work in Servlets? Explain**.**

2. Elucidate on JSP Implicit objects.

3. How does a servlet communicate with a JSP page.

4. Why use JSP when can do the same thing with servlet.

5. Write a program to display all cookies using servlets.

6. List and explain JSP tags with example for each.

7. How to create session using JSP.

8. Write the differences between JSP and Servlets.

9. List out the methods defines by Cookie.

10. Illustrate the use of session.

11. Write the syntax for two conditional JSP tags.

12. Discuss about three types of directives.

13. Write a short note on scriptlets.

UNIT –V

1. Write a short note on the three types of properties in a Bean.

2. How to use BDK? Discuss it.

3. What are the purposes of introspection?

4. Outline the advantages of Java Beans.

5. Summarize the special features of Java Beans

6. List out the tags used in user-defined Java Beans.

7. Write about constrained Properties.

8. Write the steps to create a JAR file.

9. Explain about Persistant and UseBound properties.

10. Discuss a brief note on Customizer.

DEPARTMENT OF COMPUTER TECHNOLOGY
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Section - C
(K4, K5 LEVEL) QUESTIONS

UNIT – I

1. Write a java swing program for generating Fibonacci series.

2. Explain the use of JTree swing component in java.

3. Write a java swing program to illustrate the use of JTabbedPane.

4. Write a java swing program to find Factorial of a given number using swing components.

5. Write a program to calculate BMI using swing components.

UNIT – II

1. What are the reasons to use Java Servlets? Explain.

2. Describe HttpRequest and HttpResponse phases of servlet.

3. Explain the java servlets architecture with a neat block diagram.

4. Write a Servlet Program to display Date and Time.

5.Write a program to describe parameter reading using serlvet(login & password)

UNIT –III

1. Explain different types of JDBC drivers.

2. Write steps to connect a java servlet program to database and explain.

3.Explain CallableStatement with suitable example.

4. Explain PreparedStatement with suitable example.

5. What are transactions? Write a java program to execute database transaction.

UNIT –IV

1. Explain various directive tags of JSP.

2.What are JSP tags? Explain the different types of JSP tags.

3. Explain the use of HttpSession object for session tracking.

4. Explain Session tracking with servlet API.

5.Write a servlet program to add a cookie.

UNIT –V

1. What is a JAR file? Explain about its command options.

2. Explain about the steps to be adopted to create a new bean with an example.

3. Discuss about Java Beans API.

4. Write a program to illustrate the concept of user-defined StringBean.

5. Write a program to illustrate the concept of user-defined ColorBean.

6. Discuss about BeanInfo() interface in detail.

16UCT519 - SOFTWARE ENGINEERNING

K1 QUESTIONS

UNIT-I

1. The two dimensions of spiral model are

   a) diagonal, angular

   b) radial, perpendicular

   c) radial, angular

   d) diagonal, perpendicular

2. The Incremental Model is combination of elements of

   a) Build & FIX Model & Waterfall Model

   b) Linear Model & RAD Model

   c) Linear Model & Prototyping Model

   d) Waterfall Model & RAD Model

3. Model preferred to create client/server applications is

   a) WINWIN Spiral Model

   b) Spiral Model

   c) Concurrent Model

   d) Incremental Model

4. Spiral model was developed by

   a) Victor Bisili

   b) Berry Boehm

   c) Bev Littlewood

   d) Roger Pressman

5. Software evolution does not comprises:

   a) Development activities

   b) Negotiating with client

   c) Maintenance activities

   d) Re-engineering activities

6. Which of the following is not the objective of CMMI?

   a) Produce quality product or services by process improvement

   b) Increase customer satisfaction

   c) Expanding market presence

   d) Removing the bugs in product thereby direct product improvement

7. Abbreviate the term CMMI.

   a) Capability Maturity Modification integration

   b) Capability Managed Maturity Integration

   c) Capability Maturity Model Integrator

   d) Capability Maturity Model Integration

8. Which of the following is the Process Improvement Model?

   a) CMMI

   b) Agile

   c) Prototyping

   d) V model

9. Which of the following is not a phase of CMMI?

   a) Initial

   b) Quantitatively managed

   c) Integrated

   d) Defined

10. Which of the following is process improvement model?

    a) CMMI

    b) Agile

    c) Prototyping

    d) V model

11. Oldest paradigm for software engineering is

    a) Incremental process model

    b) RAD model

    c) Evolutionary process model

    d) Waterfall model

12. In incremental process model, some high-end function are designed in
    a) construction framework
    b) modeling framework
    c) planning framework
    d) deployment framework

13. Programs, documents and data that are produced as a consequence of activities and tasks defined by process are called
    a) work product
    b) user product
    c) control process
    d) open source

14. Actual work to be done to accomplish objective of software engineering action is termed as
    a) task cell
    b) task set
    c) task drive
    d) task modification

15. CMMI stands for
    a) Capability Maturity Melt Integration
    b) Consumed Maturity Model Integration
    c) Capability Maturity Model Integration
    d) Capability Maturity Model Increment

16. Waterfall model phase in which system design is prepared and this system design helps in specifying system requirements and define overall system architecture is
    a) Modeling
    b) Planning
    c) Construction
    d) Communication

17. SCAMPI stands for
    a) Standard CMMI Assessment Method for Process Improvement
    b) Standard CMM Assessment Method for Process Internal
    c) Standard PMMI Asign Method for Process Improvement

d) Standard CMMI Agreement Method for Process Improvement

18. Each iteration in incremental model passes through the

    a) communication and modeling phases

    b) planning and construction phases

    c) deployment and maintenance phases

    d) all phases

19. Element that holds technology layers together and enables rational and timely development of computer software is

    a) hardware process

    b) software process

    c) control process

    d) embedded process

20. Pattern type which define a software engineering action or work task that is part of process and relevant to successful software engineering practice is termed as

    a) task pattern

    b) stage pattern

    c) phase pattern

    d) dynamic pattern

UNIT-II

1. Term software refers to

 a) computer manuals

 b) computer programs

 c) machinery

 d) both computer programs and manuals

2. The Unified Modeling Language (UML) has become an effective standard for software modelling. How many different notations does it have?

 a) Three

 b) Four

 c) Six

 d) Nine

3. Which model in system modelling depicts the dynamic behaviour of the system?

a) Context Model

b) Behavioral Model

c) Data Model

d) Object Model

4. Which model in system modelling depicts the static nature of the system ?

a) Behavioral Model

b) Context Model

c) Data Model

d) Structural Model

5. Which perspective in system modelling shows the system or data architecture.

a) Structural perspective

b) Behavioral perspective

c) External perspective

d) All of the mentioned

6. Activity diagrams are used to model the processing of data.

a) True

b) False

7. Model-driven engineering is just a theoretical concept. It cannot be converted into a working/executable code.

a) True

b) False

8. The UML supports event-based modeling using _____ diagrams.

a) Deployment

b) Collaboration

c) State chart

d) All of the mentioned

9. Which is not a step of Requirement Engineering?

a) Requirements elicitation

b) Requirements analysis

c) **Requirements design**

d) Requirements documentation

10. SRD stands for _____

a) Software Requirements Definition

b) **Structured Requirements Definition**

c) Software Requirements Diagram

d) Structured Requirements Diagram

11. Modelling is a representation of the object-oriented classes and the resultant collaborations will allow a system to function.

a) **True**

b) False

12. In the requirement analysis which model depicts the information domain for the problem?

a) **Data models**

b) Class-Oriented models

c) Scenario-based models

d) Flow-oriented models

13. In the requirement analysis which model depicts how the software behaves as a consequence of external events?

a) Class-Oriented models

b) Scenario-based models

c) Flow-oriented models

d) Behavioural models

14. The process together the software requirements from Client, Analyze and Document is known as _____ .

a) **Requirement engineering process**

b) Requirement elicitation process

c) User interface requirements

d) Software system analyst

15. Abbreviate the term SRS.

a) **Software Requirement Specification**

b) Software Refining Solution

c) Software Resource Source

d) None of the above

16. Which of these primary objectives have to be achieved for the requirement model?

a) To describe what the customer requires

b) To establish a basis for the creation of a software design

c) To define a set of requirements that can be validated once the software

d) All mentioned above

17. The process togather the software requirements from Client, Analyze and Document is known as _____ .

a) **Requirement engineering process**

b) Requirement elicitation process

c) User interface requirements

d) Software system analyst

18. In Software validation, requirements can be checked against following conditions:

1) If they can be practically implemented

2) If they are valid and as per functionality and domain of software

3) If there are any ambiguities

4) If they are completed

  a. True

  b. False

19. What computer-based system can have a profound effect on the design that is chosen and also the implementation approach will be applied?

a) **Scenario-based elements**

b) Class-based elements

c) Behavioural elements

d) Flow-oriented elements

20. Which is focused towards the goal of the organization?

a) **Feasibility study**

b) Requirement gathering

c) Software requirement specification

d) Software requirement validation

21. In which elicitation process the developers discuss with the client and end users and know their expectations from the software?

a) **Requirement gathering**

b) Organizing requirements

c) Negotiation & discussion

d) Documentation

UNIT-III

1. What are the types of requirement?

a) Portability

b) Maintainability

c) Availability

d) Both Portability and Maintainability

2. Which one of the following is not a step of requirement engineering?

a) Elicitation

b) Design

c) Analysis

d) Documentation

3. QFD stands for?

a) Quality function design

b) Quality function development

c) Quality function deployment

d) none of the mentioned

4. The user system requirements are the parts of which document?

a) SDD

b) SRS

c) DDD

d) SRD

5. FAST stands for

a) Functional Application Specification Technique

b) Fast Application Specific Technic

c) Facilitated Application Specification Technique

d) None of these

6. Requirement engineering process includes which of these steps?

a) Feasibility study

b) Requirement Gathering

c) Software Requirement Specification &Validation

d) All mentioned above

7. What are the types of requirement in (QFD)?

a) Known, Unknown, Undreamed

b) User, Developer

c) Functional, Non-Functional

d) Normal, Expected, Exciting

8. What are the actors used in OOSE?

a) Primary

b) Secondary

C) Ternary

d) A (and) B

9. Requirement elicitation is a cyclic process

a) True

b) False

10. How Many Scenarios are there in elicitation activites?

a) One

b) Two

c) Three

d) Four

11. Which of the following is not a Requirement Management workbench tool?

a) RTM

b) DOORS

c) Rational Suite

d) RDD 100

12. Which of the following is a Requirement Management activity?

a) Investigation

b) Design

c) Construction and Test

d) All of the mentioned

13.Which of the following is not defined in a good Software Requirement Specification (SRS) document?

a) Functional Requirement

b) Non-functional Requirement

c) Goals of Implementation

d) Algorithm of Software Implementation

14. Which project is undertaken as a consequence of a specific customer request?

a) Concept development project

b) Application enhancement project

c) New application development project

d) Application maintenance project

15. Which is focused towards the goal of the organization?

 a) Feasibility study

 b) Requirement gathering

 c) Software requirement specification

 d) Software requirement validation

 16. Which documentation works as a key tool for software designer,developer and   their test team is to carry out their respective tasks?

a) Requirement documentation

b) User documentation

c) Software design documentation

d) Technical documentation

17. Which project is undertaken as a consequence of a specific customer request?

a) Concept development project

b) Application enhancement project

c) New Application development project

d) Application Maintenance project

18. If requirements are easily understandable and defined then which model is best suited?

a) Spiral model

b) Waterfall model

c) Prototyping model

d) None of the above

19. In which elicitation process the developers discuss with the client and end users and known their expectations from the software?

 a) Requirement gathering

 b) Organizing requirements

 c) Negotiations &document

 d) Documentation

20) Identifying and addressing the impact of project on organization and personel?

 a) Software Design

 b) Feasibility Study

 c) Requirement gathering

 d) System Analysis

UNIT- IV

1. Software Design consists of

a) Software Product Design

b) Software Engineering Design

c) Software Product & Engineering Design

d) None of the mentioned

2. What is Reference architecture?

a) It is a reference model mapped onto software components

b) It provided data flow with comments

c) It provides data flow with pieces

d) It is a reference model mapped onto software components & data flow with comments

3. What is Architecture?

a) Architecture is components

b) Architecture is connectors

c) Architecture is constraints

d) All of the mentioned

4. Which of these truly defines Software design?

a) Software design is an activity subjected to constraints

b) Software Design specifies nature and composition of software product

c) Software Design satisfies client needs and desires

d) All of the mentioned

5. Which of these describes stepwise refinement?

a) Nicklaus Wirth described the first software engineering method as stepwise refinement

b) Stepwise refinement follows its existence from 1971

c) It is a top down approach

d) All of the mentioned

6. What is incorrect about structural design?

a) Structural design introduced notations and heuristics

b) Structural design emphasis on procedural decomposition

c) The advantage is data flow representation

d) It follows Structure chart

7. The UML was designed for describing _____

a) object-oriented systems

b) architectural design

c) SRS

d) Both object-oriented systems and Architectural design

8. Which of the following is a type of Architectural Model?

a) Static structural model

b) Dynamic process model

c) Distribution model

d) All of the mentioned

9. What describes how a set of interacting components can share data?

a) model-view-controller

b) architecture pattern

c) repository pattern

d) none of the mentioned

10. Coupling is a qualitative indication of the degree to which a module

a) can be written more compactly

b) focuses on just one thing

c) is able to complete its function in a timely manner

d) is connected to other modules and the outside world

11. Which of the following is not included in Architectural design decisions?

a) Type of application

b) distribution of the system

c) architectural styles

d) testing the system

12. Which of the following pattern is the basis of interaction management in many web-based systems?

a) Architecture

b) repository pattern

c) model-view-controller

d) different operating system

13. Which view in architectural design shows the key abstractions in the system as objects or object classes?

a) Physical

b) development

c) logical

d) process

14. Which tool is use for structured designing?

a) Program flowchart

b) Structure chart

c) Data-flow diagram

d) Module

15. In the Analysis phase, the development of the _____ occurs, which is a clear statement of the goals and objectives of the project.

a) Documentation

b) flowchart

c) program specification

d) design

16. Who designs and implement database structures.

a) Programmers

b) Project managers

c) Technical writers

d) Database administrators

17. _____ is the process of translating a task into a series of commands that a computer will use to perform that task.

a) Project design

b) Installation

c) Systems analysis

d) Programming

18. In Design phase, which is the primary area of concern ?

a) Architecture

b) Data

c) Interface

d) All of the mentioned

19. The importance of software design can be summarized in a single word which is:

a) Efficiency

b) Accuracy

c) Quality

d) Complexity

20. Cohesion is a qualitative indication of the degree to which a module

a) can be written more compactly

b) focuses on just one thing

c) is able to complete its function in a timely manner

d) is connected to other modules and the outside world

UNIT-V

1. ……………….., sometimes called glass-box testing, is a test case design method that uses the control structure of the procedural design to derive test cases.

   a) White-box testing

    b) Control structure testing

   c) Black-box testing

   d) Gray-box testing

2. While using white-box testing methods, the software engineer can derive test cases that

   i) guarantee that all independent paths with in a module have been exercised at least once.

   ii) Exercise all logical decisions on their True and False sides.

   iii) Execute all loops at their boundaries and within their operational bounds.

   a) i and ii only

    b) ii and iii only

    c) i and iii only

   d) All i, ii, and iii

3. ………………, also called behavioral testing which focuses on the functional requirements of the software.

   a) White-box testing

   b) Control structure testing

   c) **Black-box testing**

   d) Gray-box testing

4. ……………. enables the software engineer to derive sets of input conditions that will fully exercise all functional requirements for a program.

a) White-box testing

b) Control structure testing

c) Black-box testing

d) Gray-box testing

5. Black-box testing attempts to find errors in which of the following categories.

i) incorrect or missing functions   ii) interface errors

iii) logical errors   iv) behavior or performance errors

v) incorrect assumptions

a) i, ii and iii only

b) ii, iii and iv only

c) iii, iv and v only

d) i, ii and iv only

6. While using black-box testing techniques, we drive a set of test cases that satisfy which of the following criteria.

i) test cases that reduce, by a count that is greater than one.

ii) test cases that tell us something about the presence or absence of classes of errors.

iii) execute all loops at their boundaries and within their operational bounds.

a) i and ii

b) ii and iii

c) i and iii

d) All i, ii and iii

7. . ……………… is black-box testing method that divides the input domain of a program into classes of data from which test cases can be derived.

a) Condition testing

b) Graph-based testing

c) Equivalence partitioning

d) loop testing

8. ……………. is the first step in black-box testing in order to understand the objects that are modeled in software and the relationships that connect these objects.

a) Condition testing

b) Graph-based testing

c) Comparison testing

d) loop testing

9. Boundary value analysis is a test design technique that complements …………………..

a) Condition testing

b) Graph-based testing

c) Equivalence partitioning

d) loop testing

10. The independent versions from the basis of a black-box testing technique are called
…………….

a) Condition testing

b) Graph-based testing

c) Comparison testing

d) loop testing

11. The ……………………. of documentation testing is the review and inspection, which examines the document for editorial clarity.

 a) First phase

 b) second phase

 c) third phase

 d) fourth phase

12. The …………………. of documentation testing is the live test, which uses the documentation in conjunction with the use of the actual program.

 a) First phase

 b) second phase

c) third phase

 d) Fourth phase

13. A ………………… for documentation can be approached using techniques that are analogous to many of the black-box testing methods.

a) loop test

 b) live test

 c) comparison test

d) review and inspection

14. ………………… can be used to define various classes and input and associated interactions.

a) Equivalence partitioning and graph based testing

 b) Equivalence partitioning and boundary value analysis

c) condition testing and equivalence partitioning

d) graph based testing and boundary value analysis

15. The …………………. in the testing of real-time software is to test each task independently.

a) First step

b) second step

c) Third step

d) Fourth step

16. ……………….. tests are designed to validate functional requirements without regard to the internal working of program.

a) White-box test

b) Control structure test

c) Black-box test

d) Gray-box test

17. …………………. divides the input domain into classes of data that are likely to exercise specific software function.

a) Boundary value analysis

b) Graph-based testing

c) Equivalence partitioning

d) loop testing

18. ……………………. probes the programs ability to handle data at the limits of acceptability.

a) Boundary value analysis

b) Graph-based testing

c) Equivalence partitioning

d) loop testing

19. In ……………….., test cases are derived to ensure that all statements in the program have been executed at least once during testing and that all logical conditions have been exercised.

a) White-box testing

b) Control structure testing

c) Black-box testing

d) Gray-box testing

20. In ………………….., once errors in individual tasks and in system behavior have been isolated, testing shifts to time related errors.

a) Task testing

b) Inter task testing

c) Behavioral testing

 d) System testing

16 UCT 519 – Software Engineering

K2 Questions

UNIT - I

1. Define software.
2. What is system software?
3. Define Real Time software.
4. What is embedded software?
5. What layer is the foundation for software engineering?
6. How many levels are there in software process framework?
7. How many levels in waterfall model?
8. Which model emphasizes an extremely short development cycle?
9. How many task regions a spiral model contains?
10. Define planning.

UNIT - II

1. Define Database in computer based system.
2. Define Documentation in computer based system.
3. What is Constraint in system modeling?
4. What is Assumption in system modeling?
5. What is the first phase of requirement engineering?
6. What is a requirement specification?
7. Write the full form of QFD.
8. Define Elicitation.
9. What is meant by Requirement Analysis?
10. What is Requirement Engineering?

UNIT - III

1. What is the Core element of Analysis model?
2. Write the full form of DFD.
3. What is the full form of STD?
4. Define Data object.
5. What is an Attribute?

6. Define Cardinality.

7. Define Modality.

8. What is an ER Diagram?

9. Define CFD in flow oriented modeling.

10. What does a round symbol represents in DFD?

UNIT - IV

1. Define interface design.

2. What is meant by Abstraction?

3. Define Refinement.

4. Define Functional independence.

5. Define Cohesion.

6. Define Coupling.

7. What is meant by Control coupling?

8. Define transform flow?

9. What is Transaction flow?

10. Define Transform mapping?

UNIT - V

1. Define Software Testing.

2. Define Verification.

3. Define Validation.

4. What is Top – down integration?

5. What is Breadth – First integration?

6. Define Alpha Testing.

7. Define Beta Testing.

8. What is another name of White – box Testing?

9. What is the formula for calculating Cyclomatic complexity?

10. Define Cyclomatic Complexity.

16UCT519 – Software Engineering

K3 Questions

UNIT - I

1. Write short notes on Software characteristics.

2. List some of the software myths and realities.

3. Write about Software Engineering Layers.

4. Analyze about Software process framework.

5. Brief write about waterfall model with a neat diagram.

6. What is meant by prototyping model? Explain.

7. Write any 2 stages in RAD model.

8. What are the six task regions of spiral model?

9. Write about Unified process.

10. Give an outline on CMMI model.

UNIT – II

1. Write short notes on Computer based systems.

2. Give a detailed account on system Engineering Hierarchy.

3. Write short notes on system modeling.

4. Briefly write about Inception and Elicitation.

5. Write short note on Elaboration and Negotiation.

6. Write about the initiation of requirement engineering process.

7. What is meant by Requirement Analysis? Explain.

8. Write about Development use cases for Safe Home project.

9. Write some Analysis principles.

10. Draw the activity Diagram for Safe Home security function.

UNIT – III

1. Write short notes on the elements of Analysis model.

2. What is meant by Data object, Attributes and relationships? Explain.

3. Write short notes on Cardinality and modality with example.

4. Draw the context flow Diagram for Safe Home security function.

5. Draw level 1 DFD for Safe Home security function.

6. Draw the class – based diagram for floor plan.

7. Write short notes on Behaviour modeling.

8. Draw an ER diagram for representing relationship.

9. Write short notes on Scenario based modeling.

10. Draw state diagrams for a Behavioural model.

UNIT – IV

1. Write short notes on Design process.

2. Briefly write about Design Quality.

3. Write some of the Design principles.

4. Give an outline on Modularity.

5. Briefly write about Software Architecture.

6. Give short notes on Data – flow architecture?

7. What is meant by Data – flow architecture? Explain with diagram.

8. Write short notes on Call and return architecture.

9. Write short notes on Transform flow with a neat diagram.

10. What is Transaction flow? Explain.

UNIT – V

1. Write short notes on Software Testing strategy.

2. Give an outline on unit Test considerations.

3. Write about Bottom – up integration Testing.

4. Briefly write the concept of Regression Testing and smoke Testing.

5. Write short notes on Debugging process.

6. Write some of the Testing objectives and principles.

7. Write about condition testing with an example.

8. What is Black Box Testing? Explain.

9. Give short notes on Equivalence partitioning.

10. Write short notes on Security Testing.

16UCT519 – Software Engineering

K4 & K5 Questions

UNIT-I

1. Explain in detail the type of softwares.
2. Explain in detail about the RAD model.
3. With neat diagram, explain Increment model.
4. Write a detailed note on Spiral model.
5. Write in detail about the Concurrent Development model.

UNIT-II

1. Explain in detail about the Requirement Engineering tasks.
2. Write in detail about the Requirement Elicitation for software.
3. Briefly explain about Functional models in Modeling.
4. Give a detailed account on Eliciting Requirements.
5. Write in detail – Building the Analysis model.

UNIT-III

1. Write in detail about Requirement Analysis.
2. Give a detailed account on Analysis modeling approaches.
3. Write about Data modeling concepts in detail.
4. What is meant by Object Oriented Analysis?
5. Explain in detail about Class based modelling.

UNIT-IV

1. Write in detail about Design concepts.
2. Give a detailed view on Design principles.
3. Write in detail about Layered architecture.
4. What are the design steps involved in Transform mapping? Explain.

UNIT-V

1. Explain in detail about unit Test procedures.
2. Write in detail about system Testing.
3. Give a detailed view on Debugging Approaches.
4. Explain about Flow graph notation in Basis path Testing.
5. Write in detail about Cyclomatic complexity metric.

1. Data communications are transfer of data through some

 a) Transmission medium

 b) Linear medium

 c) Network LAN

 d) Protocols

Answer: a

2. Information can be represented as a sequence of

 a) Byte patterns

 b) Characters

 c) Bit patterns

 d) Images

Answer: c

3. Which data communication method is used to send data over a serial communication link?

 a) Simplex

 b) Half duplex

 c) Full duplex

 d) all of these

 Answer: c

4. Example of an analog to analog conversion is

a) Radio

b) Video

c) Television

d) Internet

Answer: a

5. Digital data refers to information that is

 a) Continuous

 b) Discrete

 c) Bits

 d) Bytes

Answer: b

6. In data communications, non periodic signals

 a) Sine wave

 b) Digital Signals

 c) Analog Signals

 d) None of the above

Answer: d

7. Completion of one full pattern is called a

 a) Period

 b) Cycle

 c) Frame

 d) Segment

Answer: b

8. Term that refers to infinite no of values in range is

 a) Peak

 b) Analog Signal

 c) Digital Signal

 d) None of the above

Answer: b

9. Which technique is always needed in digital to digital conversion

 a) Scrambling

 b) Block coding

 c) Line coding

 d) Both b & c

Answer: c

10. Most common technique to change an analog signal to digital data is called

 a) Line code modulation

 b) Scrambling

 c) Block code modulation

 d) Pulse code modulation

Answer: d

11. Which of the following is false with respect to digital data transmission?

 a) LAN is a digital data transmission

 b) Can transmit binary data

c) Only restricted to communication between computers

d) Can transmit analog data

Answer: c

12. Why is digital data not easily affected by noise?

a) High power transmission

 b) Cannot easily change binary 1 to 0

 c) High frequency transmission

 d) Low frequency transmission

 Answer: b

13. What is the process of digital communication where a threshold value is set at the receiver to reduce noise?

 a) Signal threshold

b) Data regeneration

c) Signal regeneration

d) Signal cut off

Answer: c

14. Why can Digital data use time division multiplexing?

 a) Less power

 b) High power

 c) Discrete data

 d) Continuous data

 Answer: c

15. Which system uses digital transmission?

a) ISDN

b) LANs

c) ISDN & LANs

d) None of the mentioned

 Answer: c

16. Guided media provides a conduit from one device to another, includes

a) Twisted pair cable

b) Fiber optic cable

c) Coaxial cable

d) All of the above

Answer: d

17. Optical fibers use reflection to guide light through a

a) Channel

b) Metal wire

c) Light

d) Plastic

Answer: a

18. In which of the following systems multiplexing is not necessary?

a) Telemetry

b) TV broadcasting

c) Satellites

d) Continuous wave transmission

Answer: d

19. What type of multiplexing is widely used in cellphones?

a) Time division multiplexing

b) Frequency division multiplexing

c) Code division multiplexing

d) Spatial multiplexing

Answer: C

20. For frequency division multiplexing who defines the channel bandwidth?

a) FCC

b) ARNIC

c) FAA

d) CCA

Answer: A

UNIT-II

1) How many bits in data unit has changed in single bit error?

a) Only 1

b) Two bits

c) Three bits

d) Four bits

Answer: a

2) CRC stands for

a) Combine resistance check

b) Cyclic redundancy code

c) Combine redundancy code

d) Cyclic redundancy check

Answer: d

3) Guided media provides a conduit from one device to another, includes

a) Twisted pair cable

b) Fiber optic cable

c) Coaxial cable

d) All of the above

Answer: d

4) Twisted pair cable in which metal casing improves penetration of noise or crosstalk is called

a) Insulated twisted pair cable

b) Shielded twisted pair cable

c) Unshielded twisted pair cable

d) Both a & b

Answer: b

5) Optical fibers use reflection to guide light through a

a) Channel

b) Metal wire

c) Light

d) Plastic

Answer: a

6) Cable that accepts and transports signals in form of light is

 a) Unwired

 b) Fiber optic cable

 c) Coaxial cable

 d) Twisted pair cable

Answer: b

7) Ultra High Frequency (UHF) is using propagation method of

 a) Sky

 b) Ground

 c) Line of sight

 d) Sky, Line of sight

Answer: c

8) How many modes are currently in used for propagating light along optical channels

a) One mode

b) Two modes

c) Three modes

d) Five modes

  Answer: b

9) Super High frequency (SHF) is used in

a) FM radio

b) Satellite communication

c) AM radio

d) Cellular phones

 Answer: b

10) Multipoint topology is

 a) Bus

 b) Star

 c) Mesh

 d) Ring

  Answer: a

11) Bus, ring and star topologies are mostly used in the

a) LAN

b) MAN

c) WAN

d) Internetwork

Answer: a

12) Combination of two or more topologies are called

a) Star Topology

b) Bus Topology

c) Ring topology

d) Hybrid

Answer: d

13) A Circuit-Switched Network is made of a set of switches connected by physical

 a) Links

 b) Media

 c) Nodes

 d) Lines

 Answer: d

14) Actual communication in a circuit-switched network requires

 a) One phase

 b) Two phases

 c) Three phases

 d) Four phases

Answer: c

15) Setup, data transfer and connection tear down are three phases of

 a) Circuit switching

 b) Packet switching

 c) Message switching

 d) None

 Answer: a

16) Network where there is no resource reservation is called

 a) Circuit-Switched Networks

 b) Message-switched networks

 c) Packet-switched networks

 d) Satellite network

Answer: c

17) Three methods of switching are

a) Circuit switching, packet switching, and protocol switching

b) Circuit switching, packet switching, and message switching

c) Loop switching, packet switching, and message switching

d) Node switching, packet switching, and message switching

Answer: b

18) In network addresses, each router has two

 a) Addresses

 b) Masks

 c) Blocks

 d) Segments

 Answer: a

19) Electromagnetic waves ranging in frequencies between 3 kHz and 1 GHz are called

 a) High frequency

 b) Infrared

 c) Microwaves

 d) Radio waves

 Answer: d

20) Range of middle frequency is

a) 3-30 kHz

b) 900KHz-300 kHz

c) 3khz-30 MHz

d) 300 kHz-3 MHz

Answer: d

UNIT-III

1) Virtual terminal protocol is an example of the

 a) Application layer

 b) Presentation layer

 c) Transportation layer

 d) None of the above

Answer: a

2) Which of the following characteristics, the design issues of a physical layer does not deal ?

 a) Mechanical

 b) Electrical

 c) Functional

 d) None of the above

Answer: d

3) A device operating at the network layer is called a

a) Bridge

b) Router

c) Repeater

d) None of the above

Answer: b

4) Flow control in OSI models is done by

 a) Data link layer

 b) Network layer

 c) Transport layer

 d) Both data link and transport layers

Answer: a

5) In a network with 25 computers, which one of the following topologies would require the least cabling?

 a) Mesh topology

 b) Star topology

 c) Bus topology

 d) Ring topology

Answer: d

6) The speed of Ethernet is

 a) 64 Kbps

 b) 64 Mbps

 c) 10 Kbps

 d) 10 Mbps

Answer: d

7)   Which of the following device copies electrical signals from one Ethernet to another ?

a) Bridge

b) Repeater

c) Hub

d) Passive hub

Answer: b

8) Data communication system spanning states, countries, or the whole world is _____

 a) LAN

 b) WAN

 c) MAN

 d) None of the mentioned

Answer: b

9) In TDM, slots are further divided into _____

 a) Second

 b) Frame

 c) Packet

 d) None of the mentioned

Answer: b

10) Full Form of NIC?

a) New Internet Connection

 b) Network Interface Card

c) Network Interface Connection

 d) Net Interface Card

Answer: b

11) Which of the following are types of Twisted Pair Cable?

a) Coaxial Cable

b) Shielded Twisted Pair (STP)

c) Unshielded Twisted Pair (UTP)

d) Only B and C

Answer: d

12) Which of the following is an advantage to using fiber optics data transmission ?

 a) Resistance to data theft

 b) Fast data transmission rate

 c) Low noise level

 d) All of above

Answer: d

13) A router?

 a) Forwards a packet to all outgoing links.

 b) Forwards a packet to all outgoing links, except the link upon which the packet origina

c) Forwards a packet to the next free outgoing link

 d) Determines on which outgoing link a packet is to be forwarded.

Answer: a

14) ARP is used to find

 a) IP address

 b) MAC address

 c) Subnet address

 d) Host address

Answer: a

15) A communication network which is used by large organizations over regional, national or global area is called

 a) LAN

 b) WAN

 c) MAN

 d) Intranet

 Answer: b

16) Frame relay provides

a) PVCs

b) SVCs

c) Either a or b

d) Neither a nor b

Answer: c

17) In Frame relay, an address can be bytes.

 a) Only 2

 b) 2 to 3

 c) 2 to 4

 d) 4 to 8

Answer: c

18) The first generation of ISDN is called as a narrowband ISDN which has a ……………

orientation.

a) Circuit switching

b) Datagram packet switching

c) Message switching

 d) Virtual circuit packet switching

Answer: a

19) The main important technical contribution of B-ISDN is the ……

 a) SMDS

 b) Frame relay

 c) X.25

 d) ATM

Answer: d

20) The ISDN is governed by recommendations from ITU-T which are called as …………. of

recommendations.

a) T-series

b) U-series

c) I-series

d) D-series

Answer: c

UNIT- IV

1) Repeaters only regenerate strength of signals, it does not

a) Amplify the signals

b) Forward frame

c) Regenerate the data

d) All of the above

 Answer: a

2) Repeater is a

a) Amplifier

b) Generator

c) Modifier

d) Regenerator

Answer: d

3) A repeater is a device that cannot connect LANs of

 a) Different protocols

 b) Same Protocols

 c) Protocols of Data link layer

 d) Protocols of presentation layer

Answer: a

4) A repeater is a device that operates only in the connector

a) LAN

b) WAN

c) MAN

d) FAN

Answer: b

5) Bridge must discard any frames too large for its

 a) Medium

 b) Connection

 c) Frame format

 d) System

Answer: c

6) Bridge can operate on both layers those are

a) Physical and the data link layer

b) Physical and the session layer

c) Application and the data link layer

d) Physical and presentation layer

Answer: a

7) When a router needs to send a packet destined for another network, it must know the

Datagram's

a) Medium

b) Path Flow

c) IP Address

d) Source address

Answer: c

8) An option which is used to record time of datagram processing by a router is called

a) Time stamp

b) Time frame

c) Time delay

d) Time wrap

Answer: a

9) When a router cannot route a datagram, datagram is discarded and sends a message to source
is

 a) Destination Unreachable

 b) Destination unverified

 c) Destination Unavailable

 d) Destination no-entry

Answer: a

10) You want to implement a mechanism that automates the IP configuration, including IP address, subnet mask, Default gateway, and DNS information. Which protocol will you use to accomplish this?

   a) SMTP

    b) SNMP

   c) DHCP

   d) ARP

     Answer: a

11. Which of the following is private IP address?

   a) 12.0.0.1

   b) 168.172.19.39

   c) 172.15.14.36

   d) 192.168.24.43

Answer: d

12) First address in block can be found by setting rightmost 32- n bits to

a) 0 s.

b) 1s

c) combination of 0 and 1s

d) Null

Answer: a

13) Addresses in a block must be

 a) Random

 b) Contiguous

 c) Repititive

 d) Oddly arranged

Answer: b

14) Internet access by transmitting digital data over the wires of a local telephone network is provided by

a) Leased line

b) Digital subscriber line

c) Digital signal line

 d) None of the mentioned

Answer: b

15) Which one of the following protocol is not used in internet?

a) HTTP

b) DHCP

c) DNS

d) None of the mentioned

Answer: d

16) Which one of the following is not an application layer protocol used in internet?

a) Remote procedure call

b) Internet relay chat

c) Resource reservation protocol

d) None of the mentioned

Answer: c

17) Which one of the following is not used in media access control?

a) Ethernet

b) Digital subscriber line

c) Fiber distributed data interface

d) None of the mentioned

Answer: d

18) Transmission Control Protocol/Internet Networking Protocol have

a) Four Layers

b) Five Layers

c) Six Layers

d) Seven Layers

Answer: a

19) ICMP Stands for

a) Internet Connect Message Protocol

b) Internet Control Message Protocol

c) International Connect Message Protocol

d) International Control Message Protocol

Answer: b

20) Packets of data that is transported by IP is called

a) Datagrams

b) Frames

c) Segments

d) Encapsulate message

Answer: a

UNIT -V

1. In User Datagram Protocol (UDP), checksum calculation is different from one for IP and

 a) TCP

 b) TCP/IP

 c) FSP

 d) ICMP

 Answer: c

2. In User Datagram Protocol (UDP), queues are associated with

a) Slots

b) IP

c) Ports

d) Packets

Answer: d

3. In User Datagram Protocol, when sender receives datagram back is known as

a) Path flow

b) Flow Users

c) Echo

d) None of the Above

Answer: c

4. User Datagram Protocol (UDP) is using services of IP to provide

a) Host-to-Host

b) IP-to-IP

c) Process-to-Process

d) Hop-to- Hop

Answer: a

5. TFTP stands for

 a) Trivial File Transformed Path

 b) Trivial File Transfer Packet

 c) Trivial File Transfer Protocol

 d) Trivial File Transformed Protocol

 Answer: a

6. DNS can be pictured as an inverted hierarchical tree structure with one root node at top and a maximum of

 a) 128 Levels

b) 129 Levels

c) 130 Levels

d) 131 Levels

Answer: a

7. Name of domain is domain name of node at top of the

a) Sub Tree

b) Main Tree

c) Leaf Node

d) Bottom Tree

Answer: a

8: Domain, which is used to map an address to a name, is called

a) Generic Domains

b) Inverse Domain

c) Main Domains

d) Sub-Domains

Answer: b

9. Term that define registered hosts according to their generic behavior, is called

a) Generic Domains

b) Main Domains

c) Super-Domains

d) Sub-Domains

Answer: a

10. DNS client adds suffix atc.jhda.edu. before passing address to the

a) DNS Client

b) DNS Server

c) DNS Label

d) DNS Recipient

Answer: b

11. MIME stands for

a) Multipurpose Internet Mail Extensions

b) Multipurpose Internet Mail Email

c) Multipurpose International Mail Entity

d) Multipurpose International Mail End

Answer: a

12. In architecture of e-mail, we can have

a) 2 Scenarios

b) 3 Scenarios

c) 4 Scenarios

d) 6 Scenarios

Answer: d

13. In EMAIL, We need two VAs and two pairs of MTAs, When sender is connected to mail server via

a) MTA and VTA

b) LAN and WAN

c) IP and TCP

d) Host and IP

Answer: b

14. Mail access starts with client when user needs to download e-mail from the

a) Mail Box

b) Mail Server

c) Mail Host

d) Internet

Answer: a

15. When sender and receiver of an e-mail are on same system, we need only two

a) IP

b) Domain

c) Servers

d) User Agents

Answer: d

16. Both TCP and SCTP protocols are

a) Connection less

b) Connection oriented

c) Start but no ending

d) None of Above

Answer: b

17. Length of Port addresses in TCP/IP are

a) 4 bit long

b) 16 bit long

c) 32 bit long

d) None of Above

Answer: b

18. TCP/IP layer is equivalent to combined Session, Presentation and

a) Network layer

b) Application layer

c) Transport layer

d) Both a and c

Answer: b

19. How many levels of addressing in TCP/IP protocol provides

a) One

b) Two

c) Three

d) Four

Answer: d

20. E- mail address has the symbol

a) #

b) %

c) @

d) *

Answer: c

17UCT414 – Data communication and Networks

K2 Questions
UNIT-I

1. Define protocol.
2. Define amplitude.
3. What is period?
4. What is frequency?
5. What is parallel communication?
6. What is serial communication?
7. Define simplex communication
8. Write the full form of FDM.
9. What is meant by distortion.
10. Define half duplex.

UNIT-II

1. What are the two types of errors?
2. Write the full form of VRC.
3. Write the full form of LRC.
4. What is CRC?
5. Define UTP.
6. Define STP.
7. What is the source optical fiber used for data transmission?
8. What is the name of the central node in star topology?
9. Which topology uses multipoint philosophy?
10. In which topology if a node fails the whole network cannot function?
11. What is a switch?
12. What are the three types of switching methods available?
13. What is the approach used by message switching?

UNIT- III

1. Write the full form of OSI.
2. Which layer is concerned with sending raw bits between source and destination.
3. Which layer is responsible for routing a packet within the subnet?
4. Write any one of the popular packet switching LAN technology?
5. Write the full form of MAC.
6. What is the name of the table each switch maintain in WAN architecture?
7. What is the fundamental concept in ISDN?
8. What is BRI and PRI?
9. Write the full form of DLCI in frame relay?
10. What is FECN and BECN?

UNIT- IV

1. Define Repeater.
2. What is bridge?
3. What are the types of bridge?
4. Define Router.
5. Write the full form of TCP/IP
6. Write the full form of UDP
7. How many classes of IP address available?
8. How many bits in IPV4 addressing scheme contains?
9. What is ARP?
10. How many layers a TCP/IP have?

UNIT-V

1. Write the features of TCP\
2. What is the another name of point-to-point communication?
3. What is the another name of UDP packets?
4. Write the full form of DNS?
5. What is an Electronic mail box?
6. Write the full form of POP
7. Define SMTP
8. What is PGP?
9. Write the full form of PEM
10. What is IMAP

17UCT414 – Data communication and Networks

UNIT-I

1. Give a neat outline about Data Communication with Example.
2. Explain i).Amplitude ii). Periods iii). Frequency.
3. Compare Analog Signal-Analog Transmission and Digital Signal-Digital Transmission.
4. Illustrate Frequency Shift Keying (FSII) in detail.
5. Demonstrate Parallel Communication with neat diagram.
6. Discuss about Serial Communication with neat diagram.
7. Compare Multiplexing and De-Multiplexing.
8. Explain Digital signal, Analog Transmission with neat diagram.
9. Explain about Synchronous in modes of Data transmission.
10. Distinguish about Simple, Half & Full Duplex in modes of data transmission.

UNIT-II

1. Explain the Error Detection Method-VRC.
2. Explain the Error Correction Method-Stop and Wait Method.
3. Discuss about Error Detection Methods-CRC.
4. Classify the types of Guided media and explain them.
5. Explain Time Division Multiplexing access (TDMA).
6. Compare Star & Tree Topology.
7. Illustrate the Hybrid Topology with neat diagram.
8. Analyze the Packet Switching.
9. What are the factors affecting Routing Algorithms.
10. Discuss about Message Switching.

UNIT- III

1. Explain about OSI Model & What are the Layers present in it.
2. Describe 1st & 2nd Layers of OSI Model.
3. Compare Presentation Layer and Application Layer.
4. Explain about Metropolitan Area Network (MAN)
5. Describe Wide Area Network (WAN).
6. Discuss about Transport, Network & Session Layers.
7. Write a short on Ethernet.
8. Discuss the properties of Ethernet.
9. Describe about Token Ring.
10. Explain Frame Relay.

UNIT- IV

1. Write a short note on Inter-Networking Devices with neat labeled diagram.
2. Illustrate the concept of TCP & IP.
3. Explain the Basic of TCP & IP.
4. Analyze Routers & Bridges.
5. Distinguish between Routers & Gateways.
6. Explain the types of Bridges.
7. Explain why IP Address.
8. Describe the various fields in IP Address.
9. What is the IP Version 6(IPV6)?
10. Compare the OSI & TCP/IP Protocols.

UNIT- V

1. Discuss the relationship between TCP and IP.
2. Write a short note on user datagram protocol.
3. Write a short note on UDP packet and its format.
4. Describe about Domain Name System (DNS).
5. What is Electronic mail and discuss about its features.
6. How will you Send and Receive an Email.
7. Explain the Email Transfer protocol and POP.
8. Write about PGP and its uses.
9. Write about Multipurpose Internet Mail Extension with Simple example containing MIME header.
10. Discuss about Phishing.

17UCT414 – Data communication and Networks
K4 & K5 Questions
UNIT- I

1. What are the protocols available in networking?

2. Explain in detail about analog signal, analog transmission.

3. Write in detail about simplex, half duplex and full duplex communication.

4. Explain in detail about Frequency division Multiplexing.

5. Explain in detail about time division multiplexing.

UNIT- II

1. Write in detail about the error detection method-VRC.

2. Give a detailed account of Guided Media.

3. With neat diagram, Explain Star topology of Network in detail.

4. Explain in detail packet switching and its two types.

5. What is a Router? Explain routing with a neat diagram.

UNIT- III

1. Write in detail: OSI model and is 7 layers.

2. Give a detailed account on Ethernet LAN.

3. Write in detail about DQDB of MAN.

4. Explain in detail ISDN architecture and its channel types.

5. Explain the working of frame relay protocol.

UNIT- IV

1. Give a detailed Hierarchy on Internetworking.

2. Explain Bridge and its functions in detail.

3. Give an account on gateways.

4. Explain the 5 layers of TCP/IP in detail.

5. Write in detail the classes of IP addresses.

UNIT-V

1. Write in detail The features of TCP.
2. Write in detail about the UDP packet.
3. What is meant by E-mail? Explain its five functions.
4. Write about the complete journey of an E-mail message.
5. Write a detailed account on MIME.

17UCT4A4 - MICROPROCESSOR& ALP

K1 level Questions

UNIT - I

1.The CPU of a digital computer built into a single IC is called_____

    a)Processor   b)multiprocessor   c)**microprocessor**   d)microprogramming

2. In 1985, Intel introduced a more powerful 32 bit microprocessor called_____

    a) Intel 486   b)**Intel 386**   c)Intel 4040   d)Intel 8086

3. _____ was the first digital signal processing chip.

    a)Intel 2902   b)**Intel 2920**   c)Intel 2900   d)Intel 2930

4. Embedded control applications has two distinct areas of control named _____ and _____

    a)Digital control, chip control   b)process control, design control

    c)**Event control, data control**   c)connection control, block control

5. AMD produces _____ family of bit-slice microprocessor components to built a bit-slice processor.

    a)2910   b)**2900**   c)2930   d)2901

6. In a computer having a micro programmed control unit, the instruction of another computer can be executed is known as_____

    a)microprogram   b)microinstruction

    c)microprogramming   d)**emulation**

7. Large cache is employed in _____

    a)CISC processor   b)scalar processor   c)**RISC processor**   d)superscalar processor

8. CISC stands for _____

    a)Complex Instruction Standard Computer

    b)Complex Integrated Set Computer

    c)**Complex Instruction Set Computer**

    d)Control Instruction Set Computer

9. A superscalar processor contains _____ and executes more than one instruction per clock cycle.

     a)Vector operands   b)**multiple pipelines**

     c)Control memory   d)host processor

10. An array of operands of the same type is called a_____

     a) **Vector**   b) scalar   c)co-processor   d)multiplexer

11. The ALU together with the local memory is called a _____

     a)Decoder   b)supercomputer   c)**processing element**   d)amplifier

12. Symbolic processors are also called_____

     a)RISC processor   b)PROLOG processor

     c)LISP processor   d)**both (b) and (c)**

13._____ was the first digital signal processing (DSP) chip.

     a)Philips PCB 5010   b)DAP 600   c)Motorola MC 56000   d)**Intel 2920**

14. 16-bit Intel microprocessor have only _____ data lines.

     a)4   b) **8**   c)16   d)32

15. What is the acronym for INTR?

     a) Integer Reader   b)Integer Request   c)Interrupt Reader   d) **Interrupt Request**

16. Which lines constitute time-multiplexed address/data bus?

     a) $AD_0 - AD_{15}$ b)AD_{16}-AD_{19} c)D_0-D_7 d)D_8-D_{15}

17.The 8086 contains _____ 16-bit registers.

     a)8   b)4   c)16   d)**14**

18._____ is determined by the addressing mode which is used to get an operand.

     a)Staring address   b)**offset**   c)segment register   d)physical address

19.The Design feature of a processor which provides overlapping among the various operations to be performed by the processor is called _____

     a)Multiple pipelining   b)**pipelining**   c)multiplexing   d)de-multiplexing

20.An interrupt caused by an external device is called _____Interrupt.

     a)Software   b)**hardware**   c)overflow   d)Single step

21._____ is one of the special purpose register.

      a)**CX**   b) AH   c) BL   d)SI

22.Segment registers are divided into _____ types.

      a)**3**   b)4   c)5   d)6

23._____ flag is used for single step control.

      a) Overflow   b) Directional   c) **Trap**   d)Sign

24. While EU executes instructions, the BIU fetches instruction codes from _____ .

      a) Processor   b) pipeline   c) **memory**   d)queue

25. The way by which an operand is specified for an instruction is called _____.

      a)Based Addressing mode   b)**Addressing mode**

      c)Indexed Addressing mode   d)direct addressing mode

UNIT II

1. ._____ is the example of data movement group.
   a) JMP   b)RCL   **c)POP**   d)XOR
2. _____ is used in the instruction code to specify the addressing mode.

   a) Bit   b)**byte**   c)Megabyte   d)Kilobit

3. _____ field specifies the addressing mode for a register or memory operand.

   a) mod   b) reg   **c) r/m**   d)bit

4. _____ register is used while computing the address for data residing in a memory

Location.

   a) stack segment   b)extra segment c)**data segment** d)code segment

5. If the value for rr is 10 then selected segment register is _____.

   a) DS   b)**SS**   c)CS   d)ES

6. The collection of instructions that a microprocessor is designed to execute is known as _____.

   a)Program   b)process   **c)Instruction set**   d)Instruction code

7. Offset is also known as _____.

   a)**Effective address**   b) Direct address   c) Indirect address   d)Base address

8. If the value for rr is 00 , then selected segment register is _____.

   a)CS   b)SS   **c)ES**   d)DS

9. _____ instruction moves immediate 8-bit or 16-bit data to a specified register or a memory location.

   a)MOV reg,data   **b)MOV mem/reg,data**

   c) MOV ac, mem   d)MOV mem/reg_1,mem/reg_2

10. _____ instruction moves 8-bit from a memory location to AL or 16-bit data from two consecutive memory locations to AX.

   a)MOV reg,data   b)MOV mem/reg,data

   c)MOV mem/$reg_{1,}$mem/reg_2 **d)MOV ac,mem**

11. Using _____ instruction, data cannot be transferred directly from memory to memory.

   a)MOV reg,data   b)MOV ac,mem

   c)**MOV mem/reg₁,mem/reg₂**   d)MOV mem/reg,data

12._____ instruction adds immediate data to AL or AX register.

   a) ADD mem/reg   b)**ADD ac,data** c)MUL mem/reg   d)IMUL mem/data

13._____ instruction is used to divide a 16-bit signed number by an 8-bit signed number or to

divide a 32-bit signed number by a 16-bit signed number.

   a) DIV mem/reg   b) **IDIV mem/reg**

   c)IMUL mem/reg   d)MUL mem/reg

14. This instruction adjusts unpacked BCD dividend in AX register before the division operation is

performed.

   a)AAM b)AAA   c)**AAD**   d)AAC

UNIT - III

1. Intel 386 and 486 are _____ bit.

   a)16   b)**32**   c)64   d)128

2.Intel 386 was introduced in _____

   a)1983   b)1988   c)1975   d)**1985**

3. Intel 486 is an advanced high performance 32-bit _____ microprocessor.

   a) CMOS   b) PMOS   c) NMOS   d)**CHMOS**

4. 486DX architecture contains _____ functional units.

   a)7   b)8   c)**9**   d)10

5.The segmentation unit translates logical address into _____

   a)Physical address   b)effective address

   c)**Linear address**   d)current address

6. The 486 microprocessor contains _____ 16-bit segment registers.

   a)4   b)5   c) **6**   d)7

7. The 486 microprocessor has _____ types of operating mode.

   a) **2**   b)3   c)4   d)5

8.The capacity of RAM and ROM present in the system is called _____

   a)Cache memory   b)**physical memory**

   c)Control memory   d)main memory

9. The _____ is the base address of a segment plus an offset within the segment.

   a)physical address   b)logical address

   c)effective address   d)**linear address**

10.In real mode, the memory addressing capacity is _____

   a)5MB   b)**1 MB**   c)2MB   d)3MB

11. The page oriented system is also known as_____

   a)page mapping   b)**paged flat model**

   c)paging   d)desired segment

12. In the 486 processor a_____ selector and 32-bit offset are used for memory addressing.

   a)8-bit   b)32-bit   **c) 64-bit**   d)16-bit

13. The 64TB memory actually does not exist, and hence it is called_____

   a)primary memory   b)main memory

   c)**virtual memory**   d)secondary memory

14. The movement of segments from hard disk from the main memory and vice versa is called_____

   a)**Swapping**   b)virtual memory technique

   c)Protected mode   d)none

15. Gates are divided into _____

   a)2   b)3   c)7   **d)4**

16.Interrupt descriptor table (IDT) is used in_____

   a) call gate   b) **Interrupt gate**   c)trap   d)tasks

17.The different types of interrupts exception have been given an identifying number called_____

       a)**Interrupt type**   b)interrupt vector

       c)Software interrupt   d)both (a) and (b)

18. In Interrupt and Exception vectors interrupt type 1 is descripted to _____

       a)stack fault   b)break point   c)**debug exception**   d)none

19. Software interrupts are caused by INTn, INTO and _____ instructions.

       a)INT   b)INTR   c)NMI   d)**BOUND**

20. The microprocessor treats software interrupts as _____

       a)**exceptions**   b)vectors   c)interrupts   d)both (a) and (c)

UNIT - IV

1. The 486 microprocessor has _____ addressing modes.

       a)5   b)7   **c)11**   d)8

2. In 486 microprocessor the remaining nine addressing modes are to specify_____

       a)**memory operands**   b)segments

       c)offset   d)register

3. The _____ is an offset within the segment with respect to the starting address (base address) of the segment.

       a)Register address   b)memory address

       c)**Effective address**   d)index address

4. LOCK#.Output and BLAST#.Output are the_____

       a)pin configuration   b)**signals**   c)both (a) and (b)   d) none

5. NMI is an _____ interrupt.

       a) hardware interrupt   b)maskable interrupt

       c)software interrupt   d)**non maskable interrupt**

6. TDI is expanded as _____

       a)**Trap Data Input**   b)Test Data I/O   c)Test Data Input   d)none

7. RESET input is to reset the_____

   a)386 microprocessor   b)486 microprocessor   c)**both (a) and (b)**   d)None

8.The computer that stores the pronunciation along with the matching word. This computerized match is known as a _____

   a)**voice-template**   b)voice-recorder   c)microphone   d)none

9. CRT is used in_____

   a)Input device   b) output device and input device

   c)**Output device**   d)analog convertor

10. Motorola 6845 uses _____ external memory chips.

   a)3   b)5   c)4   **d)2**

11. _____ is a graphic coprocessor and contains DRAM/VRAM

   a) Motorola 6845   b)**Intel 82786**   c) VRAM   d)other processor

12. The Pentium microprocessor contains _____ address bus and 64-bit data bus.

   a)8-bit   b)**32-bit**   c)64-bit   d)none

13. The dual pipelines are called _____

   a)U-pipelines   b)V-pipelines   c)UV-pipeline   d)**both (a) and (b)**

14. The Pentium processor contains two _____ cache memories.

   a)write-end   b)write-first   c)**write-through**   d)write-back

15. The cache in the 486 microprocessor is _____ cache.

   a)write-end   b)write-first   c)**write-through**   d)write-back

16. In the write-back cache only cache memory is updated during _____ operation.

   a)read   b)create   c)write-back   d)**write**

17. The _____ of the Pentium processor is an improved version compared to that of 486microprocessor.

   a)**floating-point unit**   b)Pentium PRO microprocessor

   c)floating-point   d)none of the above

18. _____ technology is used in Pentium PRO Architecture.

      a)Random execution   b)static exception

      c)**Dynamic execution technology**   d)none of the above

19. The clock rates for its different versions varied from _____

      a)486 to 542 MHz   b)300 to 500 MHz

      c)250 to 630 MHz   d)**266 to 700 MHz**

20. Quad word contains _____ 64-bit quantity.

      a)2   b)4   c)3   **d)1**

21. _____ has designed 6X86MX microprocessor which is manufactured by IBM.

      a)**CYRIX**   b)MIPS   c) SUN'S SPARC   d)both (a) and (b)

22. The 68000 has a _____ status flag register.

      a)4-bit   b)8-bit   c)**16-bit**   d)32-bit

UNIT V

1. The ADC 0808/ADC 0809 does not accept _____ values of voltage.

      a)positive   b)**negative**   c)both (a) and (b)   d)none

2. The output of the summing circuit is applied to an inverter. The output of the inverter is _____

      a)$V_0=-V_{ac/2}+2.5$ b)$V_b=V_{ac/2}+2.5$ c)$V_0=V_{ac/2}+2.5$ d)$V_0=V_{ac/2}+2.5$

3. The input signals to the electronic circuit may have _____

      a) negative value   b) positive value   c)**bipolar**   d)none

4. Analog multiplexer is required to process _____

      a)**multiple signals**   b)single signals   c)both (a) and (b)   d)digital signal

5. V_{ref} is used in _____

      a)**Interfacing of ADC 0809**   b)sample and hold circuit

      c)bipolar to unipolar convertor   d)none

6. The analog voltage applied in dc volts for testing is -5V then digital output of ADC is _____

      a)17   b)30   c)E3   d)**00**

7. Input ac signal V_{ac} is -0V then the output of bipolar to unipolar convertor is _____

   a)2.0V   b)2V   c)**2.5V**   d)00

8. To process a ac signal _____ is required.

   a)unipolar to bipolar convertor   b)Interfacing of ADC 0809

   c)Measurement and control of temperature   d)**sample and hold circuit**

9. Cyrix has designed _____ microprocessor which is manufactured by IBM.

   a)**6X86MX**   b)6X76MX   c)6X78MX   d)7X86MX

10. An i3 is a fairly more powerful processor with more _____

   a)auxiliary memory   b)main memory

   c)**cache memory**   d)none

11. In dual core there are _____ core processor which handle all scheduling tasks.

   a)2   b)3   c)1   d)4

12.In quad core there are _____ core processor handles scheduling tasks.

   a)3   b)2   c)7   **d)4**

13. Intel i7 dual core has _____ and _____

   a)**2 physical core and 8 threads**   b)3 physical core and 4 threads

   c)2 physical core and 4 threads   d)2 physical core and 4 threads

14. Quad core has _____ and _____

   a) 4 physical core and 12 threads   b)7 physical core and 16 threads
   c)**4 physical core and 16 threads**   d)8 physical core and 4 threads

15. The lowest number of cores can be found in _____ CPU's.

   a)**i3**   b)i5   c)i7   d)quad core

16. All core i3's are _____ processor.

   a)**dual core**   b)penta core   c)octa core   d)none

17. The clock speed range of Intel core i5 is _____

   a)**2.4 GHz-3.8 GHz**   b)2.5 GHz-3.9 GHz

   c)2.5 GHz-3.8 GHz   d)2.4 GHz-3.5 GHz

18. Cache memory of Intel core i3 is _____

     a)2-3 MB   b)**3-4 MB**   c)2-5 MB   d)3-5 MB

19.The number of cores of Intel core i5 is _____

     a)2   b)3   c)**5**   d)4

UNIT-1

1. Define microprocessor.

2. Recall the concept of multiprocessor.

3. Which year Intel 8008 was introduced?

4. Expand PMOS.

5. List out any 5 32-bit microprocessor.

6. Tell the use of Intel i860.

7. List the embedded control application.

8. List out the series of family in AMD.
9. List out the bit -slice processors.

10. Describe about RISC design.

11. Define microcode.

12. Expand FFT

13. Expand PC/ XT

14. Which microprocessor has memory management and protection?

15. How many pins are present Intel 8082?

16. What are the operating modes of 8086?

17. List out the registers of 8086.

18. List out segment registers.

19. Describe about ISS.

20. Define interrupt pointer table.

UNIT-II

1.What are group of fields in a instruction?

2.Define instruction set.

3.List out any 5 8086 instruction groups.

4. What is the expansion of reg?

5. What is the need of segment register.

6. Show the use of code segment.

7. What is the use of data segment.

8. Describe the use of stack segment.

9.Describe the use of extra segment.

10. List out the MOV instruction.

11.List out the ADD instruction.

12. List out the instruction for multiplication.

13. List out the instruction for division.

14. List out Load instruction.

15. List out store instruction.

16. Expand ASCII.

17. What is the expansion of rep?

UNIT-III

1. Which year Intel 386 was developed?

2. How many 32-bit general purpose registers are present in Intel 386?

3. List out the 32-bit general purpose registers of Intel 386.

4. List the versions of Intel 386.

5. List any three functional units of 486DX architecture.

6. Expand MMU.

7. Explain the function of segmentation unit.

8. Explain the function of Paging unit.

9. List out any 5 flags of Intel 486.

10. List out any 5 flags of Intel 486.

11. How many types of operating modes in Intel 486.

12. List the operating modes of Intel 486.

13. List the components of logical address.

14. How many components are there in logical address.

15. What is virtual memory?

16. What is Swapping?

17. What is hit and miss?

18. What is the feature provided by MMU?

19. What are the four types of gates?

20. Expansion of IDT

21. Interrupt is also called as what?

22. Exception is also called as what?

23. What is interrupt type or interrupt vector?

24. Expansion of NMI.

25. What is the description for Interrupt Type 0 and 1?

26. What is the description for Interrupt Type 2 and 3?

27. What is Displacement?

28. What is Scale?

29. What are ADS and RDY?

30. What is HLDA.Output?

UNIT - IV

1. Define vice template.
2. CRT screen and printers are the example of which device?
3. What colours are used to produce colour display in phosphors?
4. List the type of printers.
5. What is burst mode data transfer?
6. List out some of the major functional units of PowerPC 601.
7. What is the bit allocation of PowerPC602?
8. List out some of the functional units of PowerPC603
9. List some of the execution unit of PowerPC604.
10. Expansion of LR.
11. Expansion of CTR.
12. Write the LOAD/STORE instructions use memory addressing.
13. Expansion of MSR.
14. What is Pentium microprocessor?
15. What are the six condition flags?
16. List out some Control Flags .
17. Expansion of AD.
18. Write the operating mode flags.
19. Give the expansion of VIP

UNIT - V

1. What is superscalar architecture?

2. What are Dual pipelines?

3. Define is dynamic execution technology.

4. Expansion MMX.

5. What is the bit value of quad word?

6. SIMD stands for?

7. PARAM 10000 uses what processor?

8. Write two modes of Operating modes.

9. Write some of the addressing modes of 6800.

10. Is i3 is good enough?

11. Expand : PC/AT & PC/XT

Batch: 2017 - 20

17UCT4A4 - MICROPROCESSOR & ALP

Section - B

K3 level Questions

UNIT-1

1. Categorize the concept of Evaluation of microprocessor.

2. Analyze the concept of Microcontroller.

3. Distinguish between scalar and superscalar processors.

4. Examine the features of RISC microprocessor.

5. Discover the concept of embedded microprocessors.

6. Label pin description of Intel 8086.

7. Analyze the operating modes of 8086.

8. Inspect the concept of segment registers.

9. Dissect the concept of Status register.

10. Analyze and explain the function of BIU and EU.

UNIT-II

K3 level Questions

1. Classify the types of instruction groups of 8086.

2. Analyze about segment register selection.

3. Examine the concept of segment override.

4. Inspect about MOV instruction with example.

5. Inspect about ADD instruction with example.

6. Inspect about LOAD instruction.

7. Explain the function to find the largest number in data array.

8. Explain the function to find the smallest number in data array.

9. Explain the function of Block move or Relocation.

10. Explain the function of Block move using rep instruction.

UNIT-III

K3 level Questions

1) Analize about Memory Management Unit.

2) Write about the function of using Protection in MMU.

3) Analyze about gates and classify its types.

4) Categorize the addressing modes of 80486.

5) List out and explain the signals of 80486.

6) Difference between Input and Output divices.

7) Discover about the PIN Configuration of 80486.

8) Analyze about CRC Screen.

9) Compare and explain about Interrupt and Exception.

UNIT-IV

K3 level Questions

1) Analyze the programmable I/O ports with its schematic Diagram.

2) Describe briefly about DMA Data Transfer.

3) Explain about Power Pc Microprocessors.

4) Categorize the Memory organisation and Addressing modes of Power PC Microprocessor.

5) Explain about Pentium Microprocessor.

6) Explain the functions of Superscalar Architexture.

7) Analyze Pentium Pro Microprocessor and its Architecture.

8) Explain about Celeron and Pentium 4.

9) Classify and Contrast about a) CYRIX b) MIPS and SUN's SPARC Microprocessor.

10) Explain about Branch Prediction briefly.

UNIT-V

K3 level Questions

1) Classify about dual and quad core processor.

2) Compare and Contrast between octa ,penta core and quad core processor.

3) Analyze about Bipolar to unipolar converter.

4) Explain the sample and hold circuit and illustrate it.

5) Simplify the Measurement and control of temperature with the Flow chart.

6) Examine the Microprocessor Passed System in real time.

7) Compare and classify the MOTOROLA 68020 and 68030.

8) Analyze the Motorola 68040 with the neat Block Diagram.

9) Give the difference between i3 , i5 and quad coe processors.

10) Distinguish between i3 , i5 and quad core processors.

17UCT4A4 - MICROPROCESSOR & ALP

Section - C

K4 & K5 level Questions

UNIT-I

1. Evaluate the following:

   i) AMD 2901, AMD 2903

   ii) AMD 2902

   iii) AMD 2909,AMD 2910

2. Inspect about vector processor and draw the diagram.

3. Determine the concept of array processor.

4. List out the register organization of 8086 in detail.

5. Critize the concept of Interrupts and it's type.

UNIT-II

K4 & K5 level Questions

1. Inspect about the concept of addressing mode byte.

2. Conclude about segment override.

3. Justify the concept of 8086 instructions.

4. Explain the function to arrange numbers in descending order.

5. Explain the function to arrange the numbers in ascending order.

UNIT-III

K4 & K5 level Questions

1. Dissect the concept of 486 DX architecture with diagram.

2. Explain the operating modes of Intel 486.

3. Discover the Memory Management Unit and Analyze it.

4. Analyze the PIN Configuration and the signals of 80486.

5. Explain about the gates and classify its types.

6. Explain about Input devices with examples.

7. Explain about Output devices with example.

UNIT-IV

K4 & K5 level Questions

1. Analyze the Pentium microprocessor and Categorize it.

2. Discover the Register Organization of Power PC Microprocessor.

3. Discuss ROM Addressing Decoding?

4. Distinguish between Motorola 68020, 68030, 68040.

5. What are the functions of the following functional unit of the Pentium Pro processor?

   a) Fetch / Decode unit

   b) Dispatch / Execute unit

UNIT-V

K4 & K5 level Questions

1. Explain briefly about Interfacing of ADC 0809 to INTEL 8086 and illustrate it.

2. Explain about the Measurement and Control of Temperature with its table of Memory location and Temperature. Execute the flow chart.

3. Prioritize between i3 , i5 , i7 and also Contrast it.

4. A) Compare the quad core and dual core processors.

   B) Give the flowchart for Temperature Display and monitoring with explanation.

5. What is Pentium 2? Discuss its important features. In what way does it differ from Pentium and Pentium Pro processor

17UCT412 – OPEN SOURCE TECHNOLOGIES (PHP and MySQL)

MULTIPLE CHOICE QUESTIONS   [K1 Level Questions]

<u>UNIT-1</u>

1. PHP Stands for _____ .

   a) PHP Hypertex Processor   b) PHP Hyper Makeup Processor

   c) PHP Hyper Makeup Pre-processor   d) **PHP Hypertext Pre-processor**.

2. Who is known as the the father of PHP ?

   a) **Rasmus Lerdorf**   b) William Makepiece

   c) Drek Kolkevi   d) List Barely

3. PHP is an example of _____ scripting language.

   a) In-side   b) Client-side

   c) **Server-Side**   d) Browser-side

4. Which of the following is not true?

   a) PHP can be used to develop Web-Applications.

   b) PHP makes a Website dynamic.

   c) PHP applications cannot be Compile

   d) **PHP cannot be Embedded into HTML.**

5. PHP scripts are enclosed within_____.

   a). <php>…</php>   b). **<?php…?>**

   c).? php…? php   d). <p>…</p>

6. Which of the variable is not a Pre-Defined variable.

a) $get

b) **$ask**

c) $request

d) $post

7. Which method sends input to a script via a URL?

a) **Get**

b) Post

c) Both (a) & (b)

d) None of the above.

8. To Obtain the ASCII value of the Character which function is used.

a) chr( );

b) asc( );

c) **ord( );**

d) val( );

9. Which function returns a Text in title case from a variable?

a) **ucwords($var)**

b) upper($var)

c) toupper($var)

d) ucword($var)

10. Which function returns the number of characters in a string variable ?

a) count($variable)

b) len($variable)

c) strcount($variable)

d) **strlen($variable)**

11. In PHP a single line comment must be preceded by _____ character.

a) /*…*/

b) /*/

c) *…*

d) **//**

12. PHP allows us to escape certain characters by Preceding them with a _____ Symbol.

a) Frontslash(/)

b) Astrick(*)

c) Hash(#)

d) **Backslash(\)**

13. A variable in PHP is simply a container that's used to store both _____ and _____ informations.

a) **Numeric and Non-numeric**.   b) Alphabetic and Arithmetic

c) Numeric and Arithmetic   d) Numeric and Alphabetic

14. Every variables in PHP must preceded with _____ symbol.

a) Tilde(^)   b) Astrick(*)

c) Ampersand(&)   **d) Dollar($)**

15. Which of the following is Concatenation Operator in PHP?

a) **Dot(.)**   b) Plus(+)

c) Dollar($)   d) Percentage(%)

16. Which is not an Arithmetic operator in PHP.

a) plus(+)   b) minus(-)

c) modulus(%)   d) **equal to(= =)**

17. In PHP a Multiline line comment must be preceded by _____ character.

a) **/*...*/**   b) /*/

c) *...*   d) //

18. Which of the below symbols is a newline character?

   a) \r   b) **\n**
   c) /n   d) /r

19. Which method is used to destroy the unused variables.

a) destroy( )   b) **unset( )**

c) set( )   d) del( )

20. Which statements in PHP language is used to print.

a) out

b) write

c) **Echo**

d) display

UNIT-2

1. In PHP a variable needs to be declare before they assign.

a) True   b) **False**

c) Depends on Website.   d) Depends on Server

2. PHP script are executed on _____ .

a) ISP Computer   b) Client Computer

c) **Server Computer**   d) Web browser

3. Which of the following is not the scope of the variable in PHP Language.

a) Local   b) Global

c) Static   d) **Extern**

4. Empty a variable of its contents by assigning PHP's _____ datatype.

a) STRING datatype   b) INTEGER datatype

c) **NULL datatype**   d) FLOAT datatype

5. What is the use of nl2br( ) function in PHP?

a) Decodes HTML entities with in a string

b) **Replaces line breaks in a string with <br/> elements.**

c) Removes blank spaces from the given string.

d) Repeats a string

6.Which is not PHP Loops ?

a) while   b) do-while

c) for   d) **do for**

7. What is the use of strpos( )function in PHP?

a) Search for a number within a string

b) Search for a Spaces within a string

c) **Search for a character / text within a string.**

d) Search for a Capitalized string / text within a string

8. Where is the setcookie( ) function must appear in PHP?

a) **Before tag**   b) After tag

c) In tag   d) Anywhere

9. How to define a variable in PHP?

a) $variable_name = value   b) **$variable_name = value;**

c) $variable_name = = value;   d) $variable_name as value;

10. What does the hash (#) sign mean in PHP Language?

a) **It indicates lines that are commented out.**

b) It indicates variable declaration.

c) It indicates function declaration.

d) No uses in PHP

11. What will be the result of combining a string with another data type in PHP?

a) int   b) float

c) **string**   d) double

12. In PHP, Data for a cookie stored in _____ .

a) ISP Computer   b) **Users Computer.**

c) Server Computer   d) It depends on PHP Coding

13. The date( ) function returns _____ representation of the current date and / or time.

a) Integer   b) **String**

c) Boolean   d) Float

14. Which one of the following format parameter can be used to identify Timezone?

a) T   b) N

c) **E**   d) I

15. Type Hinting was introduced in which version of PHP?

a) PHP 4   b) **PHP 5**

c) PHP 5.3   d) PHP 6

16. What will be the Output of the PHP Code?

```
<?php
function calc($num1, $num2)
{
$total = $num1 + $num2;
}
$result = calc( 42, 0 );
Echo $result;
?>
```

a) **Error**   b) 0
c) 42   d) 84

17. What will be the Output of the PHP Code?

If say date is 22/06/2013.

<?php

Echo "Today is ".date("F d,Y");

?>

a) Today is 22 June,2013   b) Today is 22-06-2013

c) Today is 06-22-2013   d) **Today is June 22, 2013**

18. What will happen in this function call?

   <?php

   function calc($price, $tax)

  {

     $total = $price + $tax;

  }

   $pricetag = 15;

   $taxtag = 3;

   calc($pricetag, $taxtag);

  ?>

a) **Call By Value**   b) Call By Reference

c) Default Argument Value   d) Type Hinting

19. Which one of the PHP Function can be used to find files?

a) **glob( )**   b) file( )

c) fold( )   d) get_file( )

20. What will be the Output of the PHP Code?

```php
<?php
$str = "Hello world"
Echo wordwrap($str,5,"<br>\n");
?>
```

a) Hello World   b) **Hello World**

c) Hello world   d) World

UNIT-3

1. Which one of the following is the right way of defining a function in PHP?

a) function { function body }

b) data type functionName(parameters) { function body }

c) functionName(parameters) { function body }

d) **function fumctionName(parameters) { function body }**

2. Type Hinting was introduced in which version of PHP?

a) PHP 4　　　　　　b) **PHP 5**　　　　　　c) PHP 5.3　　　　　　d) PHP 6

3. Which one of the following PHP functions can be used to find files?
a) glob()　　　　　　b) file()　　　　　　c) fold()　　　　　　d) **get_file()**

4. Which one of the following function reads a directory into an Array?
a) **scandir()**　　　　b) readdir()　　　　c) scandirectory()　　　d) readdirectory()

5. Which of the following are valid function names?

i) **function( )**

ii) €( )

iii) function( )

iv) $function( )

a) Only ii).　　　　　　　　　　　　b) None of the above

c) All of the Mentioned　　　　　　　d) iii) and iv).

6. Which one of the following PHP functions can be used to build a function that accepts any number of arguments?

a) func_get_argv( )　　　　　　　　　　b) **func_get_argc( )**

c) get_argv( )　　　　　　　　　　　　d) get_argc( )

7. Which in-built function will add a value to the end of an array?

a) array_unshift( )   b) into_array( )

c) inend_array( )   d) **array_push( )**

8. What will be the output of the following PHP code?

<?php

$fruits = array ("apple", "orange", array ("pear", "mango"),

"banana");

echo (count($fruits, 1));

?>

a) 3   b) 4   c) 5   d) **6**

9. What will be the output of the following PHP code?

<?php

echo ucwords("i love my country");

?>

a) I love my country   b) i love my Country

c) I love my Country   d) **I Love My Country**

10. Which function returns an array consisting of associative key/value pairs?

a) **count( )**   b) array_count( )

c) array_count_values( )   d) count_values( )

11. Which of the following PHP functions can be used to get the current memory usage?

a) get_usage( )   b) get_peak_usage( )

c) **get_memory_usage( )**   d) get_memory_peak_usage( )

12. Which one of the following functions can be used to compress a string?

a) zip_compress( )   b) zip( )

c) compress( )   d) **gzcompress( )**

13. What will be the output of the following PHP code?

```php
<?php
echo lcfirst("welcome to India");
?>
```

a) **welcome to India**   b) welcome to india
c) Welcome to India   d) Welcome to india

14. Which function will return true if a variable is an array or false if it is not?

a) this_array( )   b) **is_array( )**

c) do_array( )   d) in_array( )

15. The filesize( ) function returns the file size in _____ .

a) Bits   b) **bytes**

c) kilobytes   d) gigabytes

16. Which one of the function reads a directory into an Array?

a) **scandir( )**   b) readdir( )

c) scandirectory( )   d) readdirectory( )

17. Which function of the outputs the contents of a string variable to the specified resource?

a) filewrite( )   b) **fwrite( )**

c) filewrites( )   d) fwrites( )

18. Which one of the PHP function is capable of reading a file into an array?

a) **file( )**   b) arrfile( )   c). arr_file( )   d). file_arr( )

19. Which one of the PHP function operates similarly to fgets( ), except that it also strips any HTML and PHP tags form the input?

a) **fgetsh( )**   b) fgetsp( )

c) fgetsa( )   d) fgetss( )

20. which function is useful when you want to output the executed command result?

a) out_cmm( )   b) out_system( )

c) cmm( )   d) **system( )**

UNIT-4

1. Which one of the following databases has PHP supported almost since the beginning?

a) Oracle Database

b) SQL

c) SQL+

d) **MySQL**

2. The updated MySQL extension released with PHP 5 is typically referred to as.

a) MySQL

b) mysql

c) **mysqli**

d) mysqly

3. Which one of the following statements is used to create a table?

a) **CREATE TABLE table_name (column_name column_type);**

b) CREATE table_name (column_type column_name);

c) CREATE table_name (column_name column_type);

d) CREATE TABLE table_name (column_type column_name);

4. Which one of the following statements instantiates the mysqli class?

a) mysqli = new mysqli( )

b) **$mysqli = new mysqli( )**

c) $mysqli->new.mysqli( )

d) mysqli->new.mysqli( )

5. Which one of the following statements can be used to select the database?

a) $mysqli=select_db('databasename');

b) mysqli=select_db('databasename');

c) mysqli->select_db('databasename');

d) **$mysqli->select_db('databasename');**

6. If there is no error, then what will the error( ) method return?

a) TRUE

b) FALSE

c) **Empty String**

d) 0

7. Which one of the following statements should be used to include a file?

a) #include 'filename';

b) **include 'filename';**

c) @include 'filename';

d) #include ;

8. Which one of the following methods is responsible for sending the query to the database?

a) **query( )**

b) send_query( )

c) sendquery( )

d) query_send( )

9. Which one of the following method is used to retrieve the number of rows affected by an INSERT, UPDATE, or DELETE query?

a) num_rows( )

b) **affected_rows( )**

c) changed_rows( )

d) new_rows( )

10. Which version of MySQL introduced the prepared statements?

a) MySQL 4.0

b) **MySQL 4.1**

c) MySQL 4.2

d) MySQL 4.3

11. Which one of the following methods is used to recuperating prepared statements resources?

a) end( )

b) finish( )

c) final( )

d) **close( )**

12. Which method retrieves each row from the prepared statement result and assigns the fields to the bound results?

a) get_row( )

b) fetch_row( )

c) **fetch( )**

d) row( )

13. Which method rolls back the present transaction?

a) commit( )   b) undo( )   c) back( )   d) **rollback( )**

14. Which method returns the error code generated from the execution of the display information about a MYSQL connection error>

a) connect_errno( )   b) connect_error( )

c) **mysqli_connect_errno( )**   d) mysqli_connect_error( )

15. Tables can be linked to each other by one or more common fields, called

a) Primary keys   b) Queries   c) rows   d) **Foreign keys**

16. Which method recuperates any memory consumed by a result set?

a) destroy( )   b) remover( )   c) alloc( )   d) **free( )**

17. Which version of MYSQL introduced the prepared statements?

a) MYSQL 4.0   b) **MYSQL 4.1**

c) MYSQL 4.2   d) MYSQL 4.3

18. Code that uses a class, function or method is often described as the..

a) **Client code**   b) User code

c) Object code   d) Class code

19. Which keyword precedes a method name?

a) Method   b) **function**   c) public   d) protected

20. Which function is used to determine whether the variables value is either TRUE or FALSE?

a) boolean( )   b) is_boolean( )   c) bool( )   d) **is_bool( )**

UNIT-5

1. A Cookie is a text file saved to a _____ system by a Web Side.

a) Web browser   b) **User's**   c) Client   d) Server

2. Which one of the following statement is not TRUE.

a) A Cookie can only read by the Web side.

b) A single domain cannot set more than 20 cookies.

c) **A Cookie can be store in server**

d) A single Cookie cannot exceed 4 Kilobytes in size.

3. Cookies are transmitted between the _____ and _____ by means of HTTP headers.

a) Browser and website   b) Web server and client

c) client server and remote website   d) **User's browser and web site**.

4. A Cookie's which attribute indicates whether a secure HTTP connection is mandatory before the cookie can be accessed.

a) expires   b) domain   c) path   d) **secure**

5. Which attribute will only be able to access the information in the cookie.

a) **domain**   b) Expires   c) path   d) secure

6. Which function can be used to both Set and Remove cookies.

a) set_remcookie( )   b) setcookies( )

c) **setcookie( )**   d) remove_cookie( )

7. Cookies set for a domain available in the special _____ associative array in PHP scripts running on that domain.

a) #_COOKIE   b) &_COOKIE   c) **$_COOKIE**   d) "…COOKIE"

8. The Cookies are themselves stored on the User's system and may be viewed using any _____.

a) Client server   b) **Text Editor**   c) web server   d) Web site

9. In a session-based environment, every client is identified through _____ .

a) Unique identifier   b) **Unique number**

c) identifier   d) Unique variable

10. In Error handling, which is the Reporting level is used to displays all the errors and warnings.

a) **E_ALL**   b) E_RECOVERABLE_ERROR

c) E_USER_NOTICE   d) E_ERROR

11. Which method is used to displays the numeric code that represents the Exception.

a) getMessage( )   b) **getCode( )**   c) getFilecode( )   d) getNum_Code( )

12. How many methods are available for the Exception class?

a) 5   b) 6   c) **7**   d) 8

13. Which version added the method getPrevious( )?

a) PHP 4   b) PHP 5   c) PHP 5.1   d) **PHP 5.3**

14. Which of the following statements invoke the exception class?

a) throws new Exception( );   b) **throw new Exception( );**

c) new Exception( );   d) new throws Exception( );

15. What does SPL stands for?

a) **Standard PHP Library**   b) Source PHP Library

c) Standard PHP List   d) Source PHP List

16. How many Pre-defined exceptions does SPL Provide access to?

a) **13**   b) 14   c) 15   d) 16

17. Which of the following is / are exception?

i) OutOfBoundException   ii) OutOfRangeException

iii) OverflowException   iv) UnderflowException

a) i) and ii)   b) i) and iii)   c) **All of the Above**   d) none

18. How many types of filtering are present in PHP?

a) 3   b) **2**   c)4   d) None

19. POSIX stands for

a) **Portable Operating System Interface for Unix**

b) Portable Operating System Interface for Linux

c) Portative Operating System Interface for Unix

d) Portative Operating System Interface for Linux

20. What will be the Output of the Following PHP Code?

```
<?php
Echo str_pad("Salad",5)." is good." ;
?>
```

a) SaladSaladSaladSaladSalad is good   b) is good SaladSaladSaladSaladSalad

c) is good Salad   d) **Salad is good**

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17UCT412 – OPEN SOURCE TECHNOLOGIES (PHP and MySQL)

K2 Level Questions

UNIT 1

1. What is the purpose of using PHP language?
2. What are the two numeric data types available in PHP?
3. How strings are concatenated in PHP?
4. What is meant by a Variable?
5. Mention the four Components in a LAMP Framework.
6. Which function is used to inspect a variable contents?
7. How constants are defined in PHP
8. Who is the developer of PHP?
9. How to destroy a variable in PHP?
10. State the rules for naming a variable

UNIT 2

1. What are the two types of PHP arrays? How do you differ?
2. Convert a decimal number to a hexadecimal number using built-in function.
3. Name the function used to convert a string to an array.
4. What is the purpose of mktime() function?
5. Which in-built function will add a value to the end of an array?
6. Write the syntax for if-elseif-else statement.
7. What is the use of nl2br() function?
8. Which function is used to find the absolute value of a number?
9. State associate array
10. What is the use of count() function?

UNIT 3

1. Write any 2 advantages of packaging a code into functions.
2. What is the use of file_get_contents() function?
3. What is called a constructor?
4. What is called a destructor?

5. What is the difference between include ( ) and require ( )?

6. What is meant by user-defined function?

7. What are the three main components of a function?

8. Define Class

9. What are the three levels of visibility of objects?

10. What is the difference between an argument and a return value.

UNIT 4

1. What is meant by foreign key?

2. Which modifier is used to automatically generate a value for a field?

3. List out the constraints to set for the table?

4. What is meant by a prepared statement?

5. How will you create a database in PHP?

6. Expand PDO.

7. How to calculate the number of records in a resultset with PDO?

8. What is database normalization?

9. Mention the data types used in SQLite.

10. What are two type of errors handled in PDO

UNIT 5

1. Write any 2 PHP error levels.

2. What is meant by a cookie?

3. List out the PHP errors main categories.

4. Define sessions.

5. How exceptions are handled in PHP?

6. List out PHP Exception object

7. State Logging errors

8. List the cookie attributes.

9. How will you remove a previously set cookie?

10. What is meant by Debugging errors

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17UCT412 – OPEN SOURCE TECHNOLOGIES (PHP and MySQL)

K3 Level Questions

UNIT 1

1. What is an escape sequence? Name three commonly used escape sequences.
2. What is meant by a variable? How will you declare and destroy a variable?
3. Write a short note on LAMP development framework.
4. Write a PHP script to find the factorial of given number.
5. Examine the features of PHP.
6. Illustrate PHP important precedence rules.
7. Write a PHP script to find given number is prime number or not.
8. Discuss about the manipulation of variables with Operators available in PHP.
9. List some sample applications developed in PHP.
10. How variable contents are inspected? Discuss

UNIT 2

1. Classify any 5 String functions in PHP with example.
2. How will you define a variable length argument list? Discuss with an example.
3. Differentiate foreach loop and an array iterator?
4. Write a PHP script to build an age calculator.
5. Analyse how while loop differs from do-while Loop. Discuss with example.
6. Write a short note on Date and Time pre-defined functions.
7. Write a PHP Script to find the greatest number in a given array.
8. How PHP script can be interrupted and skipped from a particular iteration? Discuss
9. Write a short note on Array pre-defined functions.
10. Write a PHP Script to find a given number is odd or even

UNIT 3

1. Write a PHP Script to count the number of lines in a file.

2. How will you extend a class in PHP? Discuss with program

3. What is the use of Directory Iterator object? Explain with example.

4. How to define and use a function in PHP? Explain in brief.

5. Write a short note on directories in PHP.

6. Write about using classes in PHP script.

7. Write a short note on files in PHP.

8. Write a PHP script to list the files in a directory

9. Elucidate working with files in PHP script

10. Describe working with directories in PHP script.

UNIT 4

1. What are the various constraints available to set for a table?

2. Mention common SQL statements with syntax and examples.

3. Write about the various wild card characters allowed in a LIKE clause.

4. Explain about prepared statements.

5. Write a note on various data types used in MySQL.

6. Using the PDO extension write a PHP script to add new student list in the student database.

7. Write a PHP script to retrieve records from a SQLite database.

8. How PDO's prepared statements is more useful? Explain.

9. Write a PHP script to select records from a MySQL database.

10. Explain in brief about using PHP's SQLite extension for retrieving and modifying data in a database.

UNIT 5

1. What is the difference between a session and a cookie?

2. How will you perform a custom error handler?

3. How will you create sessions and session variables?

4. What is the purpose of HTTP header? Discuss

5. What are the various steps involved in removing a session and a session variable?

6. Write a program that counts how many times a user has visited a particular web page.

7. What is meant by an Exception? Explain with a PHP script to handle it.

8. Explain in brief about error handling functions.

9. Describe   a) Logging error   b) Debugging error

10. Write a PHP script to create student details using forms.

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17UCT412 – OPEN SOURCE TECHNOLOGIES (PHP and MySQL)

K4 & K5 Level Questions

UNIT 1

1. Classify operators in PHP that are used to perform various operations.
2. Write a PHP Script to generate first 10 Fibonacci numbers.
3. Explain briefly about features of PHP and sample applications developed in PHP.
4. How data types used in PHP? Explain briefly PHP functions to test variable data types.
5. Write a PHP Script to build an interactive html color sampler.

UNIT 2

1. Explain simple and complex conditional statements with programs
2. Write a PHP script to sort the given 'N' numbers in ascending or descending order
3. Illustrate pre-defined numeric functions with example program
4. Write a PHP script to select club activities using multiple-selection list and print the user selected activities.
5. Write a PHP script for searching an element in Linear search.

UNIT 3

1. Write a PHP script to illustrate the use of Constructor and Destructor in a class
2. Illustrate how file can be read and write in PHP script. Discuss with example
3. Write a PHP script to encrypt and decrypt a given text.
4. Elaborate PHP file and directory functions with example.
5. Write a PHP script to illustrate the use of default and dynamic arguments in a function.

UNIT 4

1. Write a PHP script to implement Where and Limit clause in a select query.
2. Elaborate Databases and SQL.

3. Using the PDO extension, write a PHP script to add new songs to the *songs* table. Allow

 users to select the song's artist and rating from drop-down form selection lists populated

 with the contents of the *artists* and *ratings* table.

4. How data are added and modified in MySQLi Extension? Explain with example.

5. Write a PHP script to connect input form with database and retrieve records as arrays and
objects.

UNIT 5

1. Explain in detail about working with cookies with example.

2. Explain the methods of the PHP exception object. How will you use these methods in

 customizing exception?

3. Write a PHP script for User-defined Exceptions

4. Elaborate PHP error levels with examples.

5.   What is the difference between a session and cookie? Explain with PHP scripts

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Batch: 2016-19

16UCT625 - CYBER SECURITY

(K1 Level)

UNIT - I

1.Applets and Activex controls are _____ side programs.

  a) **Client**   b) Server
  b) Database   d) none of the above

2. The _____attack is related to authentication.

a) interception   b)**fabrication**

c) modification   d) interruption

3. Interruption attacks are also called is _____ attacks

a) **Masquerade**   b) Alteration

c) Denial of service   d) Reply attacks

4. The language that we commonly used can be termed as _____

a) Pure text   b) Simple text

c) **Plain text**   d) normal text

5. Virus is a computer _____

a) File   b) **Programme**

c) database   d) Network

6. DOS attacks are caused by _____

a) Authentication   b) Alteration

c) **fabrication**   d) reply attacks

7. A worm _____ modify a program.

a) **Does not**   b) does

c) may or may not   d) may

8. Allowing certain users specific accesses comes in the purview of _____

a) confidentiality   b) Authentication

c) Availability   d) **Access control**

9. The principle of _____ensures that the sender of a message cannot later client that the message was never sent

a) **access control**   b) authentication

c) availability   d) non repudiation

10. Active X controls are _____ as compared to applets

a) more   b) **equally**

c) fare more   d) less

11. Caesar cipher is an example of _____

a) **substitution cipher**   b) trans position cipher

c) substitution as well as trans position cipher

d) none of the above

12. The codified language can be termed as _____

a) clear text   b) unclear text

c) code text   d) **cipher text**

13. The book cipher is also called as _____

a) rail fence technique   b) one time pad

c) mono aliphatic cipher   d**) running key cipher**

14. Crypt analyst is a person who _____

a) devises crypto graphy solutions

b**) attempts to break crypto graphy solutions**

c) none of these

d) both of these

15. If the number of parties involved in a lock key mechanism is 4, the number of keys needed is _____

a) 2   b) 4

c) 6   d) 8

16. Homophonic substitution cipher is _____ to break as compared to mono alphabetic cipher

a) easier   b) **same**

c) difficult   d) easier or same

17. The conversion of plain text into cipher text is called as _____

a) **Encryption**   b) decryption

c) crypto graphy   d) crypt analyst

18. A poly alphabetic cipher uses may _____

a) **keys**   b) trans positions

c) codes   d) mono alphabetic rules

19. Conversation of cipher text into plain text is called as _____

a) Encryption   b) **decryption**

c) crypto graphy   d) crypt analyst

20. Vernam cipher is called as

a) rail fence technique   b) **one time pad**

c) book cipher   d) running key cipher

UNIT-II

1. There are _____ rounds in DES

a) 8   b) 10

c) 14   **d) 16**

2. In _____ one bit of plain text is encrypted at a time

a) **stream cipher**   b) block cipher

c) both of them   d) none of the above

3. The actual algorithm AES encryption scheme is

a) blowfish   b) **RIJNDAEL**

c) RC4   d) IDEA

4. In IDEA, the key size is _____

a) **128 bytes**   b) 128 bits

c) 256 bytes   d) 256 bits

5. There are _____ encryption rounds inRC5

a) 8   b) 12

c) 16   d) 20

6. The _____ steps ensures that plain text is not vulnerable in block cipher mode.

a) **encryption**   b) Round

c) Initial   d) chaining

7. _____ works on block mode.

a) CFB   b) OFB

c) CCB   d) **CBC**

8. _____increase the redundancy of plain text

a) confusion   b) **diffusion**

c) both   d) none of these

9. _____ is based on IDEA algorithm.

a) S/MIME   b) **PGP**

c) SET   d) SSL

10. In _____ one block of plain text is encrypted at a time

a) **stream cipher**   b) block cipher

c) both   d) none of the above

11. _____ is a message digest algorithm

a) DES   b) IDEA

c) **MD5**   d) RSA

12. MAC is _____ a message digest.

a) **same as**   b) different from

c) subset of   d) none of the above

13. The strongest message digest algorithm is considered as _____

a) **SHA–1**   b) SHA-256

c) SHA-128   d) SHA-512

14. A _____ is used to verify the integrity of message.

a) **message digest**   b) decryption algorithm

c) Digital envelope   d) none of the above

15. To decrypt a message encrypted using RSA, we need the _____

a**) senders private key**   b) senders public key

c) receivers private key   d) receivers public key

16. To verify a digital signature need the _____

a) senders private key   b) senders public key

c**) receivers private key**   d) receivers public key

17. The private key is _____

a) must be distributed

b) must be shared with every one

c) **must remain secret with an individual**

d) none of the above

18. Symmetric key cryptographic is _____ than asymmetric key cryptography.

a) always slower   b) of the same speed

c) **faster**   d) usually slower

19.In asymmetric key cryptography, _____ keys are required per communicating party

a) 2   b) 3

c) 4   d) 5

20. RSA _____ be used for digital signatures.

a) must not   b) cannot

c) **can**   d) should not

UNIT - III

1. A _____ can issue digital certificates.

a) **CA**   b) Government

c) shop keeper   d) Bank

2. The CA sign a digital certificate with _____

a) **the user's public key**   b) the user's private key

c) its own private key   d) its own public key

3. CRL is _____

a) **online**   b) offline

c) both   d) not defined

4. We trust a digital certificates because it contains _____

a) owners public key   b) CA Public key

c) **CA Signature**   d) Owners signature

5.OCSP is _____

a) **online**   b) offline

c) both   d) not defined

6. To solve the problem of trust _____ is used

a) private key   b) public key

c) self signed certificates   d) **digital signature**

7. The CA with the highest authority is called as _____ CA

a) **root**   b) head

c) main   d) chief

8. The _____ of the user should never appear in the certificate

a) Private key   b) Public key

c)Organization name   d) **name**

9. Requesting for a certificate results into the creation of _____

a) PKCS#7   b) PKCS#9

c) PKCS#10   d) **PKCS#12**

10. The final solution to the problem of key exchange is the use of
_____

a) passport   b) digital envelope

c) **digital certificate**   d) message digest

11. A registration authority _____issued digital certificates.

a) **can**   b) may or maynot

c) has to always   d) can never

12. PEM means _____

a) Public Enhanced Mail   b) **Privacy Enhanced Mail**

c) Public Electronic Mail   c) Private Electronic Mail

13. _____ in SSL is optional

a) Server authentication   b) data base authentication

c) application authentication   d) **client authentication**

14. The _____ protocol is similar to SSL

a) HTTP   b) HTTPS

c) TLS   d) **SHTTP**

15. SET is uses the concept of _____

a) Double signature   b) Single signature

c) **Multiple signature**   d) Dual signature

16. The record protocol is _____ message in SSL
a) first   b) second

c) last   d) **None of the above**

17. Credit card details are not available to the _____ in SSL

a) merchant   b) Customer

c) **payment gatway**   d) issuer

18. SSL does not care of _____

a) **Digital Signature**   b) Single signature

c) Multiple signature   d) Dual signatures

19. _____ protocol follows handshake protocol in SSL

a) alert   b) **record**

c) application   d) dynamic

20. 3D secure is an enhancement to _____

a) **SET**   b) SSL

c) HTTP   d) PGP

UNIT – IV

1. PEM allow for _____ security options

a) 2   b) 3

c) 4   d) 5

2. The security layer in WAP is between the _____ layer and the _____ layer.

a) transaction, transport   b) **application, transport**

c) transport, physical   d) session, transport

3. In _____ we have concept of key rings.

a) PEP   b) **PGP**

c) SMTP   d) MIME

4. The _____ protocol need to identified the content type before email can be transmitted

a) **PEM**   b) PGP

c) SMTP   d) MIME

5. Electronic money made up to _____ in physical form

a) Floppy disks   b) hard disks

c) **credit card**   c) computer files

6. _____ security is located in the lower layers.

a) **GSM**   b) PGP

c) PEP   C) WTLS

7. Wireless transport layer security provides security in _____

a) GSM   b) **WAP**

c) PEP   c) PGP

8. _____ is quite simple to understand and implement

a) GSM   b) WAP

c) PEP   c) **PGP**

9. The output of S/MIME is a _____ object.

a) GSM   b) **PKCS**

c) PEP   c) PGP

10. _____ provides services such as encryption, messages digest and digital signatures.

a) **PEM**   b) WAP

c) PEP   c) PGP

11. Kerberos provides for _____

a) Encryption   b) SSO

c) **Remote login**   d) local login

12. Password based authentication is an example of _____ authentication

a) 1 factor   b) **2 factor**

c) 3 factor   d) 4 factor

13. _____ is the most common authentication mechanism.

a) smartcard   b)pin

c) bio-metrics   d) **password**

14. In time based tokens the variable token is _____

a) seed   b) **time**

d) password   d) random challenge

15. _____ are capable of cryptographic operations.

a) credit card   b) debit card

c) **smart card**   d) ATM card

16. To launch reflection attack, an attacker needs to open _____ sessions

a) 2   **b) 2**

c) 4   d) 0 or 1

17. Determining the identity of a user is called as _____

a) **Authentication**   b) authorization

c) Confidentiality   d) access control

18. _____ forms the basis for the randomness of an authentication token.

a) **password**   b) user ID

c) seed   c) Message digest

19. _____ can be achieved using scripts or agents

a) **SSO**   b) HTTP

c) Public key   d) private key

20. _____ authentication Leeds to various kinds of problems.

a) **One way**   b) two way

c) multi way   c) None of these.

UNIT – V

1. out of JCA and JCE, _____ needs licensing

a) only JCA   b) **only JCE**

c) both JCA and JCE   d) neither JCA nor JCE

2. JAVA cryptography mechanism are in the form of _____ and
_____

a) JCP, JCA   b) JCA, JCB

c) **JCA, JCE**   d) JCE, JCF

3. _____ provides for plug-able architecture

a) **JCA**   b) JCB

c) JCE   d) JCP

4. digital signature are a part of _____

a) only JCA   b) only JCE

c) **both JCA and JCE**   d) neither JCA nor JCE

5. _____ privileges apply to individual users.

a) **Object**   b) table

c) Index   d) system

6. .NET security has architecture similar to that of _____

a) JCA   b) JCB

c) **JCE**   d) JCP

7. _____ toolkits can also be used for cryptography

a) database   b) **cryptographic**

c) JAVA   d) SQL

8. Data base control can be classified into _____ types

a) 1   **b) 2**

c) 3   c) 4

9. _____ provides rich futures for data base control and privilege enforcement

a) database   b) cryptographic

c) JAVA   **d) SQL**

10. _____ consists of engine classes and provider classes

a) JCA   b) cryptographic

c) **JAVA**   d) SQL

11. Firewall is specialized form of a _____

a) bridge   b) disk

c) printer   d) **router**

12. key management in IPSec is done by _____

a) tunnel mode   b) **transport mode**

c) IKE   d) ESP

13. _____ allows reuse of IP address.

a) firewall   b) **IPSec**

c) NAT   d) VPN

14. Encryption in IPSec is done by _____

a) **tunnel mode**   b) transport mode

c) IKE   d) ESP

15. A packet filter examines _____ packets.

a) **all**   b) no

c) some   d) alternate.

16. Application gateways are _____ than packet filters.

a) less secure   b) **more secure**

c) equally secure   d) slower

17. IPSec provides security at the _____ layer

a) applications   b) **transport**

c) network   d) data link

18. The trap set to attract potential attackers is called is _____

a) VPN   b) TRAP DOOR

c) PROXY   d) **Honey pot**

19. _____ provides security between the transport and the internet layers

a) **IPSec**   b) NAT

c) DMZ   c) HTTP

20. _____ Architectures combines the various types of firewalls in some combinations.

a) Transport   b) firewall

c) **internet**   d) applications

16UCT625 – CYBER SECURITY

SECTION-A

K2 QUESTIONS

UNIT 1

1. What is trusted system?

2. What are the four chief principles of security?

3. Define the term virus?

4. List out the four phases of virus?

5. Define is Brute- force attack?

6. Define Cryptography.

7. What is Cryptanalysis?

8. Define the term plain text.

9. Define the term Cipher text.

10. Distinguish between encryption and decryption.

UNIT II

K2 QUESTIONS

1. Define the term Stream cipher.

2. Define the term Block cipher.

3. List out the types of algorithm modes.

4. What is another name for Book cipher?

5. Expand "CFB".

6. What is Initialization Vector?

7. What is Encrypt – Decrypt- Encrypt mode?

8. How many rounds in DES?

9. Define Confusion.

10. Define diffusion.

UNIT III

K2 QUESTIONS

1. Similarities between a passport and a digital certificate.
2. Which standard defines the structure of a digital certificate?
3. What is Registration Authority?
4. List out the steps involved in creation of digital certificate.
5. Expand CLR.
6. Online Certificate Status protocol works on which mechanism?
7. Define static web page.
8. Define active web page.
9. List out TCP/IP layers.
10. List out the sub-protocols used in secure Socket Layer.

UNIT IV

K2 QUESTIONS

1. What are the email-protocols used at the receiver end?
2. List out the three main email security protocols.
3. What are the cryptographic functions supported by privacy enhanced mail.
4. List out the operations of PEM.
5. What are the other names for Base-64 encoding?
6. Expand the term S/MIME.
7. What are the three key aspects of GSM?
8. Expand the term GPRS and UMTS.
9. Define password.
10. List out four parties involved in Kerberos protocol.

UNIT V

K2 QUESTIONS

1. List out java cryptography classification.

2. Which is commonly known as provider architecture?

3. What are the two classes in JCA?

4. What is keystore?

5. List out the two types firewalls.

6. Define packet filters.

7. List out the other names for packet filter.

8. List out three types of intruders.

9. Define masquerader.

10. What are the two categories of audit records?

16UCT625 - CYBER SECURITY

Section - B

UNIT 1

K3 Questions

1. Examine the need for security

2. Discriminate the security approaches in computer.

3. Analyze the general view of attack in computer security.

4. Point out the types of attacks and explain the same.

5. Illustrate the passive attacks and explain.

6. Identify the relationship between plain text and cipher text with example.

7. Differentiate Substitution Cipher and Transposition Cipher?

8. Discuss the concept of Caesar Cipher with experiment

9. Distinguish between encryption and decryption.

10. Illustrate the function of Rail Fence Technique.

UNIT 2

K3 Questions

1. Illustrate the concept of symmetric key cryptography.

2. Distinguish between stream cipher and block cipher.

3. Explain the algorithm modes with neat classification diagram.

4. Illustrate the concept of Electronic Code Book Mode.

5. Illustrate the concept of Cipher Block Chaining Mode.

6. Examine the details and usage of algorithm modes.

7. Discriminate the key advantages and disadvantages of the various algorithm modes.

8. Point out the concept of S-box substitution in DES algorithm.

9. Analyze the history of Asymmetric key cryptography.

10. Outline of asymmetric key cryptography explain the concept.

UNIT 3

K3 Questions

1. Examine the concept of Digital Certificate.

2. Discriminate the Certification Authority in detail.

3. Point out the steps for verifying the digital certificate.

4. Explain the certificate hierarchy with the outline.

5. Distinguish between OCSP and SCVP.

6. Criticize why we need self-signed certificate?

7. Illustrate the concept of static web pages.

8. Examine the layered organization in TCP/IP protocol.

9. Explain about SSL Record Protocol operation with neat diagram.

10. Discriminate the concept of SHTTP.

UNIT 4

K3 Questions

1. With neat diagram explain the SMT Protocol.

2. Write a short on Privacy Enhanced Mail with neat diagram.

3. Illustrate PGP algorithm in detail.

4. Illustrate the cryptographic alogritms used in S/MIME.

5. Infer the three key aspects to GSM security.

6. Examine the basic concept of security in 3G.

7. Discriminate the concept of clear text password step by step.

8. Criticize the problems in clear text password

9. Explain about password encryption with the elaborate diagram.

10. Point out the work of Kerberos in detail.

UNIT 5

K3 Questions

1. Illustrate the basic concept of cryptographic solutions using Java.

2. Discriminate the features of Java Cryptographic Architecture.

3. What is the reason behind separating JCA and JCE?

4. Illustrate the basic concept of TCP/IP.

5. Illustrate the overview of firewall.

6. What are the three main actions of a packet filter?

7. How is a circuit gateway differentiate from an application gateway?

8. Illustrate the limitations of firewall.

9. Examine the concept of Intrusion.

10. Explain about intrusion detection with neat classification diagram.

16UCT625 – CYBER SECURITY

SECTION - C

K4 , K5 QUESTIONS

UNIT 1

K4 & K5 Questions

1. List out the principles of security and explain in detail.

2. Summarize mono-alphabetic cipher, homophonic cipher, polygram cipher and polyalphabetic

    cipher of substitution technique in detail.

3. Write about playfair cipher in detail with suitable example.

4. Explain in detail on Simple columnar transposition technique with multiple rounds.

5. Describe about Rail Fence, vernam cipher and book cipher of transposition technique in detail.

UNIT 2

K4 & K5 Questions

1. Explain in detail about Cipher Feedback Mode.

2. Explain in detail about Output Feedback Mode.

3. Write about DES algorithm and explain how does it work?

4. Explain the steps for RSA algorithm with appropriate example.

5. Discriminate variations of DES with neat diagram.

UNIT 3

K4 & K5 Questions

1. Explain in detail on technical details of digital certificate.

2. Describe the concept of certificate revocation.

3. Describe about the mechanism of PKIX model.

4. Explain in detail about dynamic and active web pages.

5. Explain in detail about Secure Socket Layer.

UNIT 4

K4 & K5 Questions

1. Write about PGP and explain how does it work?

2. Explain the idea behind the PGP certificates.

3. Describe in detail about Security in 3G.

4. Summarize the concept of "Something derived from passwords" with neat diagrams.

5. Explain in detail about Kerberos.

UNIT 5

K4 & K5 Questions

1. Describe the java cryptography architecture in detail.

2. Explain briefly about TCP/IP with suitable diagrams.

3. List out the types of firewalls and explain in detail.

4. Write about VPN and explain it architecture elaborately.

5. Describe briefly about intrusion.

UNIT - I

1. _____ computing refers to applications and services that run on a distributed network using virtualized resources.
   a) Distributed
   b) Cloud
   c) Soft
   d) Parallel

2. Which of the following is essential concept related to Cloud ?
   a) Reliability
   b) Productivity
   c) Abstraction
   d) All of the mentioned

3. Which of the following cloud concept is related to pooling and sharing of resources ?
   a) Polymorphism
   b) Abstraction
   c) Virtualization
   d) None of the mentioned

4. _____ has many of the characteristics of what is now being called cloud computing.
   a) Internet
   b) Softwares
   c) Web Service
   d) All of the mentioned

5. Cloud computing is an abstraction based on the notion of pooling physical resources and presenting them as a _____ resource.
   a) real
   b) virtual
   c) cloud
   d) none of the mentioned

6. Which of the following is Cloud Platform by Amazon ?
   a) Azure
   b) AWS
   c) Cloudera
   d) All of the mentioned

7. These cloud services are of the form of utility computing i.e. the _____ uses these services pay-as-you-go model.
   a) Cloud providers
   b) Clients
   c) End users
   d) Cloud users

8. _____ enables the migration of the virtual image from one physical machine to another.
   a) visualization
   b) virtualization
   c) migration
   d) virtual transfer

9. Most of the cloud architectures are built on this type of architecture.
   a) skeleton
   b) grid
   c) linear
   d) template

10. What second programming language did Google add for App Engine development?
    a) C++
    b) Flash
    c) Java
    d) Visual Basic

11. What facet of cloud computing helps to guard against downtime and determines costs?
    a) Service-level agreements
    b) Application programming interfaces
    c) Virtual private networks
    d) Bandwidth fees

12. Which of these is not a major type of cloud computing usage?
    a) Hardware as a Service
    b) Platform as a Service
    c) Software as a Service
    d) Infrastructure as a Service

13. Cloud Services have a_____ relationship with their customers.
    a) Many-to-many
    b) One-to-many
    c) One-to-one
    d) Many-to-one

14. Cloud Service consists of
    a) Platform, Software, Infrastructure
    b) Software, Hardware, Infrastructure
    c) Platform, Hardware, Infrastructure
    d) Software,Infrastructure,Platform

15. Google Apps Engine is a type of
    a)SaaS
    b) PaaS
    c) IaaS
    d) None of the above

16. Geographic distribution of data across a cloud provider's network is a problem for many enterprises because it:
    a) Breaks compliance regulations
    b) Adds latency
    c) Raises security concerns
    d) Makes data recovery harder

17. The term 'Cloud' in cloud-computing refers to _____.
    a) The Internet
    b) Cumulus Clouds
    c) A Computer
    d) Thin Clients

18. In order to participate in cloud-computing, you must be using the following OS _____ .
    a) Windows

b) Mac OS

c) Linux

d) All of the above

19. _____ describes a cloud service that can only be accessed by a limited amount of people.

a) Data center

b) Private cloud

c) Virtualization

d) Public cloud

20. _____ describes a distribution model in which applications are hosted by a service provider and made available to users.

a) Infrastructure-as-a-Service (IaaS)

b) Platform-as-a-Service (PaaS)

c) Software-as-a-Service (SaaS)

d) Cloud service

UNIT II

1. _____ is a complete operating environment with applications, management, and the user interface.

a) IaaS

b) SaaS

c) PaaS

d) All of the mentioned

2. Which of the following service provider provides the least amount of built in security ?

a) SaaS

b) PaaS

c) IaaS

d) All of the mentioned

3. Which of the following services that need to be negotiated in Service Level Agreements ?

a) Logging

b) Auditing

c) Regulatory compliance

d) All of the mentioned

4. Which of the following system does not provision storage to most users ?
   a) PaaS
   b) IaaS
   c) CaaS
   d) SaaS

5. The addition of a software package on top of a cloud storage volume makes most cloud storage offerings conform to a _____ as a Service model.
   a) Software
   b) Platform
   c) Analytics
   d) None of the mentioned

6. Which of the following is a a third-party VPN based on Google's GoogleTalk ?
   a) Hotspot VPN
   b) Gbridge
   c) AnchorFree Hotspot Shield
   d) All of the mentioned

7. Which of the following is an online backup and storage system ?
   a) Amazon Elastic Compute Cloud
   b) Amazon Simple Queue Service
   c) Amazon Simple Notification Service
   d) Amazon Simple Storage System

8. Which of the following metrics are used to support Elastic Load Balancing ?
   a) CloudWatch
   b) Amazon Elastic Block Store
   c) AWS Import/Export
   d) All of the mentioned

9. The ability to provide storage on demand from a storage pool is referred to as _____ provisioning.
   a) thin
   b) thick
   c) flat
   d) full

10. Which of the following package is used for reading JSON data ?
    a) JSON Lite

B) JSON
C) JSON Data
D) All of the mentioned

11. Which of the following service is provided by Google for online storage ?
    a) Drive
    b) SkyDrive
    c) Dropbox
    d) All of the mentioned

12. Which of the following are Managed cloud storage providers ?
    a) EMC Atmos
    b) Amazon.com Simple Storage Service
    c) IBM Smart Business Storage Cloud
    d) All of the mentioned

13. Which of the following offer direct competition to Amazon's S3 service ?
    a) Nirvanix
    b) Rackspace Cloud
    c) Badongo
    d) All of the mentioned

14. Which of the following mechanisms are contained by Cloud API for accessing cloud services?
    a) Abstraction
    b) Authentication
    c) Replication
    d) All of the mentioned

15. Which of the following is cross-platform API based on generalizing the major cloud vendors APIs?
    a) Deltacloud
    b) Simple Cloud API
    c) Design Cloud
    d) All of the mentioned

16. Applications using managed cloud storage are _____ as a Service Web service.
    a) Infrastructure
    b) Platform
    c) Service

d) All of the mentioned

17. Which of the following presents developer with their own APIs?
    a) VMWare vCloud
    b) Racksapce Cloud Servers
    c) RimuHosting
    d) Racksapce Cloud Servers

18. Which of the following protocol lets a Web site list in an XML file information ?
    a) Sitemaps
    b) Mashups
    c) Hashups
    d) All of the mentioned

19. Dynamic content presented in Google _____ crawling isn't normally indexed.
    a) AJAX
    b) Java
    c) Javascript
    d) All of the mentioned

20. Which of the following is a payment processing system by Google ?
    a) Paytm
    b) Tez
    c) Code
    d) All of the mentioned

UNIT III

1. Which of the following is also known as Compute ?
   a) set of virtual machine instances
   b) set of replicas
   c) set of commodity servers
   d) all of the mentioned

2. _____ Live Services can be used in applications that run in the Azure cloud.
   a) Microsoft
   b) Windows

c) Yahoo

d) Ruby

3. Azure is Microsoft's _____ as a Service Web hosting service.
   a) Platform
   b) Software
   c) Infrastructure
   d) All of the mentioned

4. Which of the following is an edge-storage or content-delivery system that caches data in different physical locations ?
   a) Amazon Relational Database Service
   b) Amazon SimpleDB
   c) Amazon Cloudfront
   d) Amazon Associates Web Services

5. Which of the following allows you to create instances of the MySQL database to support your Web sites ?
   a) Amazon Elastic Compute Cloud
   b) Amazon Simple Queue Service
   c) Amazon Relational Database Service
   d) Amazon Simple Storage System

6. Which of the following is most complete cloud computing service model ?
   a) PaaS
   b) IaaS
   c) CaaS
   d) SaaS

7. Which of the following SaaS platform is with an exposed API ?
   a) salesforce.com
   b) amazon.com
   c) flipkart.com
   d) all of the mentioned

8. _____ applications have a much lower barrier to entry than their locally installed competitors.
   a) IaaS
   b) CaaS
   c) PaaS

d) None of the mentioned

9. Open source software used in a SaaS is called _____ SaaS.
   a) closed
   b) free
   c) open
   d) all of the mentioned

10. _____ offering provides the tools and development environment to deploy applications on another vendor's application.
    a) PaaS
    b) IaaS
    c) CaaS
    d) All of the mentioned

11. Which of the following is associated with considerable vendor lock-in ?
    a) PaaS
    b) IaaS
    c) CaaS
    d) SaaS

12. Which of the following can be considered PaaS offering ?
    a) Google Maps
    b) Gmail
    c) Google Earth
    d) All of the mentioned

13. _____ is the most refined and restrictive service model.
    a) IaaS
    b) CaaS
    c) PaaS
    d) All of the mentioned

14. _____ provides virtual machines, virtual storage, virtual infrastructure, and other hardware assets.
    a) IaaS
    b) SaaS
    c) PaaS
    d) All of the mentioned

15. Amazon Web Services offers a classic Service Oriented Architecture (SOA) approach to :
    a) IaaS
    b) SaaS
    c) PaaS
    d) All of the mentioned

16. Rackspace Cloud Service is an example of :
    a) IaaS
    b) SaaS
    c) PaaS
    d) All of the mentioned

17. Which of these companies is not a leader in cloud computing?
    a) Google
    b) Amazon
    c) Blackboard
    d) Microsoft

18. Which is not a major cloud computing platform?
    a) Google 101
    b) IBM Deep blue
    c) Microsoft Azure
    d) Amazon EC2

19. Which of these should a company consider before implementing cloud computing
    technology?
    a) Employee satisfaction
    b) Potential cost reduction
    c) Information sensitivity
    d) All of the above

20. Amazon Web Services falls into which cloud-computing category?
    a) Software as a Service (SaaS)
    b) Platform as a Service (PaaS)
    c) Infrastructure as a Service (IaaS)
    d) Back-end as a Service (BaaS)

UNIT IV

1. Which of the following mobile platform support hundreds of thousands of third-party applications ?
   a) iPhone
   b) Symbian
   c) Windows Mobile Phone
   d) None of the mentioned

2. Which of the following applications are processed locally on the phone ?
   a) Google Earth
   b) Google Maps
   c) Google Voice
   d) None of the mentioned

3. Mobile Lite is an extension of the _____ cloud service.
   a) Salesforce.com
   b) Google.com
   c) aol.com
   d) None of the mentioned

4. Which of the following was built to serve as a mobile platform for Internet computing ?
   a) Windows Phone
   b) Android
   c) Symbian
   d) All of the mentioned

5. Which of the following has an application on the iPhone to manage its service deployments?
   a) Microsoft
   b) Google
   c) Rackspace
   d) None of the mentioned

6. Which of the following IM service is invented by Blackberry ?
   a) BBM
   b) ICQ
   c) Windows Live Messenger
   d) None of the mentioned

7. What is the number one concern about cloud computing?
   a) Too expensive
   b) Security concerns
   c) Too many platforms
   d) Accessability

8. Which of these is not a major type of cloud computing usage?
   a) Hardware as a Service
   b) Platform as a Service
   c) Software as a Service
   d) Infrastructure as a Service

9. What widely used service is built on cloud-computing technology?
   a) Twitter
   b) Skype
   c)Gmail and YouTube
   d) All of the above

10. Which of these techniques is vital for creating cloud-computing centers?
    a) Virtualization
    b) Transubstantiation
    c) Cannibalization
    d) Insubordination

11. An internal cloud is…
    a) An overhanging threat
    b) A career risk for a CIO
    c) A cloud that sits behind a corporate firewall
    d) The group of knowledge workers who use a social network for water-cooler gossip

12. Cloud computing embraces many concepts that were previously touted as the next big thing in information technology. Which of these is not an antecedent of the cloud?
    a) Software as a service
    b) Utility computing
    c) Grid computing
    d) Desktop computing

13. What is the name of Rackspace's cloud service?
    a) Cloud On-Demand
    b) Cloud Servers

c) EC2

d) SQS

14. Virtual Machine Ware (VMware) is an example of

a) Infrastructure Service

b) Platform Service

c) Software Service

d) Hardware Service

15. Google Apps Engine is a type of

a) SaaS

b) PaaS

c) IaaS

d) None of the above

16. Which vendor recently launched a cloud-based test and development service for enterprises?

a) HP

b) Cisco

c) IBM

d) Oracle

17. Geographic distribution of data across a cloud provider's network is a problem for many enterprises because it:

a) Breaks compliance regulations

b) Adds latency

c) Raises security concerns

d) Makes data recovery harder

18. Amazon Web Services is which type of cloud computing distribution model?

a)Software as a Service

b)Platform as a Service

c)Infrastructure as a Service

d)Software Plus Services

19. Amazon Web Services is which type of cloud computing distribution model?

a) Software as a Service (SaaS)

b) Platform as a Service (PaaS)

c) Infrastructure as a Service (IaaS)

d) Hardware as a Service(HaaS)

20. Which Amazon cloud product recently experienced a massive outage?
   a) SimpleDB
   b) EBS
   c) S3
   d) CloudFront

UNIT V

1. Which of the following is not a backup category ?
   a) Full system backup
   b) Half system backup
   c) Image backup
   d) All of the mentioned

2. Customer Relationship Management is about
   a) Acquiring the right customer
   b) Instituting the best processes
   c) Motivating employees
   d) All of the above

3. A _____ is an organized collection of detailed information about individual customers or prospects that is accessible, actionable and current for marketing purposes such as lead generation and others.
   a) Customer database
   b) Customer mailing list
   c) Business database
   d) None of the above

4. The main drawback of CRM is
   a) Implementing CRM before creating a customer strategy
   b) Rolling out CRM before changing the organization to match
   c) Stalking, not wooing, customers
   d) All of the above

5. Which of the following type of virtualization is also characteristic of cloud computing?
   a) Storage
   b) Application
   c) CPU
   d) All of the Above

6. _____ serves as a PaaS vendor within Google App Engine system.
   a) Google
   b) Amazon
   c) Microsoft
   d) IBM

7. Which of the following can be considered PaaS offering?
   a) Google Maps
   b) Gmail
   c) Google Earth
   d) Google Drive

8. _____ is the most refined and restrictive service model.
   a) IaaS
   b) CaaS
   c) PaaS
   d) Haas

9. Which of the following SaaS platform is with an exposed API?
   a) Salesforce.com
   b) Amazon.com
   c) Flipkart.com
   d) RackSpace.com

10. _____ applications have a much lower barrier to entry than their locally installed competitors.
    a) IaaS
    b) CaaS
    c) PaaS
    d) None of the above

11. Which one of these is not a cloud computing pricing model?
    a) Free
    b) Ladder
    c) Pay Per Use
    d) Subscription

12. What is the number one concern about cloud computing?
    a) Accessibility
    b) Too expensive

c) **Security concerns**

d) Too many platforms

13. Which of the following is application and infrastructure management software for hybrid multi-clouds?

    a) TapIn Systems

    b) Web metrics

    c) VMware Hyperic

    d) Univa UD

14. The addition of a software package on top of a cloud storage volume makes most cloud storage offerings conform to a _____ as a Service model.

    a) Platform

    b) Analytics

    c) Software

    d) None of the above

15. How many categories of storage devices broadly exist in the cloud?

    a) 2

    b) 1

    c) 4

    d) 3

16. Which of the following resource(s) represents the bottleneck in the current system that limits the system's performance ?

    a) ROM

    b) Resource ceiling

    c) Resource Parameters

    d) All of the mentioned

17. A master/slave MySQL replication architectural scheme is used for _____ database applications.

    a) medium size

    b) large

    c) smaller

    d) all of the mentioned

18. A master/slave MySQL replication architectural scheme is used for _____ database applications.

    a) medium size

b) large
c) smaller
d) all of the mentioned

19. What is the name of Rackspace's cloud service?
    a) Cloud On-Demand
    b) Cloud Servers
    c) EC2
d) Data Storage

20. Virtual Machine Ware (VMware) is an example of
    a) Infrastructure Service
    b) Platform Service
    c) Software Service
    d) Hardware Service
    ****

DEPARTMENT OF COMPUTER TECHNOLOGY
16UCT520 - CLOUD COMPUTING
K2 – Level Questions

UNIT - I

1. What are the benefits of cloud computing?
2. Mention the Layers of PaaS Architecture.
3. What are the Cloud Service Models?
4. Give the best example for Open Source Cloud Computing.
5. Why Hybrid Clouds are so important?
6. Mention the different types of models used for deployment in Cloud Computing.
7. Mention the name of some large cloud providers and databases.
8. Explain AWS.
9. What are reasons that made Amazon so big?
10. Mention the cloud components.

UNIT - II

1. What is the use of API's in cloud services?
2. What are the different data centers deployed for cloud computing?
3. Mention the services that are provided by WindowsAzure operating system?
4. What are the advantages of cloud services?
5. Comment on the security of cloud computing?
6. What is the difference between scalability and elasticity?
7. What resources are provided by infrastructure as a service?
8. What is the use of API's in cloud services?
9. Write the benefits of REST.
10. What are the standards of VM Ware?

UNIT - III

1. What is Iaas?
2. What are the basic characteristics of cloud computing?
3. What are the essential things that must be followed before going to cloud computing platform
4. What is the Security management in terms of Cloud Computing?
5. What is SaaS and what are some of the advantages of SaaS?

6. Mention the Layers of PaaS Architecture.
7. What are the components of Windows Azure?
8. Give the best example for open source Cloud Computing.
9. Explain the Common storage of PaaS Architecture.
10. Mention the different datacenters deployment of cloud computing.

UNIT - IV

1. What are some security measures regarding the cloud?
2. Write about thin clients.
3. Differentiate about HP vs VMWare.
4. What is optiplex 960?
5. Write about local clouds.
6. What is meant by virtualization?
7. Write about various company offerings.
8. What is the economic impact in cloud?
9. Expand HP.
10. Which offering is 43% effective than Lenova?

UNIT - V

1. Expand VMWare.
2. Write about wave approach.
3. What are the best practices in cloud?
4. Write the three stages in cloud computing.
5. What is meant by salesforce.com?
6. What is meant by migration in cloud computing?
7. Mention any two security issues in cloud computing.
8. What are the challenges in cloud computing?
9. Mention any two services offered to individuals.
10. What is called class cloud offerings?

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DEPARTMENT OF COMPUTER TECHNOLOGY
16UCT520 - CLOUD COMPUTING
K3 – Level Questions

UNIT - I

1.What are the benefits of cloud computing?
2.Write about first movers in cloud.
3.Write a note on SaaS.
4.Differentiate full and para virtualization.
5.Mention the benefits of HaaS.
6.Explain the security benefits of cloud computing.
7.Describe about cloud application.
8.Mention the cloud services offered by Google.
9.Why amazon is considered as a big vendor in cloud computing?explain.
10.List out the cons of cloud computing.

UNIT - II

1. Write about clients in cloud computing.
2. What are the security mechanisms in cloud?
3. What are the services provided by cloud vendor?
4. How to access the cloud?
5. Write a short note on Ajax and JSON.
6. Explain web hosting services.
7. Write a short note on Windows Azure.
8. What is meant by API?
9. Write about Amazon S3.
10. What are the standards of cloud computing?

UNIT - III

1. Explain about IaaS.
2. What is meant by software plus services?
3. Write some business application in cloud computing.
4. What are the operational benefits in cloud?
5. Write some tips for evaluating SaaS.
6. Mention the cloud services offered by Google and Microsoft.
7. What are the cloud services offered by IBM.
8. Mention some economic benefits.

9. Write a note on deleting your data center.
10. Explain the architecture of SaaS and PaaS.

UNIT - IV

1. What are the driving forces in cloud?
2. Write about company offerings.
3. Write a short note on software plus services.
4. Explain about Mobile Device Integration.
5. What is meant by local clouds?
6. Write about thin clients.
7. What are some server solutions?
8. Write about SaaS and SOA.
9. Mention some limitations of SaaS.
10. Write about virtualization advantages.

UNIT - V

1. Write about cloud services offered to individuals.
2. Write about enterprise class cloud offerings.
3. Write about migration to cloud.
4. Explain about the future of cloud.
5. What are the best practices to be followed in cloud computing?
6. Write about the evaluation of cloud computing in future.
7. Write about cloud computing challenges.
8. Explain about security issues in cloud computing.
9. Explain about analyzing the services.
10. Write about different stages in cloud computing.

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DEPARTMENT OF COMPUTER TECHNOLOGY
16UCT520 - CLOUD COMPUTING
K4 – Level Questions

UNIT - I

1. Write about cloud components.
2. Write about Amazon cloud services.
3. List out the advantages and limitations of cloud computing.
4. Describe about cloud applications.
5. What are the types of cloud services offered?

UNIT-II

1. Write a note on cloud storage.
2. Explain the web services offered.
3. Write about Infrastructure in Cloud standards.
4. Write about Nirvanix.
5. Write a note on web browsers.

UNIT-III

1. Explain about various cloud computing services.
2. Write about operational and economic benefits.
3. Write about different cloud services offered by Google,Amazon,IBM and Microsoft.
4. How can we delete the data centers?
5. Explain about IaaS and PaaS.

UNIT-IV

1. What are the industries involved in cloud computing?
2. Write a note on SaaS and Software plus services.
3. Write about VMWare and its infrastructure.
4. Explain about Local cloud and thin clients.
5. Mention about server solutions.

UNIT-V

1. Write about migration to cloud.
2. Explain about individual cloud services offered.
3. Write about best practices to be followed in cloud computing.
4. Write about cloud computing security issues and challenges.
5. How the evaluation of cloud computing may happen in future?

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16UCT517 - VB.NET PROGRAMMING

K1 Level Questions

UNIT-I

1. Microsoft ------------ provides a large programming library for .Net language
   a) **Framework class library**   b) Common language specification
   c) Common language runtime   d) Web services

2. --------------- contains controls for customizing forms.
   a) Solution Explorer   b) Properties window   c) Menu bar   d) **Toolbox**

3. _____ menu command is used for arranging a form's controls
   a) Build   b) Project   c) **Format**   d) View

4. The left column of the properties window lists _____

   a) Current value of each property   c) Toolbox
   b) **Form's properties**   d) Solution explorer

5. _____ key is used for help menu

   a) F9   b) **F1**   c) F5   d) F3

6. GUI is an acronym for _____

   a) Graph Use Interface   c) *Graphical* **User Interface**
   b) *Graphical* Universal Interface   d) *Graphical* Unique Interface

7. A plus box indicates that tree in the solution explorer can_____

   a) Non-expand   b) Hide   c) Expand   d) Auto-hide

8. The ability of a program to run across multiple platforms is known as_____

   a) **Platform independence**   c) MSIL

   b) Interoperability   d) CLS

9. _____ is the heart of the .NET strategy

   a) **.Net framework**   c) CLS

   b) CLR   d) MSIL

10. Expand CLR

   a) Communication Language Runtime   c) Control Library Runtime

   b) **Common Language Runtime**   **d)** Common Library Runtime

UNIT-II

1. Visual basic has ---------------- control structures.

   a) **11**   b) 7   c) 13   d) 12

2. A procedure that calls itself either directly or indirectly is a ------------- procedure.

   a) Iterative   b) **Recursive**   c) Function   d) Sub

3. Every method that handles the same event must have the same -------------.

   a) Signature   b) **Delegates**   c) Procedure   d) Value types

4. Syntax errors are caught by _____

   a) Execution time   b) **Compiler**   c) Run-time   d) None of the above

5. _____ datatype requires more memory to store a floating point

   a) **Double**   b) Single   c) Decimal   d) Integer

6. Specifying the order in which statements are to be executed in a computer program is called program_____

a) Flow   b) Order   c) **Control**   d) None

7. _____conversion occurs conversion without losing data

a) Narrowing   b) **Widening**   c) Value types   d) Option strict

8. Value typed directly in program code are called_____

a) option strict   b) option explicit   c) arguments   d) **Literals**

9. _____ keyword is used when procedures need to alter argument values directly

a) **Byref**   b) Byval   c) Val   d) Ref

10. A procedure defined with keyword _____ does not return a value

a) Sub   b) Function   c) Procedure   d) None of the above

UNIT-III

1. _____ keyword is used to specify the size of the array and allocate memory for the array

a) **New**   b) arr()   c) Numberarray   d) GetupperBound

2. _____ method returns the index of the last element in the array

a) Numberarray   b) **GetupperBound**   c) GetlowerBound   d) None of the above

3. _____ value causes the argument to be copied to a local variable in the procedure

a) **Byval**   b)Byref   c)For/Next   d) None of the above

4. To reference the ith element of an array, use _____ as the index.

a) n(i+1)   b) n(i-1)   c) i+1   d) **i-1**

5. Expand GIF

a) Graphical Interchange Format   b) Graph Intercommunication Form

c) Graph Interface Format   d) Graphical Interconnection Format

6. Lists and tables of values can be stored in_____

a) **Arrays**   b) structures   c) Enum   d) Stack

7. _____ is a graphical element that appears on the desktop

a) Solution Explorer   b) File   c) Controls   d) **Form**

8. An _____ event can delegated can call multiple methods

a) **Multicast**   b) Multiprogramming   c) GUI   d) Signature

9. _____ control allow the programmer to specify the layout of control inside a container

a) **Docking**   b) Focus   c) Anchoring   d) None of the above

10. _____ is a single-line area in which text can be inputed or displayed

a) Button   b) **Textbox**   c) Label   d) Checkbox

UNIT-IV

1. Expand MDI

a) Multiprogramming document Interface   b) Media Dependant Interface

c) **Multiple Document Interface**   d) Manual Data Input

2. _____ control allows the user to view and select from multiple items in a list

a) Combo   b) **Listbox**   c) Dropdown   d) Checkedlistboxes

3. _____ control display links to other resources

a) **Linklabel**   b) Hyperlink   c) Lablelink   d)None of the above

4. Property dropdownstyle determines the type of _____

a) Listbox   b) **Combobox**   c) Label   d) Textbox

5. _____ control combines textbox features with a drop-down list

a) textbox   b) **ComboBox**   c) Listviews   d) MDI

6. _____ control can display nodes hierarchically in a tree.

 a) Nodes   b) **Treeviews**   c) Tab page   d) Tab control

7. Which menu item is not typically found in the File Menu?

a)   Close   b) **Copy**   c) Exit   d) Print

8. Which menu has the control for putting menus on a form?

 a) FormMenu   b) MenuForm   c) MenuControl   d) **MainMenu**

9. Which symbol creates an access key in the text of a menu item?

 a) @   b) #   c) $ d) **&**

10.Which method is found in both the StreamReader and StreamWriter class?

a) **Close**   b)Peak   c) Flush   d) Both a and b.

11. The StreamReader and StreamWriter class are both subclasses of which class?

 a) IO   b) **Stream**   c) StreamIO   d)Both a and b.

12. Which of the following information is contained in the assembly manifest?

 a) Files   b) Identity   c) Security Permissions   d) **All of the above**

13. Classes from which namespace will have to be used to read or write to a file ?

a) System.FileObjects   b) System.FileSystem

c) **System.IO**   d) System.Input/Output

14. Which are the standard prefixes for the text box and label controls respectively?

a) tex and lbl   b) tex and lab   c) **txb and lbl**   d) txb and lab

15.. ………….. is a collection of data stored in a disk with a specific name and a directory path.

a) File   b) Stream   c) I/O Classes   d) FileStream

UNIT- V

1.Which of the following is used for verifying the identity of a user?

    a) Authorization   b) **Authentication**   c) Impersonation   d) Web.config

2. What class does the ASP.NET Web Form class inherit from by default?

    a) **System.Web.UI.Page**   b) System.Web.GUI.Page

    c) System.Web.UI.Form   d) System.Web.Form

3. Attribute must be set on a validator control for the validation to work.

    a) **ControlToValidate**   b) ControlToBind

    c) ValidateControl   d) Validate

4. File extension of ASP.NET files is _____.

    a) .Web   b) **.ASP**   c) .ASPX   d) None of the above

5. Which is not an ADO.NET DataAdapter Object?

   a) OleDbDataAdapter   c) SQLDataAdapter

   b) **QueryDataAdapter**   d) Both a and b

6. Abbreviation of SQL

   a) **Structured Query Language**   b) Structured Query List

   c) Simple Query Language   d) None of these

7. What does XML stand for?

   a) eXtra Modern Link   b) **eXtensible Markup Language**

   c) Example Markup Language   d) X-Markup Language

8. Which is the correct syntax of the declaration that defines the XML version?:

   a) <xml version="A.0" />   b) **<?xml version="A.0"?>**

   c) <?xml version="A.0" />   d) None of the above

9. When a user request a web page, which method /command is used in ASP.NET?
   a) POST   b) SET   **c) GET**   d) All of the above

10. What is the constraint on the data per cookie?
   a) 2 KB   b) 1 KB   c) **4 KB**   d) 3 KB

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16UCT517 – VB.NET PROGRAMMING

K2 Level Questions

UNIT 1

1. What is file synchronization?
2. Expand BASIC
3. What is the use of CLR?
4. Differentiate write and writeline
5. Expand MSIC
6. What are the basic requirements of .Net language
7. What is the use of Readline method?
8. What is the benefit of .Net Framework
9. Expand IDE
10. What are the drawbacks of .net framework?

UNIT 2

1. What are the three types of Control structures
2. Write the syntax for For/Next structure
3. What is meant by lvalue?
4. Draw flowchart for Do while/loop structure
5. What are the three return controls used in sub procedure
6. Write the syntax for Do until/loop structure
7. What is an automatic variable?
8. What are the types of message icons
9. List the types of scopes for an identifier
10. What is the purpose of assignment operator?

UNIT 3

1. What is an index?
2. Define arrays
3. Expand GUI
4. What is winforms?
5. What is groupbox?
6. List some mouse events
7. What is the use of Getupper Bounded method?
8. Define forms
9. State delegates
10. List some events handled in checkboxes

UNIT 4

1. Expand MDI
2. What is menus?
3. What is the use of Tab control?
4. Define Random Access file
5. What is data hierarchy?
6. What is the purpose of Linklables?
7. What is meant by filestream class?
8. What is the use of GetLastWriteTime method?
9. What does the Dropdown style property determines?
10. When does SelectedIndexChanged event occurs?

UNIT 5

1. Expand URL
2. What is primary key?
3. Expand SQL
4. Define relational database model
5. What is DBMS?

6. What is session tracking?

7. Write syntax for Inner Join

8. Expand ADO

9. Distinguish web forms with web controls.

10. Write syntax for select query.

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16UCT517 – VB.NET PROGRAMMING

K3 Level Questions

UNIT -1

1. Write a short notes on visual Basic .Net
2. What is the purpose of common Language Specification?
3. Discuss Microsoft .Net
4. Describe Equality and Relational Operators with example
5. Describe the structure of Vb.Net programming Language
6. Write about menus and toolbar in Vb.Net
7. Describe precedence of arithmetic operators with example
8. How will you display message box? Explain with program
9. Write an own program to list student marks
10. Discuss Vb.Net

UNIT -2

1. Write a note on Scope rules
2. Describe about logical operators used in Vb.Net
3. Discuss Option strict and Date-type conversion
4. Discuss Do while/loop repetition structure with program
5. Write a program to calculate sum of integers from 1 to 10 using while loop strcture
6. Write a program to find a square root of a number
7. Discuss about function procedures with example
8. Write a note on value and reference types
9. Write an own program to find even or odd numbers using if/ then else selection structure
10. Write an own program using Do while/loop structure and explain it

UNIT – 3

1. Discuss picture box with its properties and events
2. Describe groups and panels
3. Write a note on declaring and allocating arrays
4. Describe event handling model
5. Write a program to sum the elements of an array
6. Write a program display student-poll results using arrays
7. Write a note on value and reference types
8. How will you make conversions from one data type to another data type with example
9. Write a program to illustrate the concept of keyboard event handling
10. Write the syntax for For each/Next structure and discuss its concepts with program.

UNIT – 4

1. Distinguish class file and directories
2. How data is read from sequential access file? Discuss
3. How to create random access file? Discuss
4. Describe properties and events of menus
5. Write an own program to illustrate the concept of Treewview control
6. Elaborate user-defines controls with example
7. Write a program that displays its names of 5 states in combo box. when an item is selected from combo box, remove it
8. Describe Listview properties and events
9. Describe Combo boxes with example
10. Write an own program to illustrate the concept of Listview control

UNIT – 5

1. Discuss validation control
2. Illustrate System architecture
3. Describe Adrotrator control
4. Design and create a program to perform online quiz
5. Describe extracting data from a database
6. Elaborate Text and Graphics control with program
7. Write a note on relational database model
8. How will you merge data from multiple tables using inner join
9. How will you validate form? Explain with your own program
10. What is session tracking? Briefly explain with diagram

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16UCT517 – VB.NET PROGRAMMING

K4 & k5 Level Questions

UNIT 1

1. Explain about .Net framework and CLR with neat diagram
2. Illustrate various arithmetic operators with example program
3. Elaborate visual studio IDE windows
4. Explain in detail about login procedure of windows applications with neat sketch
5. What are the steps involved in getting into vb.net workspace area? Illustrate with diagram

UNIT 2

1. Write a program to arrange the given number in ascending and descending order
2. Explain in detail about pass-by value and pass-by reference with example
3. What is function procedure? Elaborate with its syntax with program
4. How exit keyword is used in a repetition structure? Discuss with program
5. Explain select case Multiple-selection structure with example program

UNIT 3

1. Distinguish checkboxes with radio buttons with example program
2. Write a own program to illustrate the concept of mouse event handling
3. What is control properties and Layout? Discuss briefly about its properties , events and methods.
4. Write a program to perform stack operations
5. Distinguish Labels, Textboxes and Buttons

UNIT 4

1. Write a program to illustrate the concept of menus using notepad

2. Distinguish List boxes and Checklist boxes with program

3. Illustrate classes files and directories with its class methods

4. Explain briefly about writing data randomly to a random access file.

5. Write a program for registration form using GUI controls

UNIT 5

1. Explain in detail about simple HTTP transaction with neat diagram

2. Write a own program that displays the web server time

3. Briefly explain SQL statements with example program

4. How will you modify a database? Discuss with example

5. Explain in detail about step by step to create an application with neat diagram

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DEPARTMENT OF COMPUTER TECHNOLOGY

20UCT624- Embedded System

UNIT -I

1. Which one of the following offers CPUs as integrated memory or peripheral interfaces?

    a) Microcontroller   b) Microprocessor

    c) Embedded system   **d) Memory system**

2. What is CISC?

    a) Computing instruction set complex   **b) Complex instruction set Computing**

    c) Complimentary instruction set   d) Complex instruction set Complementary

3. How is the protection and security for an embedded system made?

    a) OTP   **b) IPR**

    c) Memory disk security   d) Security chips

4. Abbreviation of SOC

    a) Single on chip   b) Single off chip

    c) Simple in chip   d) Simple off chip

5. A _____ is a way of working, organizing or doing one or many tasks according to a fixed plan, program, or set of rules.

    a) System   b) Memory

    c) CPU   d) Embedded system

6. An _____ is a system that has embedded system software and computer-hardware, which makes it a system dedicated for an application.

    a) Embedded system   b) IPR

    c) computer system   d) Security chips

7. RTOS is abbreviated as _____

   a) Reel-Time operating system   **b) Real-Time operating system**

   c) Run-Time operating system   d) Real latency operating system

8. A _____ is an important unit in the embedded system hardware.

   a) Memory   **b) Processor**

   c) Computer   d) Control unit

9. _____ is the heart of the embedded system.

   a) System Components   b) Software

   c) Interrupt Handler   **d) Processor**

10. _____is used for fetching instructions from the memory

   a) Execution unit   **b) Control unit**

   c) CPU   d) Processor

11. The_____ has circuits that implement the instructions pertaining to data transfer
    operations and conversion from one form to another.

   a) Memory   b) Control unit

   c) Execution unit   d) Interrupt Handler

12. Which of the following offers external chips for memory and peripheral interface circuits?

   a) Microcontroller   **b) Microprocessor**

   c) Peripheral system   d) Embedded system

13. Abbreviation of VLSI?

   a) Very Large Scale On Integrated Chip   b) **Very Large Scale Integrated Chip**

   c) Very Large Scale On Chip Integrated Chip d) Very Long Scale Integrated Chip

14. A _____ is an integrated chip that has processor, memory and several other hardware units in it.

   a) Microcontroller   b) Microprocessor

   c) Embedded system   d) Memory system

15. _____ and _____ processor are required in speech and video processing.

   a) DCT and   DCIT   b) ASIC and FLPU

   c) DMA and TCP/IP   d) DCN and DCIT

16. The _____ holds the address from where the instruction is to be fetched for execution.

   a) Processor   b) Instruction controller

   c) Program Counter   d) Instruction pointer

17. A _____is a digital circuit that sends digital outputs at any instance to one of the provided channels

   a) Memory   **b) De-multiplixer**

   c) Multiplexer   d) Processor

18. The software is also called _____   .

   a) RAM image   b) RAM   c) ROM   **d) ROM image**

19. An _____ translates the assembly software into the machine codes using a step called assembling.

   a) Memory   **b) Assembler**   c) Microcontroller   d) processor

20. A _____is a processor core or chip for the applications that process digital signals.

   a) Memory   **b) Digital signal Processor**   c) Multiplexer   d) Processor

UNIT -II

1. _____ port is used for parallel communication

    a) Parallel port   b) Serial port

    c) Serial input port.   d) Parallel input port.

2. _____ input is used for keypad and modem inputs.

    a) Synchronous Serial Input   **b) Asynchronous Serial Input.**

    c) Synchronous Serial Output   d) Asynchronous Serial Output.

3. _____ is a device that controls the regular interval clock pulses at it input.

    a) Timer device   b) Clock pulse

    c)   Processor   d) CPU

 4. A _____ is a device that counts the input for events that may occur at regular or
    irregular intervals.

    a) Counting Device   b) Timer   c) Timer Device   d) Clock Pulse.

4. Abbreviation of SWT

    a) System tool   b) Software tool   c) System timer   **d) Software time.**

5. _____ is a timing device that can be set for a preset time interval.

    a) Counting Device   b) Timer Device

    c) Timer   d) Watch Dog Timer

6. _____ is a clock that causes occurrences of regular interval interrupts on its each tick.

    a) Timer device   b) Clock pulse   c) Watchdog Timer   **d) Real Time Clock**

7. _____ provides a system clock and it has a number of applications.

    a) Timer device.   **b) Real Time Clock**

    c) Processor   d) Clock pulse

8. _____ bus is a standard bus in distributed networks.

    a) CAN   b) I2C   c) ARM   d) Data

9. _____ bus is used mainly in automotive electronics.

    a) USB   b) Controller   c) I2C   **d) CAN**

10. _____ is a bus between host system and number of interconnected peripheral devices.

    a) Serial Bus   b) Interrupt service   **c) USB**   d) ISA Bus

11. _____ is a high speed 800 Mbps serial bus for interconnecting a system with multimedia streaming devices and systems.

    a) USB   b) Data Bus   c) CAN Bus   **d) Fire Wire**

12. The exceptional condition sets during execution, causes a diversion then the ISR is called
    as _____ .

    a) USB   b) Interrupt vector

    c) Exception Handler   d) Fire Wire

13. Which factor depends on the number of times of polling the port while executing the

    task?

    a) Data   **b) Data transfer rate**

    c) Data size   d) Number of bits

14. _____ is the most efficient method of communicating between other devices

    a) Serial port   b) Parallel port

    c) Peripheral port   d) Memory port

15. Which buffer is used mostly in the serial porting?

    a) LIFO   **b) FIFO**

    c) FILO   d) LILO

16. _____ is necessary for the parallel input-output port

    a) Inductor   **b) Pull-up resistor**

    c) Push-up register   d) Capacitor

17. _____can be described as general-purpose.

    a) Multifunction I/O port   b) Input port

    c) DMA port   d) Output port

18. _____ can transfer multiple bits of data simultaneously.

    a) Serial port   b) Sequential port

    c) concurrent unit   **d) Parallel port**

19. How buffers are enabled in the parallel ports?

    a) by the data register   **b) by data direction register**

    c) by individual control register   d) by data and individual control register

UNIT -III

1. _____ is an important part of interrupts service mechanism, which associates a processor.

   a) USB   **b) Interrupt vector**

   c) Exception Handler   d) Fire Wire

2. _____ one bit is also called as the primary- level bit for enabling or disabling the complete interrupt system.

   a) EA   b) ES   c) EB   d) ET

3. _____ is a status register, which can hold one or more status flags for the one or several of the interrupt source or group of sources.

   a) Local-Level flag.   b) Local flag

   c) Middle level flag   d) Register

4. _____ saves the context of the interrupted routine and then retrieving or loading the new context of the called routine.

   a) Context Switching.   b) Switching

   c) Registers.   d) Processor

5. What does ISR stand for?
   a) Interrupt Standard Routine   **b) Interrupt Service Routine**
   c) Interrupt Software Routine   d) Interrupt Synchronous Routine

6. Which can activate the ISR?

   a) Interrupt   b) Function   c) Procedure   d) Structure

7. Which code is written as part of the ISR?

   a) Data receive code   b) Sequential code

   c) Data transfer code   d) Concurrent code

8. An interrupt breaks the execution of instructions and diverts its execution to_____

   a) Interrupt service routine   b) Counter word register

   c) Execution unit   d) Control unit

9. While executing the main program, if two or more interrupts occur, then the sequence of appearance of interrupts is called_____

   a) Multi-Interrupt   b) Nested Interrupt

   c) Interrupt within interrupt   **d) both a & b**

10. If any interrupt request given to an input pin cannot be disabled by any means then the input pin is called_____

    a) Maskable interrupt   **b) Non-maskable interrupt**

    c) Maskable & Non-maskable interrupt   d) None of the above

11. The INTR interrupt may be_____

    a) Maskable   b) Non-maskable

    c) Maskable and Non-maskable   d) None of the above

12. The Programmable interrupt controller is required to handle

    a) one interrupt request   **b) one or more interrupt requests at a time**

    c) one or more interrupt requests with a delay   d) No interrupt request

13. The INTR interrupt may be masked using _____ .

    a) Direction flag   b) Overflow flag

    c) Interrupt flag   d) Sign flag

14. The interrupt for which the processor has the highest priority among all the external interrupts is

    a) Keyboard interrupts   b) TRAP

    c) NMI   d) Software Interrupts

15. The interrupt for which the processor has highest priority among all the internal interrupts is

    a) Keyboard interrupt   **b) TRAP**

    c) Hardware Interrupt   d) INT

16. In case of string instructions, the NMI interrupt will be served only after

    a) Initialization of string   b) Execution of some part of the string

    c) Complete string is manipulate   d) the occurrence of the interrupt

17. Which of the following can transfer multiple bits of data simultaneously?

    a) Serial port   b) Sequential port

    c) Concurrent unit   **d) Parallel port**

18. How many registers are there to control the parallel port in the basic form?

    a) 1   b) 3   **c) 2**   d) 5

19. Which of the following can be used as a chip select?

    a) Multifunction I/O port   b) Parallel port

    c) DMA port   d) Memory port

20. _____is necessary for the parallel input-output port

    a) Inductor   **b) Pull-up resistor**

    c) Push-up resistor   d) Capacitor

UNIT-IV

1. Methods in C can have the same name in the inherited class called _____

a) Method overloading   b) Method over-riding

c) Function overloading   d) Operator overloading

2. Methods in C can have the same name as well as the same number and type of arguments in the inherited class are called _____

a) Operator overloading   **b) Method over-riding**

c) Function overloading   d) Method overloading

3. _____find extensive use in C++ environment in embedded software development.

a) Diab compliers   b) C++ compilers

c) C compilers   **d) GNU C/C++ compliers**

4. GNU also called as _____

a) Diab   b) gss   c) GUI   **d) gcc**

5. An embedded system C++ compiler (other than gcc) is _____compiler.

   a) Diab compliers   b) C++ compilers

   c) C compilers   d) GNU C/C++ compliers

6. _____ as an alternative to JVM.

   a) JVM   **b) KVM**   c) VM   d) J2ME

7. _____gives portability with respect to the processor and OS used.

a) Platform Independence   b) Platform Dependence

c) Dependent function   d) None of these

8. Java does not permit _____

a) Inheritance   b) Polymorphism

c) Data abstraction   **d) Pointer manipulation instructions**

 9. Java byte codes can be converted to native machine codes for fast running using _____

a) Diab Compilation   **b) Just-in-time compilation**

c) gcc compilation   d) GNU compilation

10. _____helps in reducing the code size to 8kB for the usual applications like smart cards.

a) smart card   b) ATM card

c) Java card   d) Embedded Card

11. _____ provides the optimized run-time environment

    a) JVM   b)KVM   c)VM   **d)J2ME**

12. A _____ function is which changes a state to its next state.

     a) State machine   b) Event machine   c) Finite State Machine   d) Sequential flow

13. Java generates _____code

    a) Bit   b) Word   c) Object   **d) Byte**

14. Expand MIDP

a) Mobile Investigate device Provider   **b) Mobile Information Device Profiler**

c) Microprocessor Information Device Provider   d) None of these

 15. _____are used for modeling the data paths and program flow of software.

     a) CDFG   b) DFG   c) CFG   d) DFGS

16. A_____ does not have any conditions within it so that the program has one data entry point and one data output point.

   a) IDFG   **b) DFG**   c) CFG   d) DFGS

17. A _____ is also known as ADFG.

   a) CDFG   **b) DFG**   c) CFG   d) DFGS

18. A____ is a model which uses states and state transition functions, which produce the states.

   a) State machine   b) Event machine   c) Finite State Machine   d) Sequential flow

19. Which one has scalable OS feature?

   a) JVM   b) KVM   c) VM   **d) J2ME**

20. A large program can be partitioned into the tasks sets of instructions and can run concurrently on different processors and by some mechanism the tasks can communicate with each other. These system are called as _____

   a) Microprocessor system   b) Multitasking system

   c) Single-processor System   **d) Multiprocessor system**

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UNIT –V

1. Application program can be said to consist of a number of processes and each process runs under the control of an _____

   a) OS   b) CPU   c) System   d) ALU

2. _____ is defined as a computational unit that processes on a CPU and whose state changes under the control of kernel of an OS

   a) CPU   b) System   **c) Processor**   d) ALU

3. _____ is a data structure having the information using which the OS controls the process state.

   a) ALU   **b) PCB**   c) ALU   d) System

4. The state information of a thread is represented by _____ .

   a) Thread-state   b) Thread   c) Multitask   d) Task

5. A thread is _____ .

   a) Heavyweight   **b) Lightweight**   c) Process-controlled   d) Data

6. _____ can share the data of the process

   a) Multitasks   **b) Multiple threads**   c) CPU   d) PCB

7. _____ is in a multiprocessor system are used to generate information about certain sets of computations

   a) IPCs   b) ISR   c) CPU   d) OS

8. The _____ forces the OS to first run a signaled process or task called signal handler.

   a) Signal   b) Processor   c) Process   d) CPU

9. A _____is a function, which executes software interrupt instruction INT n or SWI n.

   a) Signal   b) Processor   c) Process   d) CPU

10. _____ is a unit of the OS that is the entity responsible for controlling a process execution.

   a) Process   **b) Process manager**   c) Process-state   d) Running process

11. _____ are the subsystems of OS Device management systems.

   a) I/O ports   b) Process   c) Synchronous I/O operations   d) I/O instructions

12. An _____is an multitasking Os for the applications needing meeting of time deadlines and functioning and in real-time constraints.

   a) Operating Systems   **b) Real-Time Operating System**   c) ISR   d) Multiprocess

13. An _____ is an OS for response time-controlled and event-controlled processes.

   a) RTOS   b) OS   c) Mutliprocess   d) CPU

14. I/O sub systems are an important of _____

   a) OS services   b) RTOS   c) CPU   d) System

15. An Embedded system with a single CPU can only _____process at an instance.

   a) Two   **b) One**   c) Three   d) Five

16. The embedded system hardware source call generates_____

   a) Interrupts   b) Parameters   c) Semaphores   d) RTOS

17. Expand EDF

a) Earliest deadline first   b) Earliest deadlock found

c) Early deadline find   d) Earliest deadlock first

18. _____ means that each ready task cooperates to let a running one finish.

a) Operative   b) Cooperation   c) Operation   **d) Cooperative**

19. Each RTOS uses a system clock ticked by a _____ timer.

a) ClkIntr   b) SysIntr   c) Intr   **d) SysClkIntr**

20. The_____ needed at any instant in the processor for an embedded system depends on the state and mode of the processor.

a) current   b)System   c)Processor   **d)Time**

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DEPARTMENT OF COMPUTER TECHNOLOGY

20UCT624- EMBEDDED SYSTEM

K2 Level Questions

Unit – 1

1. Define embedded system
2. Define system
3. Write down the characteristics of embedded system
4. What is microcontroller?
5. Write down various forms of memories in the system.
6. List out the types of embedded system
7. Mention any two real time application for Small scale embedded system
8. What is meant by System on Chip?
9. What is medium scale embedded system?
10. Mention program models used for software designing

Unit – 2

1. What is serial port?
2. What is meant by asynchronous communication?
3. What is parallel device port?
4. Define timing device
5. What is counting device?
6. What is Watchdog timer?
7. Define Real time clock
8. Mention various types of serial bus communication protocols
9. Expand USB
10. Mention the disadvantage of IO bus.

Unit – 3

1. List any four generic commands used in device driver.
2. What is meant by device driver
3. Abbreviate SWI
4. Define Interrupt Vector
5. How is the vector address used for an interrupt source?
6. What is meant by interrupt vector table
7. Expand POSIX
8. Write any two features of device driver
9. Define interrupt Latency
10. What is context switching

Unit – 4

1. List out the program models
2. Expand HSDFG
3. What is Acrylic DFG model
4. List the disadvantages of java in embedded system
5. Mention any two features of KVM
6. How JavaCard is used in real time applications
7. How C++ in embedded system is compiled?
8. Write down any four elements used in java program
9. How Control DFG differs from DFG model
10. How FSM state table is designed?

Unit – 5

1. Define process

2. What is a thread?

3. Expand UART

4. How shared data can be eliminated?

5. List out the types of modes used in os.

6. How Interprocess communication is used in a process?

7. What is shared data problem?

8. Expand RTOS

9. What is meant by Round Robin scheduling?

10. Mention any four common scheduling models .

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DEPARTMENT OF COMPUTER TECHNOLOGY

20UCT624- EMBEDDED SYSTEM

K3 Level Questions

Unit1

1. Write a note on various processors embedded in processor chip
2. Describe microprocessor
3. Explain various forms of memory and functions assigned to them
4. Explain the Exemplary applications of each type of embedded system
5. How software is embedded into a system? Discuss
6. List the hard ware units that must be present in the embedded systems
7. Explain the various form of memories present in a system
8. Explain the software tools in designing of an embedded system.
9. Classification of embedded systems
10. List out skills required for medium scale embedded system designer.

UNIT 2

1. What are the classifications of IO devices? Give examples
2. Discuss asynchronous communication
3. Discuss parallel port interfacing with Switches and Keypad with diagram
4. Discuss parallel port interfacing with LCD controller with diagram
5. Write a short note on asynchronous serial input and output.
6. Describe I^2C Bus.
7. Write a short notes on USB bus
8. List any five forms of a timer
9. Discuss watchdog timer with example
10. Describe i) Counting device   ii) Timer cum counting devices

UNIT-3

1. Write a short note on Device driver.

2. Discuss processor vector address

3. Write a note on Context switching

4. Describe Interrupt Latency

5. Write a short note on device driver programming

6. Discuss parallel port drivers in a system with diagram

7. Discuss various registers involved in serial port drivers in a system

8. Write a note on IPTD in device driver

9. How a group of interrupts sources are handled in vector address?

10. Differentiate status register and Interrupt pending registers

UNIT- 4

1. List out advantages of C++

2. Discuss disadvantages of C++

3. Analyze various elements used in the java program

4. Describe   a) J2ME   b)JavaCard

5. Write a note on program models.

6. Compare Data flow graph with Control DFG Model

7. Discuss SDFG, HSDFG, APEG with one example

8. Discuss FSM state model with neat diagram

9. Write a short note on Finite State Machine (FSM) model with example

10. Discuss Synchronous Data Flow Graph (SDFG) model

UNIT-5

1. What are the various informationsstored in PCB.

2. State various solutions for shared data problem.

3. Discuss Interprocess communication

4. Analyze the layered model of the system in RTOS.

5. Describe multiple threads in an application

6. How RTOS is used in embedded system? Discuss.

7.Write a short note on design principles of RTOS.

8. Discuss Real Time Operating System.

9. Describe Petri net model with neat diagram.

10.How tasks are scheduled in preemptive scheduling model? Discuss with neat diagram

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DEPARTMENT OF COMPUTER TECHNOLOGY

20UCT624- EMBEDDED SYSTEM

K4 & k5 Level Questions

UNIT 1

1. Explain the different program layers in the embedded software and also the process of converting a "C" program into the file for ROM image with suitable block diagrams.
2. Elaborate single purpose processors
3. Explain in detail about various hardware units in the embedded system
4. Explain the Embedded System on Chip (SoC) & VLSI circuit.
5. Explain in detail about skills required for an embedded system designer.
6. List the hard ware units that must be present in the embedded systems
7. Explain the various form of memories present in a system
8. Explain the software tools in designing of an embedded system.
9. Classification of embedded systems
10. List out skills required for medium scale embedded system designer.

UNIT 2

1. Explain various IO devices types with neat diagram.
2. Elaborate synchronous communication in serial communication devices
3. Explain in detail about working of timers and counters with neat diagram.
4. Elaborate serial communication using CAN bus in detail
5. With a neat diagram explain networked embedded systems
6. Describe I^2C Bus.
7. Write a short notes on USB bus
8. List any five forms of a timer

9. Discuss watchdog timer with example

10. Describe i) Counting device   ii) Timer cum counting devices

UNIT 3

1. Elaborate Interrupt servicing mechanism with neat diagram

2. Discuss with neat diagram

        a) Interrupt Latency   b) Interrupt Service Deadline

3. Illustrate parallel and serial port involved in device driver programming

4. Explain in detail about Interrupt vector and Interrupt Vector table with neat diagram

5. Illustrate context and period of context switching and Interrupt latency with diagram.

6. Discuss parallel port drivers in a system with diagram

7. Discuss various registers involved in serial port drivers in a system

8. Write a note on IPTD in device driver

9. How a group of interrupts sources are handled in vector address?

10. Differentiate status register and Interrupt pending registers

UNIT 4

1. Explain in detail about advantages of java programming in embedded system

2. Elaborate State Machine Models for Event-controlled program flow

3. Write a briefly on Modeling of Multiprocessor system

4. Analyze advantages and disadvantages of C++ in embedded system

5. Explain in detail about various program models with neat diagram

6. Compare Data flow graph with Control DFG Model

7. Discuss SDFG, HSDFG, APEG with one example

8. Discuss FSM state model with neat diagram

9. Write a short note on Finite State Machine (FSM) model with example

10. Discuss Synchronous Data Flow Graph (SDFG) model

UNIT 5

1. Illustrate various design principles of Real Time Operating System.

2. Write briefly about RTOS services

3. Analyze Round Robin scheduling models with neat diagram

4. Elaborate Petri Net model for the task with preemptive scheduler with neat diagram

5. Explain in detail about multiple processes and threads in an application.

6. How RTOS is used in embedded system? Discuss.

7. 7. Write a short note on design principles of RTOS.

8. 8. Discuss Real Time Operating System.

9. 9. Describe Petri net model with neat diagram.

10. 10. How tasks are scheduled in preemptive scheduling model? Discuss with neat diagram

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16UCT518 – Computer Graphics

Section - A

K1 - Questions

UNIT I

K1 - Questions

1. Which devices provides positional information to the graphics system ?
    a) Input devices
    b) Output devices
    c) Pointing devices
    d) **Both a and c**

2. The number of pixels stored in the frame buffer of a graphics system is known as
    a) Resolution
    b) Depth
    c) Resolution
    d) **Only a**

3. The maximum number of points that can be displayed without overlap on a CRT is referred as
    a) Picture
    b) **Resolution**
    c) Persistence
    d) Neither b nor c

4. _____ stores the picture information as a charge distribution behind the phosphor-coated screen.
    a) Cathode ray tube
    b) **Direct-view storage tube**
    c) Flat panel displays
    d) 3D viewing device

5. The process of digitizing a given picture definition into a set of pixel-intensity for storage in the frame buffer
    a) Rasterization
    b) Encoding
    c) **Scan conversion**
    d) True color system

6. In LCD, the refresh rate of the screen is
    a) **60 frames/sec**
    b) 80 frames/sec
    c) 30 frames/sec
    d) 100 frames/sec

7.Aspect ratio means
   a) Number of pixels
   b) Ratio of vertical points to horizontal points
   c) Ratio of horizontal points to vertical points
   d) **Both b and c**

8. The primary output device in a graphics system is_____
   a) Scanner
   b) **Video monitor**
   c) Neither a nor b
   d) Printer

9. Random-scan system mainly designed for
   a) Realistic shaded screen
   b) **Fog effect**
   c) Line-drawing applications
   d) Only b

10. _____ allows screen positions to be selected with the touch of a finger.
   a) **Touch panels**
   b) Image scanner
   c) Light pen
   d) Mouse

11. The device which is designed to minimize the background sound is
   a) **Microphone**
   b) Digitizers
   c) Data glove
   d) Joy stick

12. The quality of a picture obtained from a device depends on
   a) Dot size
   b) Number of dots per inch
   c) Number of lines per inch
   d) **All of the mentioned**

13. Which of the following device is not the input device?
   a) Trackball and space ball
   b) Data glove
   c) **Only d**
   d) Impact printers

14. Which device contains thumbwheel, trackball and a standard mouse ball?
   a) **Z mouse**
   b) Joystick

c) Mouse

d) Trackball

15. Virtual reality, CAD, and animations are the application of

a) **Z mouse**

b) Digitizers

c) Data tablets

d) Image
Scanners

16. Beam penetration method is usually used in_____.

a)LCD b)**Raster Scan display** c) Random scan display d)DVST

17. Identify different type of computer graphics

a) Monochrome and Color b)CRT and Flat panel

c)**Vector an Raster** d)Monitors and Hardcopy devices

UNIT II
K1 - Questions

1. Vector display is well suited for _____.

a) Animation b) **Line drawing applications**c) Cartoons d) All of the above

2.Identify the colors produced in beam penetration method.

a) Red, Green, Blue, White b)**Red, Orange, Yellow, Green**

c)Red, Green, Blue d) Green, Red, White, Orange

3. An RGB color system with 24 bits os storage per pixel is known as ....

a) Color CRT b)**True-color system**c)RGB monitor d)Color- Depth

4. Identify the features of Vector display

a)**High resolution, Jagged lines, Lack in color depth**

b)Smooth lines, Poor resolution, Black & White

c)High resolution, Lack in color depth, Smooth lines

d)Inexpensive, monochromatic, smooth lines

5. DVST stands for _____.

a)Digital View Storing Table b)Direct Visual Storage Tube

c)**Direct View Storage** Tube   d)Digital View Storage Tube

6. Refreshing is not needed in DVST because of the presence of _____.

a) Primary gun b) **Flood gun**c) Focusing anode d)Control grid

7. In DVST, the electron beam from primary electron gun strikes on _____.

a) Phosphor screen b) Collector mesh c)**Storage mesh**d) Flood gun

8. Identify the features of DVST from the following.

a) Monochromatic, Flicker free, Low resolution b)**Monochromatic, Flicker free**

c) Color screens, Refresh monitors, High resolution d)Expensive, Low resolution

9.Video devices with reduced volume, weight and power consumption are collectively known as _____.

a) Light weight monitors b)**Flat-panel displays**c)CRT d) Portable display

10. .... is responsible for accessing the frame buffer to refresh the screen.
a) Graphics package b) **Video controller**c) CPU d) Monitor

11. Digitizing a picture definition into a set of intensity values is known as ....
a) Digitization b) **Scan conversion**c)Refreshing d) Scanning

12. _____ will free the CPU from graphics chores.
a) **Display processor**b) Monitor c) ALU d)Video controller

13. Identify impact printer from the following

a) Drum Plotter b)Inkjet printer c)Electrostatic printer d) **Dot-matrix printer**

14. Write an example for non-impact printer

   a) Drum plotter b) Electrostatic printer c) Laser printer d) **All of the above**

15.Identify the odd one out.

a) Mouse b) **Keyboard**c) Trackball d) Space ball

UNIT III
K1 - Questions

1.The matrix representation for translation in homogeneous coordinates is
   a) P'=T+P
   b) P'=S*P
   c) P'=R*P
   d) **P'=T*P**

2.What is the use of homogeneous coordinates and matrix representation?
   a) **To treat all 3 transformations in a consistent way**
   b) To scale
   c) To rotate
   d) To shear the object

3. If point are expressed in homogeneous coordinates then the pair of (x, y) is represented as
   a) (x', y', z')
   b) (x, y, z)
   c) (x', y', w)
   d) **(x', y', w)**

4. For 2D transformation the value of third coordinate i.e. w=?
   a) **1**
   b) 0
   c) -1
   d) Any value

5. We can combine the multiplicative and translational terms for 2D into a single matrix representation by expanding
   a) 2 by 2 matrix into 4*4 matrix
   b) **2 by 2 matrix into 3*3**
   c) 3 by 3 matrix into 2 by 2
   d) Only c

6.We translate a two-dimensional point by adding
   a) Translation distances
   b) Translation difference
   c) X and Y
   d) **Only a**

7.The basic geometric transformations are
    a) Translation
    b) Rotation
    c) Scaling
   d) **All of the mentioned**

8. The original coordinates of the point in polor coordinates are
   a) X'=r cos (Φ +Θ) and Y'=r cos (Φ +Θ)
   b) **X'=r cos (Φ +Θ) and Y'=r sin (Φ +Θ)**
   c) X'=r cos (Φ -Θ) and Y'=r cos (Φ -Θ)
   d) X'=r cos (Φ +Θ) and Y'=r sin (Φ -Θ)

9. If the scaling factors values sx and sy< 1 then
   a) **It reduces the size of object**
   b) It increases the size of object
   c) It stunts the shape of an object
   d) None

10. If the value of sx=1 and sy=1 then
    a) Reduce the size of object
    b) Distort the picture
    c) Produce an enlargement
    d) **No change in the size of an object**

UNIT IV
K1 - Questions

1   Three dimensional computer graphics become effective In the late

a.   1960
b.   **1980**
c.   1970
d.   1950

2   A three dimensional object can also be represented using_____.
a.   Method
b.   **Equation**
c.   Point
d.   None of these

3   An_____ can be considered as an extension of spherical surface.
a.   Bezier
b.   **Ellipsoid**
c.   Shearing
d.   None of these

4   _____curve is one of the sp line approximation methods.
a.   Bezier
b.   Ellipsoid
c.   **Shearing**
d.   None of these

5   A Bezier curve is aolynomial of degree _____the no of control points used.

a. One more than
b. **One less than**
c. Two less than
d. None of these

6 The sweep representation of an object refers to the
a. 2D representation
b. **3D representation**
c. Both a & b
d. None of these

7 The types of projection are
a. **Parallel projection and perspective projection**
b. Perpendicular and perspective projection
c. Parallel projection and Perpendicular projection
d. None of these

8 _____are the three dimensional analogs of quad trees.
a. Quadric
b. **Octrees**
c. Geometry
d. None of these

9 _____refer to the shapes created by union, intersection and difference of given shapes.
a. Wire frame model
b. Composite transformation
c. **Constructive solid geometry methods**
d. None of these

10 In which projection ,the plane normal to the projection has equal angles with these three axes
a. Wire frame projection
b. Constructive solid geometry projection
c. **Isometric projection**
d. Perspective projection

UNIT V
K1 - Questions

1 . The basic graphical interactions are
a. Pointing
b. Positioning
c. **Both a & b**
d. None of the above

2.   _____is a flexible strip that is used to produce smooth curve using a set of point.

a.   **Spline**
b.   Scan-line method
c.   Depth-sorting method
d.   None of these

3 .   Cubic spline are
a.   Simple to compute
b.   Provides continuity of curves
c.   **Both a & b**
d.   None of these

4   The parametric form of 3D sp line are
a.   **X=f(t),y=g(t),z=h(t)**
b.   X=a0,y=b0,z=c0
c.   F(t)=0,g(t)=0,h(t)=0
d.   None of these

5   The problem of hidden surface are
a.   Removal of hidden surface
b.   Identification of hidden surface
c.   **Both a & b**
d.   None of these

6   The algorithm of hidden surface are
a.   Object-space method
b.   Image-space method
c.   **Both a & b**
d.   None of these

7   The method which is based on the principle of comparing objects and parts of objects to each
     other to find which are visible and which are hidden are called
a.   **Object-space method**
b.   Image-space method
c.   Surface-space method
d.   Both a & b

8   Which surface algorithm is based on perspective depth ?
a.   Depth comparison
b.   **Z-buffer or depth-buffer algorithm**
c.   subdivision method
d.   back-face removal

9   A process with the help of which images or picture can be produced in a more realistic way is called
a. Fractals
b. Quad-tree
c. **Rendering**
d. None of these

10. Ray-tracing is an extension of
a. Ray calling
b. **Ray casting**
c. Ray sampling
d. Ray coherence

16UCT518 & COMPUTER GRAPHICS
UNIT I
Section - A
K2 Questions

1. Define Computer Graphics.

2. List the Application of Computer Graphics.

3. Define Refreshing of Screen.

4. Define Pixel.

5. Define refresh Buffer.

6. List out the merits and demerits of DVST.

7. Discuss about LCD.

8. Differentiate Emissive and Non – Emissive Displays.

9. List out the merits and demerits of Plasma Panel Display.

10. Define Persistence.

UNIT II
K2 Questions

1. Write short notes on lines.

2. Define Circle.

3. Define polygon.

4. Distinguish between convex and concave polygons.

5. What is seed fill?

6. What is scan line algorithm?

7. Define coherence properties

8. What is an active edge list in the scan line algorithm?

9. What is cell array?

10. What are the various attributes of a line?

UNIT III
K2 Questions

1. What is Transformation?
2. Define Translation
3. Define Scaling
4. Define Rotation
5. Define Window
6. What is Composite transformation
7. What id Window to view port coordinate transformation
8. What is shearing?
9. What is fixed point scaling?
10. What is covering (exterior clipping)?
11. Are the Types of Clipping?
12. What is the need of homogeneous coordinates?
13. What is Polygon clipping

UNIT IV
K2 Questions

1. What is the various representation schemes used in three dimensional objects?
2. What is polygon surfaces, polygon tables and polygon equations
3. Differentiate parallel projection from perspective projection.
4. What is shear transformation?
5. Define quadric surfaces.
6. Categorize the 3D object representations?
7. What is Transformation?
8. What are the types of transformations?
9. What is a Blobby object
10. What is Polygon mesh?
11. What do you mean by view plane? What is view distance?
12. What are the various visible face detection methods or hidden surface elimination?

UNIT V
K2 Questions

1. How will you convert from YIQ to RGB color model?

2. What are subtractive colors?

3. What is RGB color model? How RGB model represented?

4. How RGB is converted to CMY?

5. How CMY is converted to RGB?

6. What is HLS color model?

7. What is color look up table?

8. Define Octrees

9. Define visible surface detection methods

10.Defineimage space method

11. Define object space method

1. Describe in CRT in details

2. Explain briefly about CRT Monitors

3. Discuss about three dimensional viewing devices

4. Explain how CAD is used in computer graphics

5. Explain the following two applications of computer graphics (a) Presentation Graphics(b) Image Processing

6. List out the merits and demerits of Plasma panel display

7. List out the merits and demerits of Penetration techniques

8. List out the difference between impact and non-impact printers

9. Explain direct view storage tubes and liquid crystal displays.

10. Explain the following: 1. Joysticks 2. Touch panels 3. Image scanners 4. Data glove

UNIT II
K3 Questions

1. What is Output Primitive? What is point and lines in the computer graphics system?

2. Explain the following

   i.Line Drawing algorithm.

   ii.Line clipping algorithm.

3. How boundary fill algorithm works

4. What is DDA? What are the disadvantages of DDA algorithm?

5. How flood fill algorithm works.

6. Digitize a line from (10,12) to (15,15) on a raster screen using Bresenhams straight line

7. Algorithm what are the various line drawing algorithms

8. Write down and explain the midpoint circle drawing algorithm. Assume 10 cm as the radius and co-ordinate as the centre of the circle.

9. Calculate the pixel location approximating the first octant of a circle having centre at (4,5) and radius 4 units using Bresenham's algorithm.

10. Explain Ellipse generating Algorithm?

UNIT III
K3 Questions

1. Write short notes on active and passive transformations?

2. Distinguish between window port & view port?

3. Write about Cohen-Sutherland line clipping algorithm with an example

4. List out the various Text clipping?

5. Distinguish between uniform scaling and differential scaling?

6. List out the Various types of Polygon clipping.

7. Explain frame buffer in detail.

8. Explain the following composite transformations(i)Translation(ii)Rotation

9. List out the advantages of rendering polygons by scan line method?

10. Explain about clipping operations.

11. Explain reflection and shear.

UNIT IV
K3 Questions

1.List out the steps involved in 3D transformation

2.With suitable examples explain all 3D transformations.

3.Differentiate parallel and perspective projections and derive their projection matrices.

4 Explain about 3D object representation.

5. Explain polygon surfaces and quadric surfaces.

6. Explain Bezier curve and spline.

7. Explain the following visible surface detection methods.(i)Back face detection

ii)Depth –Buffer method(iii)A-Buffer method

8. Write short notes on Polygons, curved Lines, and Quadratic surfaces

9. Explain three dimensional viewing

10. Write short notes on the following hidden surface elimination methods (i)Scan line

Method (ii) Painter's algorithm (iii) BSP-tree method (iv) Area subdivision method

UNIT V
K3 Questions

1.Differentiateimage space method and object space method

2. Explain about various color models?

3. Explain in detail the CMY color model.

4. Compare and contrast between RGB and CMY color models.

5. Write notes o RGB and HSV color models.

6. Explain Depth sorting method

7. Explain Back face detection method and Depth buffer method

8. Explain about Color Selection.

9. List out the applications of Color

10. Explain on Ray-Casting Method.

16UCT518 – COMPUTER GRAPHICS
Section - C
UNIT I
K4 & K5 Questions

1. Explain Raster and Random Scan Displays.

2. Explain Briefly About flat panel displays

3. Explain Raster and Random Scan Systems

4. Discuss about Graphics Monitors and Workstations

5. List and Explain the Input Devices.

UNIT II
K4 & K5Questions

1. Discuss in detail about the Line drawing DDA scan conversion algorithm.

2. Explain briefly about DDA algorithm for Line Drawing.

3. Explain Bresenham's Circle drawing algorithm in detail.

4. Explain Bresenham's Line drawing algorithm in detail

5. Discuss various region filling algorithms.

UNIT III
K4& K5Questions

1. Discuss about the general point pivot point and scaling .

2. Discuss about composite transformations for translation, scaling, rotation

3. Explain in detail about two dimensional viewing

4. Explain Sutherland Hodgeman polygon clipping

5. Explain Liang Barsky line clipping

6. Explain (i) General Pivot point rotation(ii)general Fixef Point Scaling(iii)General Pivot PointRotation

UNIT IV
K4 & K5Questions

1. List and describe polygon table representation for two adjacent polygon surface formed with six edges and five vertices

2. Discuss about matrix for 3D z-axis rotation.

3. Explain matrix for 3D translation.

4. Explain the three dimensional display methods.

5. Analyze the procedure to calculate the parameters A,B,C,D using Cramers rule If the equation for plane surface is expressed in the form Ax+By+Cz+D=0

UNIT V
K4 & K5Questions

1. Explain A – Buffer method

2. Explain depth sorting method

3. Explain the BSP tree method for visible surface detection

4. Solve the equation of a plane through the points (2,4,3), (4,4,5) and (8,9,3)

5. Discuss about the followings:

(a) depth field in A – buffer do

(b) intensity field in A – buffer do

1. Which Tag is used for marked and highlighted text in web document?

a)<highlight>

b)<del>

c)<mark>

d)Both A and C

2. For adding quotation marks in web page paragraph or in line which tag we can use?

   a) <quotation></quotation>
   b) <quo></quo>
   c) <p></p>
   d) <q></q>

3. Text inside a <pre> element tag is displayed

a)In table

b)In one line

c)In fixed width font

d)In half paragraph

4. <b> tag makes the enclosed text bold. What is other tag to make text bold?
a) <strong>
b)<dar>
c.)<black>
d)<emp>

5. Which of the following HTML code is valid?
a)<font colour="red">
b) <font color="red">
c)<red><font>
d) All of above are style tags

6.<TD> ... </TD> tag is used for _____
a. Table heading
b. Table Records
c. Table row
d. none of the above

7. What is the correct syntax in HTML for creating a link on a webpage?
a. <LINK SRC= "mcqsets.html"z

b. <BODY LINK = "mcqsets.html">

c. <A SRC = "mcqsets.html" >

d. < A HREF = "mcqsets.html">

8. Which is the attribute used to enable the Client-side image map?
a) map
b) area
c) usemap
d) all of the mentioned

9. Which are the special tags used for image mapping?
a) map and area
b) map and usemap
c) only map
d) only usemap

10. Which is the element that follows the use of "img"?
a) area
b) usemap
c) map
d) any element can follow the use of "img"

11. Each cell of the table can be represented by using _____
a) <tr>
b) <td>
c) <th>
d) <thead>

12. For heading we can use _____
a) <td>
b) <tr>
c) <thead>
d) <th>

13. Headings of table lies inside _____
a) <thead>
b) <tfoot>
c) <th>
d) <tbody>

14. Which of the following element is not associated with a class attribute?
a) Row

b) <thead>

c) Column cell

d) Rows

15. For adding caption to the table we use _____

a) <caption>

b) <thead>

c) <th>

d) <tr>

16. Which of the following does not specify a column width?

a) Fixed

b) Percentage

c) Proportional

d) Pixels

17. valign attribute does not take the value _____

a) justify

b) middle

c) baseline

d) bottom

18. Scope attribute can't have the value _____

a) row

b) rowgroup

c) col

d) <head>

19. Which of the following is not the value for frame attribute?

a) above

b) void

c) none

d) box

20. Which of the following is not the value for rules attribute?

a) vsides

b) rows

c) all

d) groups

UNIT-II

1. If we want define style for an unique element, then which CSS selector will we use?

 a) Id

b) Text

c) Class

d) Name

2. If we don't want to allow a floating div to the left side of an element, which css property will we use?

a) margin
b) clear
c) float
d) padding

3. Suppose we want to arrange five nos. of DIVs so that DIV4 is placed above DIV1. Now, which css property will we use to control the order of stack?

  a) d-index
  b) s-index
  c) x-index
  d) z-index

4. If we want to wrap a block of text around an image, which css property will we use ?

a) wrap
b) push
c) float
d) align

5. If we want to show an Arrow as cursor, then which value we will use ?

  a) pointer
  b) default
  c) arrow
  d) arr

6. If we want to use a nice looking green dotted border around an image, which css property will we use?

  a) border-color
  b) border-decoration
  c) border-style
  d) border-line

7. Which of the following properties will we use to display border around a cell without any content?

  a) **empty-cell**
  b) blank-cell
  c) noncontent-cell
  d) void-cell

8. What should be the table width, so that the width of a table adjust to the current width of the browser window?

  a) 640 pixels
  b) **100%**
  c) full-screen
  d) 24 px

9 .Which element is used in the <HEAD> section on an HTML / XHTMLpage, if we want to use an external style sheet file to decorate the page ?

a)<src>

b)<link>

c)<style>

d)<css>

10.Which attribute can be added to many HTML / XHTML elements to identify them as a member of a specific group ?

a) Id
b) div
c) **class**
d) span

11. How can we write comment along with CSS code ?

a)/* a comment */

b)// a comment //

c)/ a comment /

d)<' a comment'>

12. Which CSS property you will use if you want to add some margin between a DIV's border and its inner text?

a) spacing
b) margin
c) **padding**
d) inner-margin

13. Which CSS property is used to control the text size of an element ?

a) font-style

b) text-size

c) font-size

d) text-style

14. The default value of "position" attribute is _____.
a)   fixed
b)   absolute
c)   inherit
d)   relative

15. By default Hyperlinks are displayed with an underline. How do you remove the underline from all hyperlinks by using CSS code?

a) a {text: no-underline;}

b) a {text-decoration:none;}

c) a {text-style: no-underline;}

d) a {text-decoration: no-underline;}

16. The _____property is used to set the color of the text.
a) pallet
b) colour
c) color
d) text-decoration

17. Which of the following is the correct way to apply Styles?
a) inside an HTML element
b) inside the section of an HTML page
c) in an external CSS file
d) all of the mentioned

18. A _____ is used to define a special state of an element.
a) pseudo-tag
b) pseudo-element
c) pseudo-id
d) pseudo-class

19. The _____ property specifies the type of positioning method used for an element.
a) Align
b) float
c) position
d) padding

20. Which of the following selector selects the elements that are the default among a set of similar elements?

a) :default
b) :%
c) :disabled
d) none of the mentioned

Unit-III

1. The ………………. property indicates whether a cell without any content should have a border displayed.

a) blank-cells

b) empty-cells

c) nocontent-cells

d) noborder-cells

2. The ………………… specifies whether a border should be solid, dashed line, doted line, double line, groove etc.

a) border-layout

b) border-decoration

c) border-style

d) border-weight

3. What does CSS stand for?

a) Cascading Style Sheets

b) Computer Style Sheets

c) Creative Style Sheets

d) Colorful Style Sheets

4. Which attribute specifies a unique alphanumeric identifier to be associated with an element?

a) class

b)   id

c) article

d) html

5. The _____ attribute specifies an inline style associated with an element, which determines   the   rendering   of   the   affected   element.

a) dir

b)style

c)class

d) Article

6. For ...., it needs to reapply style information throughout the document and outside documents.

a)External Style Sheets

b)DocumentWideStyle

c)Inline style

d) All of the above

7. .... requires extra download round-trip for the style sheet, which might delay page rendering, particularly when multiple files are in use.

a)External Style Sheets

b)DocumentWideStyle

c)Inline style

d) All of the above

8. Which HTML tag is used to define an internal style sheet?

a)<style>

b)<css>

c)<script>

d)<class>

9. Which HTML attribute is used to define inline styles?

a)font

b)class

c)styles

d)style

10. Which is the correct CSS syntax?

a) body {color: black}

b) {body;color:black}

c){body:color=black(body}

d) body:color=black

11.Which property is used to change the background color?

a) bgcolor

b)background-color

c)color

d)backcolor

12. Which CSS property controls the text size?

a) font-size

b)font-style

c)text-style

d) text-size

13. In CSS3, ... selects an element that has no children.

a) :not(a)

b) :empty

c.):root

d):lang(value)

14. The different ways to associate styles with a HTML document is/are

a) Embedded CSS with <style> element

b) Inline CSS with style attribute.

c) External CSS with <link> element.

d) All of the above

15. The ………………… specifies whether a border should be solid, dashed line, doted line, double line, groove etc.

a) border-layout

b) border-decoration

c) border-style

d) border-weight

16. Which element is used in the <HEAD> section on an HTML / XHTMLpage, if we want to use an external style sheet file to decorate the page ?

a) <src>

b) <link>

c) <style>

d) <css>

17. Which css property you will use if you want to add some margin between a DIV's border and its inner text?

a) Spacing

b) Margin

c) Padding

d) inner-margin

18. External Style Sheets are stored in

a) .CSH files

b) .CAC files

c).CAS files

d) .CSS files

19. Which of the following consists in CSS?

a) Selector

b) Declarations

c) Property ans Value

d) All the above

20. The Selector in CSS is

a) Javascript tag

b) **HTML element**

c) CSS tag

d) CSS element

UNIT-IV

1. In Javascript, there are Objects Of

a) 3 Types
b) 4 Types
c) 5 Types
d) 6 Types

2. Why So Javascript And Java Have Similar Name?

a) Javascript Is A Stripped-Down Version Of Java
b) Javascript's Syntax Is Loosely Based On Java's
c) They Both Originated On The Island Of Java
d) None Of The Above

3. What is The HTML Tag under Which One Can Write The Javascript Code?

a) <Javascript>
b) <Scripted>
c) <Script>
d) <Js>

4. Choose The Correct Javascript Syntax to change the content of the following HTML Code.

<P Id="Geek">Geeksforgeeks</P>
a) Document.Getelement("Geek").Innerhtml="I Am A Geek";
b) Document.Getelementbyid("Geek").Innerhtml="I Am A Geek";
c) Document.Getid("Geek")="I Am A Geek";
d) Document.Getelementbyid("Geek").Innerhtml=I Am A Geek;

5. Which Of The Following Is The Correct Syntax To Display "Geeksforgeeks" In An Alert Box Using Javascript?

a) Alertbox("Geeksforgeeks");

b) Msg("Geeksforgeeks");

c) Msgbox("Geeksforgeeks");

d) Alert("Geeksforgeeks");

6. What Is The Correct Syntax For Referring To An External Script Called "Geek.Js"?

a) <Script Src="Geek.Js">
b) <Script Href="Geek.Js">
c) <Script Ref="Geek.Js">
d) <Script Name="Geek.Js">

7. The External Javascript File Must Contain <Script> Tag. True Or False?
A. True
B. False

c.None of these

8. Predict The Output Of The Following Javascript Code.

<Script Type="Text/Javascript">
A = 8 + "8";
Document.Write(A);
</Script>

a) 16
b) Complilation Error
c) 88
d) Run Time Error

9. Predict The Output Of The Following Javascript Code.
<Script Type="Text/Javascript">
Var A="Geeksforgeeks";
Var X=A.Lastindexof("G");
Document.Write(X);
</Script>
a) 8
b) 0
c) 9
d) Error

10. Which Of The Following Is Not A Reserved Word In Javascript?
a) Interface
b) Throws
c) Program
d) Short

11. Predict The Output Of The Following Javascript Code.
<Script Type="Text/Javascript" Language="Javascript">

Var A = "Geeksforgeeks";
Var Result = A.Substring(4, 5);
Document.Write(Result);

</Script>
a) Sf
b) Ks
c) S
d) K

12. Predict The Output Of The Following Javascript Code.
<Script Type="Text/Javascript" Language="Javascript">

Var X=5;
Var Y=6;
Var Res=Eval("X*Y");
Document.Write(Res);

</Script>

a) "30"
b) 30
c) 5*6
d) "5*6"

13. Which Of The Following Is Not A Reserved Word?
a) Throw
b) Void
c) Program
d) Return

 Answer: C

14. Which Of The Following Primitive Values Exist In Javascript?
a) Boolean
b) String
c) Number
d) All Of These

15. Properties Of Objects May Be Accessed Using…
a) The Dot Notation In Javascript.
b) None Of These
c) The Redirect Notation In Javascript.

d) Both a and b

16. Javascript code can be called by using

a) Triggering Event

b) Preprocessor

c) Function/Method

d) RMI

17.Which javascript is also called Client –side javascript.

a) Microsoft

b) Navigator

c) LiveWire

d) Native

18. Which Javascript is also called server side javascript?

a) Microsoft

b) Navigator

c) LiveWire

d) Native

19. What are the variables used in Javascript Programs?

a) Storing numbers, dates, or other values

b) Varying randomly

c) Causing high school algebra flashbacks

d) None of these

20. Which of the following attribute can hold the javascript version?
a) LANGUAGE

b) SCRIPT

c) VERSION

d) None of these

UNIT- V

1. Which language is Extensible Markup Language (XML) similar?

a) HTML

b) PHP

c) JavaScript

d) Word press

2. All attribute declarations begin with the keyword _____ followed by the element name, attribute name, attribute type, and default data information.

a) XML

b) SGML

c) ATTLIST

d) HTML

3. The _____ declaration specifies which characters and delimiters may appear in theapplication.

a) DTD

b) SGML

c) XML

d) HTML

4. The _____ defines the syntax of markup constructs and include additional definitionssuch as character entity references.

a) Attributes

b) SGML

c) Elements

d) DTD

5. The _____ begins with a series of parameter entity definitions.

a) DTD

b) SGML

c) XML

d) HTML

6. The _____ parameter identifies a character encoding, which is a method ofconverting a sequence of bytes into a sequence of characters.

a) Class
b) Element
c) Charset
d) Attribute

7.Which character in the XML Element will generate an error because the parser interprets it asthe start of a new element?

a.)" < "
b)"&"
c) Both A & B
d) None of the above

8. Is this a 'well formed' XML document?

< ?xml version="1.0"? >
<note>
<to age="29" >John< /to >
<from>Smiley< / from >
< / note >

a) True
b) False
c) both
d) None of these

9. Which is not a XML function?

a) Transport information
b) Style information
c) Store information
d) Structure information

10. Which are the techniques for defining the structure of a specific type of XML documents?

a) Schema
b) DTD
c) Both A & B
d) None of the above

11. Which is a software- and hardware-independent tool for carrying information?

a) HTML
b) XML
c) Both A & B
d) None of the above

12. In XML document comments are given as?

a) < !-- --!>
b) < !-- ?
c) < /-- -->
d) < ?-- ?

13. Which of the following strings is a correct XML name?
a)_myElement
b) my Element
c) #myElement
d) None of the above

14. Which of the following strings is a correct XML name?
a) xmlExtension
b) xslNewElement
c) MLElement#123
d) Al

15. DTD includes the specifications about the markup that can be used within the document, the specifications consists of all EXCEPT
a) The browser name
b) The size of element name
c) Entity declarations
d) Element declarations

16. The use of a DTD in XML development is:
a) Required when validating XML documents
b) no longer necessary after the XML editor has been customized
c) used to direct conversion using an XSLT processor
d) a good guide to populating a templates to be filled in when generating an XML document automatically

17. In XML
a) The internal DTD subset is read before the external DTD
b) The external DTD subset is read before the internal DTD
c) There is no external type of DTD
d) There is no internal type of DTD

18.Which of the following is used to specify the attribute list of an element

a) ATTLIST
b) ?ATTLIST
c)!ATTLIST

d). #ATTLIST

19. Comment in XML document is given by

a) <?-- -->
b) <!-- --!>
c) <!-- -->
d) </-- -- >

20.Valid XML document means (most appropriate)
a) the document has root element
b) the document contains atleast one or more root element
c)the XML document has DTD associated with it & it complies with that DTD
d) Each element must nest inside any enclosing element property

17UCT308 – WEB DESIGNING
K2 QUESTIONS
UNIT-I

1. What is HTML?

2. Write some Formatting tags.

3. Write ANY two List tags.

4. What are the table tags?

5. Write some Table Attributes.

6. What is meant by image map?

7. What is the attribute used for client side image map?

8. What is the attribute used for server side image map?

9. What is the tag used for including table in a document?

10. What is the tag used for including row in a table?

UNIT-II

1. Expand CSS.

2. What is the use of Inline CSS?

3. What is the use of External CSS?

4. How many number of elements HTML permits?

5. Write any two advantages of CSS.

6. Define frame.

7. What is the tag used for dividing rows and columns in a frame?

8. Define floating frame.

9. what is meant by hidden frame?

10. what is the atg used for creating forms in HTML?

UNIT-III

1. How many types CSS can be include in HTML?

2. What is CSS?

3. What is Inline CSS?

4. What is External Style Sheet?

5. What is Internal Style Sheet?

6. What is the tag used to read style information from a separate file in Linked style sheet?

7. What is the tag used to give style information in Embedded Style sheet?

8. Which attribute describes the relationship of the linked file to the current file?

9. What is Global style?

10.Which attribute denotes the URL of the stylesheet file in linked style sheet?

UNIT-IV

1. What are JavaScript Data Types?

2. What is 'this' keyword in JavaScript?

3. What is the difference between View State and Session State?

4. Explain how to read and write a file using JavaScript?

5. What is Scope in JavaScript?

6. Which property of window object specifies whether a window has been closed?

7. Which of the event triggers when the focus is removed from the window?

8. which property of location object contains the port number?

9. Which object is used to access the history list?

10. Name a document object method that opens a stream for a new document.

UNIT-V

1. What is XML?

2. What is DTD?

3. Write any two features of XML?

4. Write DTD syntax.

5. What are the DTD Components?

6. Which symbol is used to identify the start of XML markup?

7. Which symbol represents the start tag open delimiter?

8. Which symbol represents the end tag open delimiter?

9. which symbol represents the empty tag close delimiter?

10. write the symbols for part of an XML document.

17UCT308 – WEB DESIGNING

K3 QUESTIONS

UNIT-I

1. Which tag is used for specifying a table row within a table?
2. What are the types of list tags?
3. Write short notes on ordered list and give example.
4. Write short notes on unordered list and give example.
5. Write the attributes of table tag. Give example.
6. What is Col span and Row span? Give example.
7. Write a HTML program for creating Table.
8. What is difference between Row span and Col span?
9. What is a client side image map? Give example.
10. What are structure tags in HTML?

UNIT-II

1. Explain about frame tag with a sample program.
2. Write about forms and give example.
3. Write about frames Document and explain.
4. Explain about forms with sample program.
5. Write about passing form data.
6. Explain the method for placing data inside a frame.
7. Write short notes on floating frames.
8. Explain the concept of Hidden frame.
9. Write short notes on form field event handlers.
10. Write the methods for passing form data.

UNIT-III

1. Write a program to illustrate the concept of Inline Style sheet?
2. Write a program to illustrate the concept of External Style sheet?
3. Write a program to illustrate the concept of Internal Style sheet?
4. Write a brief note on CSS.
5. What are the benefits of CSS?
6. Differentiate HTML and CSS.
7. Write about Style Sheet Software Tools.

8. Mention some tips for style users.

9. Write about Linking to Style Information in a Separate File.

10. Write about Style Sheets in detail.

UNIT-IV

1. What is java script and explain the objects in java script?

2. Explain in detail about java script browser window?

3. Explain the java script window location with sample program.

4. Discuss link area and anchor tags in html java script.

5. What is the difference between undefined and not defined in JavaScript?

6. Explain how to insert image in html using java script with example program?

7. What is Javascript? .Explain it with sample program.

8. Write the features of java script.

9. Explain document object in java script.

10. What are the loops available in java script? Explain.

UNIT-V

1. What is XML? How to describe an XML document?

2. What are the naming rules and comments in XML?

3. Write about Attribute Mark up.

4. Write a simple XML document and explain.

5. What is DTD what is its importance with respect to an XML document?

6. Write about DTD validation?

7. Write about XML declaration.

8. Write about Element Mark up in XML document.

9. What are the Components of DTD? Explain.

10. Write the style sheets used with XML?

Unit-I

1. Explain Formatting tags with suitable example program

2. Explain the list tags and its types.

3. What is server side image map? Explain with example.

4. Explain about the Client-Side Image maps.

5. Explain about the table tags and its attributes?

Unit-II

1. Explain in detail the creation of frameset tag.

2. Write about forms and give example for creation of forms.

3. Explain about frames Document and give example.

4. Explain about form attributes in detail.

5. Write about passing form data.

Unit -III

1. Write About CSS And Its Types?

2. Write About Inline Style Sheet With Example.

3. Write About Internal Style Sheet With Example.

4. Write About External Style Sheet With Example.

5. Write About Style Sheet Software Tools.

Unit-IV

1. Write briefly about javascrpit? What are the looping structure available in

Java script?

2. What are the different types of errors in java scrpit explain?

3. What is the difference between get () method and post () method?

4. How to handle exception in java script? explain

5. Write about window and document objects in java script.

Unit -V

1. What are the features of XML? Explain.

2. How to create a XML? Write a simple program for XML Document?

3. What is DTD in XML explain?

4. Explain about Mark up declaration?

5. Explain in detail about Document Type Definition?