## VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

College with Potential for Excellence
Residential \& Autonomous - A Gurukula Institute of Life-Training Re-accredited (3rd ${ }^{\text {rd }}$ Cycle) with 'A' Grade (CGPA 3.59 out of 4.00 ) by NAAC [Affiliated to Madurai Kamaraj University]
B.Sc. Computer Science Degree (Semester) Examinations, April 2022 Part - III: Ability Enhancement Course: Second Semester: Paper - I

STATISTICS \& PROBABILITY
Under CBCS and LOCF - Credit 5
Max. Marks: 75

## SECTION - A

## Answer ALL Questions <br> $(10 \times 1=10)$

1. A study based on complete enumeration of data is known as
a) Sample survey
b) Pilot survey
c) Census survey
d) None of the above
2. Frequency of a variable is always $\qquad$ _
a) In percentage
b) A fraction
c) An integer
d) None of the above
3. Which of the following is true?
a) $\mathrm{GM} \leq \mathrm{AM} \leq \mathrm{HM}$
b) $\mathrm{AM} \geq \mathrm{GM} \geq \mathrm{HM}$
c) $\mathrm{GM} \geq \mathrm{AM} \geq \mathrm{HM}$
d) $\mathrm{HM} \leq \mathrm{AM} \leq \mathrm{GM}$
4. Which of the following is not a positional measure?
a) Median
b) Quartile
c) Percentile
d) None of these
5. Fit a straight line for the following data:
X 123468
Y 2.433 .6456
a) $y=0.605 x+1.796$
b) $y=0.506 x+1.976$
c) $y=0.506 x+1.796$
d) $y=0.506 x+1.976$
6. Pick out the elementary events from below
i) $\{\mathrm{a}, \mathrm{b}, \mathrm{c}\}$, ii)
$\{1,2\}$, iii
ii) $\{1\}$, iv) $\{3$
$\{3,4,5\}$, v) $\{a, b\}$, vi
$\{c\}$
a) i, iv, vi
b) ii, iii, iv
c) i, iv
d) iii, vi
7. Let $\mathrm{A}, \mathrm{B}$ and C be events in the same random experiment which of these expresses the event "A and B but not $C$ " occurs
a) AUBUC
b) $\mathrm{A} \cap \mathrm{B} \cap \mathrm{C}$
c) $\mathrm{A} \cap \mathrm{B} \cap \mathrm{Cc}$
d) $\mathrm{AUB} \cap \mathrm{Cc}$
8. One card is selected at random from 50 cards numbered 1 to 50 . What is the probability that the drawn card ends in digit 2 ?
a) $1 / 10$
b) $1 / 5$
c) $3 / 10$
d) None of these
9. Two events are not independent if
a) Events are not mutually exclusive
b) Events are mutually exclusive c) Outcome of one trial does not depend on the outcome of the other trial d) None of these
10. If $x$ is a discrete random variable with pdf $f(x)$, the function $F$ whose domain is the set of all real numbers defined by $F(x)=\Sigma f(u), u \leq x$ is called the $\qquad$ of the random variable.
a) probability mass function
b) cumulative probability distribution function
c) distribution function
d) Both (b) and (c)

## SECTION - B

## Answer any FIVE Ouestions

$(5 \times 2=10)$
11. Define Arithmetic mean.
12. Write any two merits and demerits of Geometric mean.
13. Write down the characteristics for an ideal measure of dispersion.
14. Define coefficient of variation.
15. Two unbiased dice are thrown, find out the probability that:
i) both the dice show the same number
ii) The first die shows 6
16. Define Discrete Random variable with formula.
17. Define F-Distribution with formula.

## SECTION - C

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Find the Arithmetic mean of the marks from the following table

| $\mathbf{x}$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{y}$ | 5 | 9 | 12 | 17 | 14 | 10 | 6 |
| [OR] |  |  |  |  |  |  |  |

b) Write down the merits and demerits of median
19. a) Calculate the mean and standard deviation for the following table giving the age distribution of 542 members

| Age (in <br> years): | $20-30$ | $30-40$ | $40-50$ | $50-60$ | $60-70$ | $70-80$ | $80-90$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of <br> members: | 3 | 61 | 132 | 153 | 140 | 51 | 2 |
| $[$ [OR] |  |  |  |  |  |  |  |

b) What are the typical measures used in dispersion
20. a) State and prove Bay's theorem

## [OR]

b) Briefly explain basic terminologies of probability
21. a) Write short notes on Continuous Distribution function and its properties

## [OR]

b) A Random variable X has the following Probability function.

| Values <br> of $\mathrm{X}, \mathrm{x}:$ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{P}(\mathrm{X}):$ | 0 | k | 2 k | 2 k | 3 k | $\mathrm{k}^{2}$ | $2 \mathrm{k}^{2}$ | $7 \mathrm{k}^{2}+\mathrm{k}$ |

i) Find $k$
ii) Evaluate $\mathrm{P}(\mathrm{X}<6), \mathrm{P}(\mathrm{X} \geq 6)$ and $\mathrm{P}(0<\mathrm{X}<5)$
22. a) A survey of 800 families with four children each revealed the following distribution

| No. of Boys: | 0 | 1 | 2 | 3 | 4 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| No. of Girls: | 4 | 3 | 2 | 1 | 0 |
| No. of Families: | 32 | 178 | 290 | 236 | 64 |

Is this result consistent $\&$ female births are equally probable.
[OR]
b) Briefly explain Applications of Chi-Square Distribution?

## SECTION - D

## Answer any THREE Questions

23. Find the median wages of the following distribution.

| Wages ₹ | $2000-3000$ | $3000-4000$ | $4000-5000$ | $5000-6000$ | $6000-7000$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| No. of <br> Workers: | 3 | 5 | 20 | 10 | 5 |

24. An Analysis of monthly wages paid to the workers of two firms A and $B$ belonging to the same industry gives the following results

|  | Firm A | Firm B |
| :--- | ---: | ---: |
| No. of Workers | 500 | 600 |
| Average daily wages | ₹ 186.00 | ₹ 175.00 |
| Variable distribution of wages | 81 | 100 |

i) Which firm $\mathrm{A} / \mathrm{B}$ has a larger wage bill?
ii) Which firm $\mathrm{A} / \mathrm{B}$ is their greater variability in individual wages?
iii) Calculate the average daily wages \& the variance of the distribution of wages of all the workers in the firms A and B taken together.
25. Explain preliminary notations of Sets.
26. The diameter of an electric cable say X , is assumed to be a continuous random variable with p.d.f : $\mathrm{F}(\mathrm{X})=6 \mathrm{x}(1-\mathrm{x}), 0<=\mathrm{x}<=1$
i) Check that $f(X)$ is p.d.f
ii) Determine a number b such that $\mathrm{P}(\mathrm{x}<\mathrm{b})=\mathrm{P}(\mathrm{x}>\mathrm{b})$
27. List out some applications of t-Distribution, explain.

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B.Sc. Computer Science Degree (Semester) Examinations, April 2022 Part - III: Allied Course: Fourth Semester: Paper - I NUMERICAL METHODS FOR COMPUTER SCIENCE Under CBCS and LOCF - Credit 5
Time: 3 Hours

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. In the Gauss elimination method for solving a system of linear algebraic equations, triangularization leads to
a) Diagonal matrix
b) Lower triangular matrix
c) Upper triangular matrix
d) Singular matrix
2. Newton-Raphson method is applicable to the solution of
a) Both algebraic and transcendental Equations
b) Both algebraic and transcendental and also used when the roots are complex
c) Algebraic equations only
d) Transcendental equation only
3. Guess Elimination method is a $\qquad$ based on the elimination of the unknowns by combining equation
a) Iteration method
b) interpolating function
c) Bisection method
d) convergence method
4. Solve the equation: $e^{x}-4 x=0$ using Newton-Raphson iteration.
a) $\mathrm{x}=0.61906$ and $\mathrm{x}=1.51213$
b) $x=0.35$ and $x=2.1$
c) $x=0.35740$ and $x=2.15329$
d) Newton- Raphson iteration cannot be used since the answer oscillates between 2 and -2
5. $\qquad$ rule is applicable only when n is a multiple of 3 .
a) Weddle's
b) Trapezoidal
c) Simpson's $1 / 3$
d) Simpson's $3 / 8$
6. Interpolating polynomial is also known as $\qquad$
a) smoothing function
b) interpolating function
c) collocation polynomial
d) interpolation formula
7. In Simpson's $(1 / 3)^{\text {rd }}$ Rule the number of intervals $\qquad$ .
a) odd
b) even
c) multiple of 3
d) multiple of 6
8. In Simpson's rule will give exact result, if the entire curve $\mathrm{y}=\mathrm{f}(\mathrm{x})$ is itself a $\qquad$ -
a) Straight line.
b) Chord
c) Parabola
d) Tangent line.
9. The main disadvantage of Lagrangian interpolation is that it is difficult to find the order of the $\qquad$ to be fitted
a) Polynomial
b) Equation
c) Algorithm
d) None of the above
10. In case of bisection method, the convergence is
a) Linear
b) Quadratic
c) Very slow
d) None of the above

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Define Regula Falsi Method.
12. What are the different types of methods used in linear algebraic equation?
13. Write down the Gregory Newton forward interpolation formula.
14. Define equidistant terms with one or more missing values.
15. State the Lagrange's interpolation formula for unequal intervals.
16. Write down the Newton's backward difference formula to compute the derivative.
17. State the Runge Kutta method algorithms.

## SECTION - C

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Find the positive root of $X^{3}-X=1$ connect to four decimal places by Bisection method

## [OR]

b) Solve by Gauss's elimination method

$$
3 x+4 y+5 z=18 \quad 2 x-y+8 z=0 \quad 5 x-2 y+7 z=20
$$

19. a) Using Gauss's backward interpolation formula find the population for the year 1936 given that year

| Year X: | 1901 | 1911 | 1921 | 1931 | 1941 | 1951 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Population in <br> Thousand Y: | 12 | 15 | 20 | 27 | 39 | 52 |

[OR]
b) Apply Gauss's forward central difference formula and estimate f (32) from the following table

| $\mathrm{X}:$ | 25 | 30 | 35 | 40 |
| :--- | :---: | :---: | :---: | :---: |
| $\mathrm{Y}=\mathrm{f}(\mathrm{X}):$ | 0.2707 | 0.3027 | 0.3386 | 0.3794 |

20. a) From the following table find $f(X)$ and hence $f(6)$ using Newton's interpolation formula

| $\mathrm{X}:$ | 1 | 2 | 7 | 8 |
| :--- | :--- | :--- | :--- | :--- |
| $\mathrm{Y}:$ | 1 | 5 | 5 | 4 |
| [OR] |  |  |  |  |

b) Using Lagrange's formula of interpolation finds y (9.5) given

| $\mathrm{X}:$ | 7 | 8 | 9 | 10 |
| :--- | :---: | :---: | :---: | :---: |
| $\mathrm{Y}:$ | 3 | 1 | 1 | 9 |

21. a) Using Newton's divided difference formula find the values of $f(2)$, $f(8)$ and $f(15)$ given the following table

| $\mathrm{X}:$ | 4 | 5 | 7 | 10 | 11 | 13 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{Y}:$ | 48 | 100 | 294 | 900 | 1210 | 2028 |

b) Write down the Simpson's One Third rule.
22. a) Using Euler's method solve numerically the equation, $\mathrm{Y}^{\prime}=\mathrm{X}+\mathrm{Y}$, $\mathrm{Y}(0)=1$, for $\mathrm{X}=0.0(0.2)(1.0)$ [OR]
b) Apply the fourth order Runge Kutta method to find $\mathrm{Y}(0.2)$ given that $\mathrm{Y}^{\prime}=\mathrm{X}+\mathrm{Y}, \mathrm{Y}(0)=1$

## SECTION - D

## Answer any THREE Questions <br> $(3 \times 10=30)$

23. Solve for a positive root of $X^{3}-4 x+1=0$ by Regula Falsi method.
24. Find the values of $y$ at $x=21 \& x=20$

| $\mathrm{X}:$ | 20 | 23 | 26 | 29 |
| :---: | :---: | :---: | :---: | :---: |
| $\mathrm{Y}:$ | 0.3420 | 0.3907 | 0.4384 | 0.4848 |

25 . Find the following table, estimate $\mathrm{e}^{0.644}$ correct to five decimal using
i) Stirling's, ii) Bessel's and Everett's method and also find $\mathrm{e}^{\mathrm{x}}$ at $\mathrm{x}=0.638$

| $\mathrm{X}:$ | 0.61 | 0.62 | 0.63 | 0.64 | 0.65 | 0.66 | 0.67 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{e}^{\mathrm{X}}:$ | 1.840431 | 1.858928 | 1.877610 | 1.896481 | 1.915541 | 1.934792 | 1.954237 |

26. Evaluate $0 \int^{6} \mathrm{dx} / 1+\mathrm{X}^{2}$ by:
i) Trapezoidal rule, ii) Simpson's rule,
iii) Weddle's rule. And also check up the result by actual integration.
27. Solve $y^{\prime}=y-x^{2}, y(0)=1$, by Picard's method up to the third
approximation, Hence find the value of $y(0.1), y(0.2)$
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B.Sc. Computer Science Degree (Semester) Examinations, April 2022 Part - III: Core Course: Second Semester: Paper - I
OBJECT ORIENTED PROGRAMMING WITH C++
Under CBCS and LOCF - Credit 4
Time: 3 Hours
Max. Marks:

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. Public, private, protected are $\qquad$
a) identifiers
b) data members
c) access specifies
d) type of class
2. main () is a $\qquad$ function
a) built in
b) user defined
c) constant
d) derived
3. Which of the following will not return a value?
a) null
b) void
c) empty
d) free
4. $\qquad$ is used to write a single character to output file.
a) $\operatorname{cin}()$
b) $\operatorname{put}()$
c) $\operatorname{get}()$
d) $\operatorname{getw}()$
5. Which of the following correctly declares an array?
a) int array [10];
b) int array;
c) array $\{10\}$;
d) array array [10];
6. If and the switch statements are called as $\qquad$ statements
a) iteration
b) jump
c) selection
d) conditional
7. Which of the following is not a keyword?
a) inherit
b) auto
c) extern
d) void
8. Data members is also called $\qquad$ .
a) Attribute
b) Method
c) Class
d) Object
9. Which of the following header file includes definition of cin and cout?
a) istream.h
b) ostream.h
c) iomanip.h
d) iostream.h
10. $\qquad$ provides multiway branching
a) for
b) if
c) if_else
d) switch

## SECTION - B

## Answer any FIVE Questions

$$
(5 \times 2=10)
$$

11. What is an object?
12. List down the applications of OOP.
13. Define function.
14. What is the difference between friend function and member function?
15. What are the properties of a static member function?
16. What are the types of inheritance?
17. What are the properties of pure virtual function?

## SECTION - C

## Answer ALL Questions

18. a) Compare while and do..while statements
[OR]
b) Describe briefly the data types of $\mathrm{C}++$ Language
19. a) Describe briefly the structure of class with example
[OR]
b) Illustrate the friend function.
20. a) Summarize the rules of operator overloading
[OR]
b) What is a Destructors? Explain
21. a) Write a note on Virtual base classes?
[OR]
b) Explain Abstract classes with an example
22. a) What are the various of File Operation? Explain.
[OR]
b) Write notes on this pointer.

## SECTION - D

## Answer any THREE Questions

$(3 \times 10=30)$
23. Write detailed note on object-oriented technology concepts in $\mathrm{C}++$
24. Explain Function overloading with example
25. What is constructor? Explain in detail
26. Explain multilevel inheritance with program example
27. Describe in detail about nesting of classes.

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B.Sc. Computer Science Degree (Semester) Examinations, April 2022 Part - III: Core Course: Second Semester: Paper - II

DATA STRUCTURE
Under CBCS and LOCF - Credit 4
Time: 3 Hours

## $\underline{\text { SECTION - A }}$

## Answer ALL Questions

$(10 \times 1=10)$

1. The logical or mathematical model of a particular organization of data is called a $\qquad$ —.
a) data structure
b) algorithms
c) structure
d) logic structure
2. In order traversal of binary search tree will produce
a) unsorted list
b) sorted list
c) reverse of input
d) none of these
3. The $\qquad$ for a linked list is pointer variable that locates the beginning of the list.
a) Anchor
b) Base
c) Footer
d) Header
4. The data structure required to check whether an expression contains balanced parenthesis is?
a) queue
b) stack
c) linked list
d) file
5. A tree is a data structure which represents hierarchical relationship between individual $\qquad$
a) data items
b) fields
c) nodes
d) linked list
6. If the elements $\mathrm{A}, \mathrm{B}, \mathrm{C}$ and D are placed in a stack and are deleted one at a time, what is the order of removal?
a) ABCD
b) DCBA
c) DCAB
d) ABDC
7. A binary tree of depth " $d$ " is an almost complete binary tree if $\qquad$
a) each leaf in the tree is either at level.
b) for any node
c) both $a$ and $b$.
d) None.
8. For the heap sort, access to nodes involves simple $\qquad$ operations.
a) binary
b) arithmetic
c) algebraic
d) logarithmic
9. $\qquad$
a) Arranging involves maintaining two tables in memory.
10. $\qquad$
b) Bonding c) Combing
d) Chaining data structure is used to implement Depth First search
a) Array
b) Linked list
c) Queue
d) Stack

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Define Data structure.
12. What do you mean by abstract data type?
13. Show the representation of stack in memory
14. Relate overflow and underflow
15. What do you mean by binary search tree?
16. Define directed graph.
17. Show the use of radix sort

## $\underline{\text { SECTION - C }}$

## Answer ALL Ouestions

$(5 \times 5=25)$
18. a) Classify the kinds of data structures
[OR]
b) Illustrate the algorithm for linear search
19. a) Demonstrate the algorithm for array representation of a queue
[OR]
b) Illustrate the algorithm for transforming infix to postfix expressions
20. a) Explain the algorithm for traversing a linked list

## [OR]

b) Illustrate the algorithm for deleting a given node
21. a) Show the linked representation of binary tree

## [OR]

b) Explain traversal algorithms using stack
22. a) Summarize any two graph terminologies.
[OR]
b) Illustrate the algorithm for merge sort with an example

## SECTION - D

## Answer any THREE Questions

$(\mathbf{3} \times \mathbf{1 0}=\mathbf{3 0})$
23. Consider the following sorted 10 element array. Data: $11,22,30,33,40$, $44,45,60,66,77$ Apply binary search to find the position of each element.
24. Solve the following infix expression to postfix expression

$$
\mathrm{A}+\left(\mathrm{B}^{*} \mathrm{C}-(\mathrm{D} / \mathrm{E} \uparrow \mathrm{~F}) * \mathrm{G}\right) * \mathrm{H}
$$

25. Organize the way of inserting a node in linked lists at different positions.
26. Develop a binary search tree and make use of its operations
27. Construct the shortest path using Warshall's algorithm for the Weighted graph given below.


B.Sc. Computer Science Degree (Semester) Examinations, April 2022

Part - III: Core Course: Fourth Semester: Paper - I
RELATIONAL DATABASE MANAGEMENT SYSTEM
Under CBCS and LOCF - Credit 4
Time: 3 Hours

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. In a granularity hierarchy the highest level represents the
a) Entire database
b) Area
c) File
d) Record
2. E-R modeling technique is
a) Tree structure
b) Top-down method
c) Bottom-up method
d) Right-left approach
3. Referential integrity is directly related to
a) Relation key
b) Foreign key
c) Primary key
d) Candidate key
4. Which of the following is not an integrity constraint?
a) Not null
b) Unique
c) Identical
d) Check
5. In relation algebra a new term was defined by Codd as $\qquad$ :
a) Relation
b) Relation completeness
c) Relation operation
d) Relation selection
6. The strictest transaction isolation level provided by SQL Server is called:
a) REPEATABLE READ
b) SERIALIZABLE
c) READ COMMITTED
d) READ UNCOMMITTED
7. A table space is further broken down into $\qquad$

## SECTION - C

a) Tablespace
b) Segments
c) Extents
d) Blocks
8. Which is that part of SQL that allows a database user to create and restructure data base objects:
a) DBMS
b) SQL
c) DDL
d) SDL
9. $\qquad$ operator merges the result sets of two component queries:
a) UNION
b) UNION ALL
c) INTERSECT
d) MINUS
10. Aggregate functions are functions that take a $\qquad$ as input and return a single value.
a) Collection of values
b) Single value
c) Aggregate value
d) Both Collection of values \& Single value

## SECTION - B

## Answer any FIVE Questions

$$
(5 \times 2=10)
$$

11. What is physical, logical and view level data abstraction. Define Super key.
12. Define Super key.
13. What is Data-manipulation language (DML).
14. What are the two main goals of parallelism in a disk system?
15. Define access time
16. Define the term Hashing.
17. What do you mean by rolled back?

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Write notes on data models.
[OR]
b) Write notes on data abstraction.
19. a) Describe briefly the aggregate functions with example.
[OR]
b) What is a view? How will you create, update and delete views?
20. a) Describe some of the physical storage media available.
[OR]
b) Define the techniques for improving the speed of access to blocks.
21. a) Define the factors for evaluating the indexing and hashing techniques.

## [OR]

b) Explain properties of a transaction with state transition diagram.
22. a) Write notes on transaction server in server system architecture
[OR]
b) Discuss about the types of networks in DBMS.

## SECTION - D

## Answer any THREE Questions

$(3 \times 10=30)$
23. Explain the various types of keys.
24. Write detailed notes on database languages.
25. Explain first normal form, second normal form, third normal form and BCNF with an example.
26. Explain how selection is done using file scan and indices.
27. Explain two Phase Locking Protocol and Timestamp-based Protocols.
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B.Sc. Computer Science Degree (Semester) Examinations, April 2022 Part - III: Core Course: Fourth Semester: Paper - II

Time: 3 Hours

## $\underline{\text { SECTION - A }}$

## Answer ALL Questions

$(10 \times 1=10)$

1. Who is the developer of Visual Basic .NET?
a) Microsoft.
b) IBM.
c) Sun Systems.
d) Open source
2. Which is not an integer data type?
a) Single.
b) Byte.
c) Short.
d) Integer
3. Which is a type of procedure found in VB.Net?
a) Event
b) Function
c) Sub
d) All of the above
4. Which of the following Loop structure is not supported by VB.Net?
a) Do $\qquad$ .Loop
b) For $\qquad$ .Next
c) Do $\qquad$ d) For Each $\qquad$ While
5. $\qquad$ tool is used to modify the characteristics of a control used in Visual Basic .NET project.
a) Control Editor.
b) Properties Editor
c) Characteristics detail.
d) Status Bar
6. Which control is an example of an object in VB.NET?
a) Button.
b) Label.
c) Textbox.
d) All of the above
7. The first event triggered in an .aspx page is $\qquad$

## SECTION - C

a) Page_Init()
b) Page_Load()
c) Page_Render ()
d) Page_Click()
8. When an ASP.NET file is placed on an IIS server and viewed through a browser, the resulting HTML page contains?
a) all ASP.NET code
b) as much ASP.NET code as is in the ASP.NET file
c) ASP.NET and HTML code
d) all HTML code
9. Which one of the following is not an event of the Data list control?
a) Update Command.
b) Delete Command
c) Modify Command.
d) Cancel Command
10. How many files do a Config folder contains?
a) 3
b) 2
c) 5
d) 6

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Write the modifiers used in VB.Net.
12. Define variable with example.
13. What is param array?
14. What is a sub procedure?
15. Distinguish between Class and Objects.
16. Mention the uses of timer control.
17. Comment on "docking controls".

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Discuss the various data types inVB.Net.
[OR]
b) Analyze Enumerations with example.
19. a) Explain Decision making statements with example.

## [OR]

b) How to define a function? Illustrate Recursive functions with suitable example.
20. a) List the features of interfaces with example.

## [OR]

b) Explain events with example.
21. a) Describe tree view.

## [OR]

b) Elaborate on MDI forms.
22. a) Explain Modal forms

## [OR]

b) Give the steps for connecting an application to SQL server database.

## SECTION - D

## Answer any THREE Questions

23. Classify the types of operators in VB.Net.
24. Discuss the loop control statements with example.
25. Illustrate Exception handling with example.
26. Discuss the following:
i) Combo box
ii) Radio button
iii) Picture box
27. Summarize ADO.net Object model.

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B.Sc. Computer Science Degree (Semester) Examinations, April 2022 Part - III: Core Course: Sixth Semester: Paper - I

## WEB PROGRAMMING

Under CBCS and LOCF - Credit 5
Time: 3 Hours

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. The $\qquad$ element is located within the ... tags.
a) hr .
b) h6.
c) title.
d) end.
2. Which type of CSS uses style attribute?
a) Interna.
b) Inline
c) External
d) Mixed
3. CSS stands for $\qquad$
a) Cascading style sheet
b) colourful style sheet
c) computer style sheet
d) creative style sheet
4. Which of the following is correct about JavaScript?
a) JavaScript is a lightweight, interpreted programming language.
b) JavaScript has object-oriented capabilities that allows you to build interactivity into otherwise static HTML pages.
c) The general-purpose core of the language has been embedded in

Netscape, Internet Explorer, and other web browsers.
d) All of the above.
5. How do you declare a JavaScript variable?
a) var car Name;
b) variable car Name;
c) v car Name;
d) var acar name;
6. The escape sequence ' $\backslash f$ ' stands for
a) Floating numbers
b) Representation of functions that returns a value
c) $\backslash f$ is not present in JavaScript
d) Form feed
7. PHP files have a default file extension of.
a) html
b) $\cdot x m l$
c) php
d). ph
8. Which of the following method sends input to a script via a URL?
a) Get
b) Post
c) Both
d) None
9. How many methods are available for the exception class?
a) 5
b) 6
c) 7
d) 8
10. Inheritance is the means by which one or more classes can be derived from a/an $\qquad$ class.
a) base
b) abstract
c) null
d) predefined

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Define cascading style sheets.
12. Recall any two advantages of JavaScript.
13. What do you mean by cookie?
14. Show the use of dialog box
15. List any two features of PHP
16. How will you declare a variable in PHP?
17. List the important attributes of <form> tag

## SECTION - C

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Demonstrate the use of list tag in HTML
[OR]
b) Explain box model in CSS
19. a) Illustrate any three kinds of operator in JavaScript
[OR]
b) Summarize any two ways of creating variable in JavaScript
20. a) Interpret the methods of browser object Model (BOM).
[OR]
b) Outline any two events handling in JavaScript DOM
21. a) Classify two kinds of data types in PHP.

## [OR]

b) Demonstrate any two types of arrays in PHP
22. a) Explain functions in PHP

## [OR]

b) Show the use of preg_match() and preg_match_all()

## SECTION - D

## Answer any THREE Questions

23. Construct login form, by applying HTML and CSS
24. Identify the use of any two looping statements in JavaScript.
25. Develop user defined object with an example
26. Utilize the conditional statements in any of the two PHP programs.
27. Develop registration form with PHP and MySQL.

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B.Sc. Computer Science Degree (Semester) Examinations, April 2022

Part - III: Elective Course: Sixth Semester: Paper - I

## DATA MINING AND DATA WAREHOUSING

Under CBCS and LOCF - Credit 5
Time: 3 Hours
Max. Marks: 75

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. Tasks in Data mining which characterizes the general properties of data in a database are called $\qquad$ tasks.
a) Predictive
b) Conceptualization
c) Descriptive
d) Discrimination
2. A star schema has $\qquad$ relationship with a dimension and fact table
a) One to one
b) many to many
c) one to many
d) all the above
3. $\qquad$ is defined based on dimensions and facts
a) Data cube
b) OLTP
c) OLAP
d) Database
4. $\qquad$ operation is used to navigate from the less detailed data to more detailed data
a) Roll-up
b) Drill - down
c) Slice and Dice
d) Pivot
5. Hybrid learning is $\qquad$ -
a) machine learning with different techniques
b) learning algorithmic analysis
c) Learning by generalizing from examples
d) none of these
6. $\qquad$ is not an effective graphical method for plotting and comparing groups of univariate observations
a) quartile plots
b) Q-Q plot
c) box plot
d) histogram
7. Which of these is an alternative search strategy in mining multiple - level associations?
a) Ice berg queries
b) FP tree
c) Level-Cross filtering by Itemset
d) none of these
8. $\qquad$ refers to the level of understanding and insight that is provided by the model
a) Robustness
b) Scalability
c) Interpretability
d) Predictive accuracy
9. $\qquad$ is a neural network learning algorithm
a) Back propagation
b) Belief network
c) fuzzy logic
d) none of these
10. $\qquad$ algorithm avoids index structure construction and minimizes the number of $\mathrm{I} / \mathrm{Os}$, it splits the memory buffer into two halves.
a) Nested Loop
b) Cell-based
c) index-based
d) Sequential exception

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. What is data transformation?
12. Mention the operations in OLAP.
13. What is data cube?
14. What is concept description?
15. What is Regression analysis?
16. Define classifier accuracy.
17. State the statistical techniques available in the time-series analysis?

## SECTION - C

## Answer ALL Questions

18. a) Demonstrate the process of Knowledge discovery.

## [OR]

b) Elucidate Classification in data mining system.
19. a) Discuss the OLAP operations for multidimensional data.

## [OR]

b) Exemplify the architecture for Online Analytical Mining.
20. a) Explicate data generalization with example.

## [OR]

b) Elaborate on Association rule mining.
21. a) Illustrate the working of Naïve Bayes classification
[OR]
b) Explicate multilayer feed forward network.
22. a) Summarize visual and audio data mining.

## [OR]

b) Discuss the trends in data mining.

## SECTION - D

## Answer any THREE Questions

23. Classify the data mining functionalities that specify the mining patterns.
24. Demonstrate a three-tier data warehouse architecture.
25. Illustrate mining multi-level association rules with an example.
26. Categorize the types of data in cluster analysis.
27. Discuss the various applications of data mining.

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B．A．／B．Sc．Degree（Semester）Examinations，April 2022
Part－IV：Generic Elective Courses：Second Semester：Paper－I
WEB PROGRAMMING
Under CBCS and LOCF－Credit 2
Time： 2 Hours
Max．Marks： 75

## SECTION－A

## Answer ALL Questions

$(10 \times 1=10)$
1．What should be the first tag in any HTML document？
a）＜head＞
b）＜title＞
c）＜html＞
d）＜document＞

2．What is the correct HTML for adding a background color？
a）＜body color＝＂yellow＂＞
b）＜body bgcolor＝＂yellow＂＞
c）background＞yellow＜／background＞
d）＜body background＝＂yellow＂＞

3．What tag uses to display a picture in a webpage？
a）picture
b）image
c） img
d） SrC

4．How can we make a bulleted list？
a）＜list＞．
b）$\langle\mathrm{nl}\rangle$ ．
c）〈ul〉．
d）〈ol＞．

5．DOM is an acronym for $\qquad$
a）document object model．
b）document object metrics．
c）digital object model．
d）digital object metrics．

6．There are $\qquad$ different of heading tags in HTML
a） 4
b） 5
c） 6
d） 7

7．Which tag inserts a line horizontally on your web page？
a）＜hr＞
b）＜line＞．
c）＜line direction＝＂horizontal＂＞．
d）＜tr＞．
8. Which of the following is not a browser?
a) Microsoft Bing.
b) Netscape Navigator.
c) Mozilla Firefox.
d) Opera.
9. The enclose HTML tags within?
a) $\}$
b) < >
c) <? ?>
d) !!
10. HTML web pages can be read and rendered by $\qquad$
a) Compiler
b) Server
c) Web Browser
d) Interpreter

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Define HTML.
12. Expand HTTP and TCP.
13. List out the any two web browsers?
14. Define Marquee tag with an example?
15. The following purpose of tag:
i) < $\mathrm{Br}>$
ii) <hr>
16. Define Table Header tag.
17. Explain anchor tag with example.

## SECTION - C

## Answer ALL Questions

$(3 \times 9=27)$
19. a) Briefly discuss about ordered list with example program.

## [OR]

b) Briefly explain about unordered list with example program.
20. a) Explain about Head and Body and font tags with suitable example program

## [OR]

b) Write any simple program to create table

## $\underline{\text { SECTION - D }}$

## Answer any TWO Questions

21. Discuss in detail image tag and attributes?
22. Explain about the <FORM> tag with an example program.
23. How to create table using its various attributes? Explain with an example program.
24. Write a HTML program to display your Bio-Data using form tag.
25. a) Briefly discuss about the structure of HTML.
[OR]
b) Explain the HTML page formatting basics.

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B.Sc. Computer Science Degree (Semester) Examinations, April 2022

Part - IV: Skill Based Courses: Sixth Semester: Paper - II

## CYBER SECURITY

Under CBCS and LOCF - Credit 2
Time: 2 Hours

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. Which of the following is a type of antivirus program?
a) Quick heal
b) McaFee
c) Kaspersky
d) All of the above
2. In ethical hacking and cyber security, there are $\qquad$ types of scanning
a) 1
b) 2
c) 3
d) 4
3. Which software is mainly used to help users detect viruses and avoid them?
a) Antivirus
b) Malware
c) Adware
d) None
4. Which of the following is a tool for performing foot printing undetected?
a) Who is search
b) Traceroute
c) Ping sweep
d) Host scanning
5. What is the next step to be performed after foot printing?
a) Scanning
b) Enumeration
c) System hacking
d) None
6. Which of the following tool is used in Wi-fi hacking?
a) Aircrack-ng
b) Wireshark
c) Norton
d) None of the above
7. Identify the first computer virus among the following.

## SECTION - C

a) Blaster
b) Creeper
c) Sasser
d) Both b and c
8. Identify the malware which does not replicate or clone through an infection?
a) Trojans
b) Worms
c) Rootkits
d) Virus
9. What is data encryption standard (DES)
a) block cipher
b) stream cipher
c) bit cipher
d) byte cipher
10. In cryptography, the order of the letters in a message is rearranged by
a) transpositional ciphers
b) substitution ciphers
c) both transpositional ciphers and substitution ciphers
d) quadratic ciphers

## $\underline{\text { SECTION - B }}$

## Answer any FIVE Questions

$(5 \times 2=10)$
11. What is Security?
12. Define Cyber Security?
13. What is Foot printing?
14. List out the types of DNS records
15. Write any four types of Viruses.
16. What is meant by Worms?
17. Define Cryptography.

## Answer ALL Questions

$(3 \times 9=27)$
18. a) Write about Ethical Hacking and Cyber Security.
[OR]
b) Explain the E-Mail Tracking Works.
19. a) Briefly discuss about System Hacking.

## [OR]

b) Briefly discuss the Virus Detection Methods.
20. a) Describe about the Cryptography and Encryption Techniques
[OR]
b) Explain about the different between virus and worm.

## SECTION - D

## Answer any TWO Questions

21. Explain about the Different Types of Hacking Technologies.
22. Explain about Passive \& Active online attacks, offline attacks
23. Write about the types of Trojans.
24. Explain the MD5 Algorithm.

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B.A., B.Sc., B.Com. \& B.Com.(CA) Degree (Semester) Examinations, April 2022 INTERNET AND WEB DESIGNING
Time: $\mathbf{2}$ Hours

## SECTION - A

## Answer ALL Questions

$$
(10 \times 1=10)
$$

1. Expand HTML?
2. Which HTML tag is used to display a picture on a webpage?
3. Which tag used to display text in italics?
4. What is the use of <br> tags in HTML?
5. List out types of lists in HTML
6. Which tag makes the enclosed text bold?
7. List out any two-browser name.
8. Expand CSS.
9. How to create a Hyperlink in HTML?
10. How to insert a picture into a background color of a web page?

## $\underline{\text { SECTION - B }}$

## Answer ALL Questions

11.a) How do you create order lists? Explain with example
[OR]
b) How do you create unorder lists? Explain with example
12.a) Discuss about structure of HTML
[OR]
b) write a procedure to run a HTML program
13.a) How to run a JavaScript program

## [OR]

b) Write a short note about internet
14.a) Explain about <font> tag and their attributes with example
[OR]
b) Discus about class and id selectors in CSS

## SECTION - C

## Answer any TWO Questions

$(2 \times 10=20)$
15. Explain about table handling tags in HTML
16. Create college registration form using HTML form tags (textbox, radio, checkbox etc.,)
17. Discuss about external style sheets with example.


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B.A., B.Sc., B.Com. \& B.Com.(CA) Degree (Semester) Examinations, April 2022

## MS -OFFICE

Time: $\mathbf{2}$ Hours
CERTIFICATE COURSES
Max. Marks: 50
SECTION - A

## Answer ALL Questions

1. Define MS- Word.
2. What is the extension of a excel file?
3. Write the shortcut key for Save, New, print Option
4. What is the latest version of MS-OFFICE?
5. Write any 5 submenus in format menu.
6. Find the odd one from the following. Bold, italic, underline, print
7. Write the types of alignment
8. Write the short cut key for Open.
9. Write the uses of PowerPoint.
10. Difference between save and save as.

## SECTION - B

## Answer ALL Questions

11.a) Write any 10 basic options of MS-WORD document?
[OR]
b) Write the advantages and disadvantages of MS- OFFICE.
12.a) State any 10 -word formatting tools.
[OR]
b) Briefly discuss about the TABLE option.
13.a) Explain about the spreadsheet and its example
[OR]
b) Explain about pie \& bar charts in MS-Excel with example.
14.a) How will you create the presentation. Explain the steps
[OR]
b) How will you add an image to your presentation?

## SECTION - C

## Answer any TWO Questions

$(2 \times 10=20)$
15. Explain about the Alignment \& Paragraph in MS-Word.
16. Explain about i) Find \& Replace
ii) Page layout in MS-EXCEL
17. Explain the Presentation and Master view in MS-POWERPOINT.


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B．A．，B．Sc．，B．Com．\＆B．Com．（CA）Degree（Semester）Examinations，April 2022 PC HARDWARE \＆TROUBLESHOOTING
Time： $\mathbf{2}$ Hours
SECTION－A

## Answer ALL Questions

1．What are two ways that USB version 2.0 ports can be added to a computer？
2．What is the name of the port，when a serial port is hooked up with devices such as external modems and label printers？
3．List any 3 any three ports that can be used for a printer port，scanner，or removable media？
4．Which device is known as IEEE 1394？
5．What is the standard size of the audio mini－jack used by sound cards？
6．List three standards used for USB ports．
7．List any three types of video connectors．
8．Give the uses of NIC．
9．Define BIOS？
10．List any three Input devices？

## SECTION－B

## Answer ALL Questions

$(4 \times 5=20)$
11．a）Explain about the basic parts of computer with neat diagram．
［OR］
b）Discuss about the functions of a Motherboard．
12．a）Brief a note on any 5 visual imaging devices？
［OR］
b）Explain about function of NIC and its types？
13．a）Write a note on any 5 input devices？
［OR］
b）Discuss about the types of USB ports？
14．a）Write a note on MIDI ports？
［OR］
b）Discuss on three types of Motherboard layouts？

## SECTION－C

## Answer any TWO Questions

$(2 \times 10=20)$
15．Explain the components of Motherboard and its functions
16．Enumerate on types of Display devices？
17．Explain the components of Network Interface Card？

