## VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

College with Potential for Excellence
Residential \& Autonomous - A Gurukula Institute of Life-Training Re-accredited ( $3^{\text {rd }}$ 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 2021

Part - III: Allied Subject: Second Semester: Paper - I
STATISTICS \& PROBABILITY
Under CBCS - Credit 5
Time: 3 Hours
Max. Marks:

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. The diagram of continuous rectangles obtained is called $\qquad$
a) Polygon
b) Par chart
c) Histogram
d) Pie chart
2. The median of values $18,20,15,35,25$ is $\qquad$
a) 25
b) 15
c) 20
d) 18
3. Range is $\qquad$
a) L-S
b) $X_{\text {max }}-X_{\text {min }}$
c) S-L
d) Both A\&B
4. $\qquad$ is the best \& powerful measure of dispersion.
a) Standard deviation
b) Quartile Deviation
c) Mean Deviation
d) Range
5. In a throw of coin what is the probability of getting head.
a) $2 / 1$
b) 2
c) $1 / 2$
d) 1
6. Baye's theorem developed by $\qquad$
a) Michael Bayes
b) Pascal Bayes
c) Thomas Bayes
d) Format Bayes
7. Toss of a coin, find the sample space $\qquad$
a) $(\mathrm{H}, \mathrm{T})$
b) $(\mathrm{H}, \mathrm{H})$
c) $(\mathrm{T}, \mathrm{T})$
d) None of these
8. Which of the following is not possible in probability distribution?
a) $P(x)>=0$
b) $\sum \mathrm{P}(\mathrm{x})=1$
c) $\sum x P(x)=2$
d) $P(x)=-0.5$
9. In Sampling without replacement, an element can be chosen $\qquad$
a) Less than once
b) More than once
c) Only once
d) Difficult to tell
10. Mode is the value of $x$ where $f(x)$ is a maximum if $X$ is continuous.
a) True
b) False
c) Both a \& b
d) Neither a \& b

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. List out the types of Graphical Representation.
12. Give a classification of Measures.
13. What are the major differents between Favourable event and Exhasutive event.
14. Define Random Variable.
15. What is Students's $t$ distribution.
16. Draw the venn diagram for Set Intersection and Set difference with Example.
17. Write down the Commutative Law and Distributive Law.

## SECTION - C

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Find the median for following distribution:

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

[OR]
b) A cycle pedals from his house to his college at a speed of $10 \mathrm{~km} \mathrm{p} / \mathrm{h}$ and back from the college to his house at $15 \mathrm{~km} \mathrm{p} / \mathrm{h}$. Find the average speed.
19. a) Prove that for any Discrete Distribution, Standard Deviation is not less than mean Deviation from Mean.

## [OR]

b) A student obtained the A.M and S.D of 100 observations as 40 and 5.1 respectively. It was later discovered that he had wrongly copied down an observations as 50 instead of 40 . Find the Corrected A.M and S.D.
20. a) A box contains 3 red, 6 white, 7 blue balls. What is the probability that 2 balls drawn are white and blue?

## [OR]

b) Discuss about the Bayes theorem.
21. a) Prove that the geometric mean $G$ of the distribution:

$$
\mathrm{dF}=6(2-\mathrm{x})(\mathrm{x}-1) \mathrm{dx}, 1<=\mathrm{x}<=2 . \quad \text { Is given by } 6 \log (16 \mathrm{G})=19 .
$$

## [OR]

b) The probability density function of a random variable $X$ is
$f(x)=\left\{\begin{array}{c}0 \quad \text { for } x \leq-a \\ \frac{1}{a 2}(a+x) \text { for }-a<x \leq 0 \\ \frac{1}{a 2}(a-x) \text { for } 0<x \leq a\end{array}\right.$
0 for $x \geq a$

Verify that $\int_{-\infty}^{\infty} f(x) d x=\mathbf{1}$
22. a) A machinist making engine parts with axle diameters of 0.700 inch. A random sample of 10 parts shows a mean diameter of 0.742 inch with a standard deviation of 0.040 inch. Compute the static you would use to test whether the work is meeting the specification. Also state how you would proceed further?

## [OR]

b) Given $\mathrm{n}_{1}=8, \mathrm{n}_{2}=10$ and the sample means are 84.4 and 102.6. Find $S^{2}$ and $S^{2}{ }_{y}$.

## SECTION - D

## Answer any THREE Questions

23. Construct the Mean \& Mode for following distribution:

| Class | $0-$ | $10-$ | $20-$ | $30-$ | $40-$ | $50-$ | $60-$ | $70-$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 |
| Frequency | 5 | 8 | 7 | 12 | 28 | 20 | 10 | 10 |

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:

| Data analysis | Firm A | Firm B |
| :--- | :---: | :---: |
| No. of workers | 500 | 600 |
| Daily wages | $₹ 186$ | $₹ 175$ |
| Variance of distribution | 81 | 100 |

i) Which firm A \& B, has a larger wages bill?
ii) In which firm A or B is there greatest variability in industry wages?
25. If two dice are thrown, what is the probability that the sum is a) greater than equal 8 , and $b$ ) neither 7 nor 11 ?
26. A random variable X has the following probability function:

| Value <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 $k \quad$ ii) Evaluate $\mathrm{P}(\mathrm{X}<6), \mathrm{P}(\mathrm{X}>=6)$ and $\mathrm{P}(0<\mathrm{X}<5)$
27. The demand for a particular spare part in a factory was found to vary from day-to-day. In a sample study the following information was obtained.

| Days | MON | TUE | WED | THU | FRI | SAT |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of <br> parts <br> demanded | 1124 | 1125 | 1110 | 1120 | 1126 | 1115 |

Test the hypothesis that the number of parts demanded does not depend on the day of the week.
(Given the values of chi-square significance at 5, 6, 7 d.f., are respectively $11.07,12.59,14.07$ at the $5 \%$ level of significance)

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B.Sc. Computer Science Degree (Semester) Examinations, April 2021 Part - III: Allied Subject: Fourth Semester: Paper - I
NUMERICAL METHODS FOR COMPUTER SCIENCE
Under CBCS - Credit 5
Time: 3 Hours
Max. Marks:

## SECTION - A

## Answer ALL Questions

1. In which of the following method, we approximate the curve of solution by the tangent in each interval.
a) Picard's method
b) Euler's method
c) Newton's method
d) Range Kutta method
2. In the Gauss elimination method for solving a system of linear algebraic equations, triangularzation leads to
a) Diagonal matrix
b) Lower triangular matrix
c) Upper triangular matrix
d) Singular matrix
3. $E^{4}-4 E^{3}+6 E^{2}+-4 E+1=-$ $\qquad$
a) $E^{4}$
b) $(\mathrm{E}-1)^{4}$
c) $(E+1)^{4}$
d) $(\mathrm{E}-1)^{3}$
4. $\mathrm{EY}_{0}=$ $\qquad$
a) $\mathrm{Y}_{-1}$
b) $\mathrm{y}_{0}$
c) $y_{1}$
d) $y_{2}$
5. Simpson's one third rule degree is $\qquad$ _.
a) 1
b) 2
c) 4
d) 6
6. Simpson's three eigth rule degree is
a) 1
b) 2
c) 3
d) 6
7. Taylors series method will be very useful to give some initial starting values for powerful methods such as $\qquad$ _.
a) Euler Method.
b) Runge-Kutta Method.
c) Newton-Raphson Method.
d) Gauss Elimination Method.
8. Trapezoidal rule is derived from $\qquad$ formula.
a) Newton's cotes
b) Newton's forward interpolation
c) Newton's backward interpolation
d) Inverse Lagrange's
9. In a ordinary differential equations the first category methods is $\qquad$
a) Taylor Method.
b) Euler Method.
c) Runge-Kutta Method.
d) Pointwise Method.
10. If population census for the years $1931,1941,1951,1961$ and 1971 is given and if we want to estimate the population for the year 1935 then
$\qquad$ method is used.
a) Forward difference
b) backward difference
c) Newton's divided difference
d) Lagrangian

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Write a procedure to solve Gauss-Jordan method
12. Define interpolation
13. Write down Guass-Backward interpolation formula
14. Write about central interpolation
15. While $\int_{0}^{1} \frac{d x}{1+x^{2}}$, with $\mathrm{h}=0.2$ is it possible to apply simpson $1 / 3$ Rule and

Give the reason
16. Write down the third order R.K method formula
17. Write a procedure to solve Romberg's method

## SECTION - C

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Solve the positive root of $x^{3}-4 x+1=0$ by Regula-Falsi method

## [OR]

$$
\begin{array}{lll}
0 & 1 & 1
\end{array}
$$

b) Find the inverse of $A=1 \quad 2 \quad 0$ using Gaussian elimination method

$$
\begin{array}{lll}
3 & -1 & -4
\end{array}
$$

19. a) solve the following system of equation by Gauss Elimination method $2 x+y=3 ; 7 x-3 y=4$
[OR]
b) Find the missing value of the following table

| $\mathbf{X}$ | 0 | 1 | 2 | 3 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{Y}$ | 1 | 2 | 4 | - | 16 |

20. a) using Newton's divided difference formula, find the values of $y$ at $x=0$. From the following table

| $\mathbf{X}$ | -1 | 1 | 2 | 3 |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{Y}$ | -21 | 15 | 12 | 3 |
| $\mathbf{C O R ]}$ |  |  |  |  |

[OR]
b) Apply Gauss Forward formula to obtain $\mathrm{f}(\mathrm{x})$ at $\mathrm{x}=3.5$ from the table below

| $\mathbf{X}$ | 2 | 3 | 4 | 5 |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{Y}$ | 2.626 | 3.454 | 4.784 | 6.986 |

21. a) Evaluate $\int_{0}^{2} \frac{d x}{1+x^{2}}$, taking $\mathrm{h}=0.2$ using Trapezoidal Rule
[OR]
b) Evaluate $\int_{0}^{1} \frac{d x}{1+x^{2}}$, using Romberg's method
22. a) Given $y^{\prime}=x+y$ and $y(0)=1$ then determine the value of y at $\mathrm{x}=(0.0),(0.02),(1.0)$ using Euler's Method

## [OR]

b) obtain the values of $y$ at $x=0.1$ using R.K method for second order on the differential equation $y^{\prime}=-y$, given $\mathrm{y}(0)=1$.

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

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

23. Solve the following system of equation by Gauss-Jordan Method

$$
x+y+2 z=7 ; 3 x+2 y+4 z=13 ; 4 x+3 y+2 z=8
$$

24. The population of a town is as follows

| Year X | 1941 | 1951 | 1961 | 1971 | 1981 | 1991 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Population Y <br> in 1000's | 20 | 24 | 29 | 36 | 46 | 51 |

Estimate the population during the period of 1946 and 1976.
25. Use Lagrange's interpolation formula to find the value of $y$ at $x=6$ from the following table

| X | 3 | 7 | 9 | 10 |
| :--- | :---: | :---: | :---: | :---: |
| Y | 168 | 120 | 72 | 63 |

26. Evaluate $\int_{0}^{6} \frac{d x}{1+x^{2}}$ by Trapezoidal, Simpson's both Rule and Actual integration
27. Apply fourth order Range-Kutta method to find $y(0.2)$ given that $y^{\prime}=$ $x+y, y(0)=1$ where $\mathrm{h}=0.1$.

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B.Sc. Computer Science Degree (Semester) Examinations, April 2021 Part - III: Core Subject: Second Semester: Paper - I
OBJECT ORIENTED PROGRAMMING WITH C++
Under CBCS - Credit 4
Time: 3 Hours

## 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. Array indexing always starts with the $\qquad$ number
a) 0
b) 1
c) 2
d) $\backslash 0$
3. $\qquad$ function is a function that calls itself repeatedly
a) Friend
b) Inline
c) Recursive
d) Member
4. $\qquad$ is the process of using the same name for two
or more functions
a) Function overloading
b) Operator overloading
c) Default function
d) Default function
5. Polymorphism is not implemented through $\qquad$
a) function overloading
b) operator overloading
c) virtual functions
d) constructors and destructors
6. $\qquad$ integer can hold both positive and negative values
a) Unsigned
b) Positive
c) Negative
d) Signed
7. The mechanism that binds code and data together and keeps them secure from outside world is known as $\qquad$
a) Abstraction
b) Encapsulation
c) Inheritance
d) Polymorphism
8. Which of the following is not a keyword?
a) inherit
b) auto
c) extern
d) void
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. $\qquad$ is names location in memory that is used to hold a value that may be modified by the program.
a) Pointer
b) Expression
c) Variable
d) Function

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Any two difference between C and $\mathrm{C}++$
12. Write about Identifiers
13. Define Method.
14. What is meant by constructor?
15. Difference between Multiple and Multilevel Inheritance
16. Define Pointer
17. Define File

## SECTION - C

## Answer ALL Ouestions

$$
(5 \times 5=25)
$$

19. a) Write about object and class with Example
[OR]
b) Explain about the Inline Functions
20. a) Explain about the Constructors with Example

## [OR]

b) Discuss about the implementation Operator overloading Unary

Operator.
21. a) Explain about Single inheritance with example
[OR]
b) Discuss about the Multiple Inheritance with example
22. a) Explain about the Virtual function

## [OR]

b) Explain about the C++ Stream Classes

## SECTION - D

## Answer any THREE Questions

$(3 \times 10=30)$
23. Explain about the object oriented programming concept in $\mathrm{C}++$
24. Write a C++ program to create a student mark list using class and object
25. Discuss about the Default and Parameterized Constructor with example.
26. Explain the Inheritance and its types
27. Explain the
i) this pointer
ii) pure virtual functions
18. a) Discuss about the data types in $\mathrm{C}++$

## [OR]

b) Explain the types of Operators in C++

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B.Sc. Computer Science Degree (Semester) Examinations, April 2021 Part - III: Core Subject: Second Semester: Paper - II

## DATA STRUCTURES

Under CBCS - Credit 4
Time: 3 Hours
Max. Marks:

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. $\qquad$ is a Linear and non - primitive data structure.
a) Array
b) Integer
c) Float
d) Pointer
2. 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
3. Process of removing an element from stack is called $\qquad$
a) Create
b) Push
c) $\operatorname{Pop}$
d) sorting
4. A linear list of elements in which deletion can be done from one end (front) and insertion can take place only at the other end (rear) is known as a?
a) Queue
b) Array
c) Stack
d) Linked List
5. The $\qquad$ for a linked list is pointer variable that locates the beginning of the list.
a) Anchor
b) Base
c) Footer
d) Header
6. $\qquad$ operation is performed to add new element at the end of the list in a double linked list.
a) Insertion
b) Insert first
c) Insert last
d) Insert after
7. A tree is a data structure which represents hierarchical relationship between individual $\qquad$ -
a) data items
b) fields
c) nodes
d) linked list.
8. $\qquad$ a tree means processing it in such a way that each node is visited only once.
a) Traversing
b) Implement
c) Partition
d) Skipping
9. Quick sort procedure was proposed and developed by $\qquad$
a) Hoare
b) Sedgewick
c) Mellroy
d) Coreman
10. Which of the following is not a stable sorting algorithm?
a) Insertion Sort
b) Selection Sort
c) Bubble Sort
d) Merge Sort

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Give any two examples of Non-linear Non primitive data structure?
12. List the attributes of a Linear array?
13. Distinguish In-place sorting and Not-in-place sorting?
14. Give the use of Top pointer in a stack?
15. Define Dequeue?
16. List the primary operations of a stack?
17. Define a Leaf Node in a tree?

## SECTION - C

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Bring out the classification of Data structures?
[OR]
b) Summarize on the representation of Linear Array data structure?
19. a) Distinguish Stable and Non stable sorting algorithms?

## [OR]

b) Differentiate Adaptive and Non-Adaptive sorting algorithms?
20. a) Explain about Quick Sort?

## [OR]

b) Brief a note on the representation of representation of linked list in the Memory?
21. a) Illustrate sequential representation of binary trees in the Memory?
[OR]
b) Comment on search operation in a binary tree?
22. a) Write a note on Directed Graph?
[OR]
b) Explain Merge sort?

## SECTION - D

## Answer any THREE Questions

$(3 \times 10=30)$
23. Explain in detail the elementary organization of data structures and their operations?
24. Illustrate using a $\mathrm{C}++$ program the insertion and deletion operation in an linear array?
25. Elucidate on types of tree traversal in Binary Trees?
26. Explain in detail representation of Stack and its various operations
27. Illustrate using a $\mathrm{C}++$ program Bubble sort operation using a suitable data structure?

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B.Sc. Computer Science Degree (Semester) Examinations, April 2021 Part - III: Core Subject: Fourth Semester: Paper - I
RELATIONAL DATABASE MANAGEMENT SYSTEM
Under CBCS - Credit 4
Time: 3 Hours
Max. Marks:

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. A collection of data designed to be used by different people is called a/an
a) Organization
b) Database
c) Relationship
d) Schema
2. Which of the following terms does refer to the correctness and completeness of the data in a database?
a) Data security
b) Data constraint
c) Data independence
d) Data integrity
3. A schema describes
a) Record \& files
b) data elements
c) record relationships
d) All of the above
4. An entity set that has a primary key is called as $\qquad$
a) Strong entity set
b) Weak entity set
c) Complete entity set
d) None of the mentioned
5. Which is NOT one of the most common types of SQL CHECK constraints?
a) System date
b) Range checks
c) List of Values
d) Comparing one column value to another within the same table
6. The strictest transaction isolation level provided by SQL Server is called:
a) REPEATABLE READ
b) SERIALIZABLE
c) READ COMMITTED
d) READ UNCOMMITTED
7. The result of a SQL SELECT statement is an $\qquad$

## SECTION - C

a) Report
b) Form
c) File
d) Table
8. Which of the following are the five built-in functions provided by SQL?
a) COUNT, SUM, AVG, MAX, MIN
b) SUM, AVG, MIN, MAX, MULT
c) SUM, AVG, MULT, DIV, MIN
d) SUM, AVG, MIN, MAX, NAME
9. 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
10. $\qquad$ is Preferred methods for enforcing data integrity
a) Constraints
b) Stored Procedure
c) Triggers
d) Cursors

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Define Database
12. Write any 2 symbols of ER Model with Description
13. Define Normalization
14. Write about data dictionary
15. Define deadlock
16. Write about datatypes in Oracle
17. Define Triggers

## Answer ALL Questions

$(5 \times 5=25)$
18. a) Discuss about the ER Model

## [OR]

b) Difference Between DBMS and RDBMS
19. a) Write about Boyce codd normal form
[OR]
b) Explain about the Database Engine
20. a) Explain about the Database Intergrity and validation

## [OR]

b) Discuss about the concept of Deadlock
21. a) Explain about Aggregate function
[OR]
b) Discuss about the Datatypes with example
22. a) Explain about the cursor

## [OR]

b) Explain about theTrigger

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

## Answer any THREE Questions

23. Explain about the relational model
24. Discuss about DDL,DML,DCl Commands
25. Discuss about the Concurrency
26. Explain the Union,Integration and Minus operation
27. Explain the Database administration tools

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B.Sc. Computer Science Degree (Semester) Examinations, April 2021 Part - III: Core Subject: Fourth Semester: Paper - II

## DOT NET PROGRAMMING

Under CBCS - Credit 4
Time: $\mathbf{3}$ Hours

## 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 $\qquad$ While
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 $\qquad$ -
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. What do you mean by CLR?
12. Defining rules for variables in $\mathrm{c} \#$.
13. Write any four advantage of array.
14. What is meant by object?
15. Different between label and link label.
16. Write about the Radio button with example.
17. Define ADO .Net.

## SECTION - C

## Answer ALL Questions

$(5 \times 5=25)$
19. a) Explain the inheritance with example?

## [OR]

b) Discuss about the exception with example?
20. a) Explain about the dialog boxes in VB .NET.

## [OR]

b) Explain the List Box with example.
21. a) Explain the page Directives in ASP.NET.
[OR]
b) Discuss about the XML in .NET.
22. a) Discuss about the Features of ADO.NET.
[OR]
b) Explain the ASP.net using SQL Server connection.

## SECTION - D

## Answer any THREE Questions

23. Write a program in sorting names using string function.
24. Discuss about the polymorphism with example.
25. Explain the Rich Textbox control in VB.NET.
26. How to create a new form in VB.NET with login program.
27. Explain about the validation server control with example.
28. a) Explain the visual studio IDE.

## [OR]

b) Write a program in Arithmetic Operation using Interface.

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B.Sc. Computer Science Degree (Semester) Examinations, April 2021

Part - III: Core Subject: Sixth Semester: Paper - I
WEB PROGRAMMING
Under CBCS - Credit 4
Time: $\mathbf{3}$ Hours
Max. Marks: 75

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. Expand HTML?
a) Hyper Texture Making of Language b) Hyper Text Markup Language
c) Hyper Text Marking of Links
d) Higher Text Markup Language
2. IP stands for $\qquad$
a) Information Provider
b) Internet Provider
c) Internet Protocol
d) Information Protocol
3. CSS stands for $\qquad$
a) Cascading style sheet
b) colourful style sheet
c) computer style sheet
d) creative style sheet
4. Where in an HTML document is the correct place to refer to an external style sheet?
a) In the <head> section
b) In the <body> section
c) At the end of the document
d) In the <title> section
5. What is the correct syntax for referring to an external script called
"xxx.js"?
a) <script name="xxx.js">
b) <script src="xxx.js">
c) <script href="xxx.js">
d) <script type="xxx.js">
6. Who is making the Web standards?

## SECTION - C

a) The World Wide Web Consortium
b) Google
c) Mozilla
d) Microsoft
7. PHP scripts are enclosed within $\qquad$
a) <php> . . </php>
b) 〈?php . . .?>
c) ? $\mathrm{php} . . . ? \mathrm{php}$
d) $\langle\mathrm{p}\rangle \ldots$. $\langle/ \mathrm{p}\rangle$
8. Who is the father of PHP?
a) Rasmus Lerdorf
b) Willam Makepiece
c) Drek Kolkevi
d) List Barely
9. PHP files have a default file extension of
a). html
b).$x m l$
c). php
d) .js
10. What will be the output of the following PHP code?

<?php
echo "This is <i>India</i>";
?>
a) This is India
b) This is India
c) This is
d) Error

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Expand HTTP and URL
12. Differentiate radio button and checkbox
13. What is a Browser and give its use?
14. Define frames
15. How to declare an array in JavaScript?
16. Define cookies
17. Write a PHP program to display your name with greetings

## Answer ALL Questions

18. a) Discuss about Lexical structure of HTML
[OR]
b) write a brief note on TCP/IP?
19. a) Explain while loop statement in JavaScript
[OR]
b) Discuss about various dialogue boxes in JavaScript
20. a) Develop a JavaScript program to check the given number is odd or even [OR]
b) Write the characteristics button element with example
21. a) Explain switch statement in PHP with example
[OR]
b) Explain about basic datatypes in PHP
22. a) Explain how to create a user-defined function in PHP with example [OR]
b) Write short notes about Recursion function PHP with example

## SECTION - D

## Answer any THREE Questions

$(3 \times 10=30)$
23. Elaborate on internal stylesheet with example
24. Discuss various operators in JavaScript with example
25. Build a calculator using external JavaScript
26. Explain any three looping statements in PHP with example
27. Write short notes about build-in functions in PHP with example


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[Affiliated to Madurai Kamaraj University]
B.Sc. Computer Science Degree (Semester) Examinations, April 2021 Part - III: Elective Subject: Sixth Semester: Paper - I

DATAMINING AND DATAWAREHOUSING
Under CBCS - Credit 5
Time: 3 Hours
Max. Marks:

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. The process of removing noise and inconsistent data is called $\qquad$
a) Data selection
b) Data cleaning
c) Data integration
d) Pattern recognition
2. $\qquad$ includes data cleaning, data integration, data selection, data transformation, pattern evaluation and presentation of data.
a) KDD
b) data warehouse
c) DBMS
d) Data analysis
3. $\qquad$ is a subject-oriented, integrated, time - variant and non-volatile organized collection of data to support management decision making.
a) Database
b) RDBMS
c) Data mining
d) Data warehouse
4. The core of the multidimensional data model is the $\qquad$
a) Database
b) Data cube
c) Dimension
d) Schema
5. Concept description is the most basic form $\qquad$ mining
a) Predictive
b) Descriptive
c) Comparative
d) Discrimination
6. Which one of these is used to visualize generalized data?
a) Count
b) pie-charts
c) Gnatt Charts
d) PERT charts
7. If a rule concerns association between the presence or absence of items is called a
a) Boolean association rule
b) quantitative association rule
c) dimensional association rule
d) multilevel association rule
8. $\qquad$ methods are used by researchers in machine learning, expert systems, statistics \& neurobiology
a) Classification and prediction
b) association rule
c) clustering
d) outlier analysis
9. $\qquad$ algorithm constructs decision tree using top-down recursive divide-and-conquer mechanism
a) Apriori
b) Greedy
c) Djikstra
d) RSA
10. $\qquad$ is a set of connected input/output units where each connections has a weight associated with it.
a) Neural Networks
b) Rain forest
c) Bayesian Networks
d) belief networks

## SECTION - B

## Answer any FIVE Questions

11. Define Datamining?
12. Define Outlier Analysis?
13. Identify any two types of schema used to define a multidimensional data model?
14. Give any two aggregate functions used to represent measures in a schema?
15. List any two techniques to visualize generalized data in datamining?
16. Distinguish Boolean Association rule and Quantitative Association rule?
17. Give any two applications of Datamining?

## SECTION - C

## Answer ALL Questions

18. a) Discuss on the various issues in implementing a Datamining System. [OR]
b) Explain the components of a Data mining system?
19. a) Distinguish between Data characterization and Data discrimination.

## [OR]

b) Explain the Roll-up and Drill-down operations in OLAP with an example?
20. a) Discuss about the issues in classification and prediction.

## [OR]

b) Summarize a note on Tree pruning.
21. a) Interpret Frequent Pattern mining using Market Basket Analysis.
[OR]
b) Classify the requirements for Cluster analysis in data mining.
22. a) Write a note on DB Miner.

## [OR]

b) Brief a note on social impacts of datamining.

## SECTION - D

## Answer any THREE Ouestions

23. Enumerate on the iterative steps involved in Knowledge Discovery from Data.
24. Construct a multidimensional data model and perform any two operation of OLAP.
25. Explain in detail architecture of a Data Warehousing System.
26. Explain Cluster Analysis and its types.
27. Explain the trends in Datamining Applications.
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B.A. / B.Sc. Degree (Semester) Examinations, April 2021

Part - IV: Non-Major Elective Subject: Second Semester: Paper - I
WEB PROGRAMMING
Under CBCS - Credit 2
Time: 2 Hours
Max. Marks: 75

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. Expand HTML?
a) Hyper Texture Making of Language
b) Hyper Text Markup Language
c) Hyper Text Marking of Links
d) Higher Text Markup Language
2. The URL means
a) use resource locator
b) undefined resource locator
c) uniform resource locator
d) user defined locator
3. All elements of an image map are contained inside the $\qquad$ tags
a) <image>
b) <map>
c) <poly>
d) 〈src>
4. Shape=" $\qquad$ " creates a circular hotspot
a) circ
b) circle
c) round
d) encircle
5. The input $\qquad$ inserts a one-line text bar into the form
a) type='reset'
b) type='submit'
c) type='text'
d) type='password'
6. Text based browsers are unable to render a $\qquad$ element
a) title
b) head
c) frameset
d) thead
7. Links are inserted using the $\qquad$ element
a) <a>
b) <b>
c) $\langle c\rangle$
d) <title>
8. The $\qquad$ element places a button in the form that submits data to the server
a) type='reset'
b) type='submit'
c) type='text'
d) type='password'
9. HTML documents are created using $\qquad$ editors
a) markup
b) text
c) image
d) paint
10. DOM is an acronym for $\qquad$
a) document object model
b) document object metrics
c) digital object model
d) digital object metrics

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

## Answer any FIVE Questions

$(5 \times 2=10)$
11. Expand WWW and HTTP
12. Expand <dt> and <tr>
13. List out the any four web browsers?
14. Define Marquee tag with an example?
15. The following purpose of tag.
i) $\langle p>$
ii) $\langle$ i $\rangle$
16. Define internet.
17. Type of list tag in HTML.

## SECTION - C

## Answer ALL Questions

$(3 \times 9=27)$
18. a) Explain about body tags with suitable example program
[OR]
b) Write any simple program to create table
19. a) Briefly discuss about ordered list with example program
[OR]
b) Briefly explain about unordered list with suitable example program 20. a) Briefly discuss about the structure of HTML
[OR]
b) Explain the followings:
i) Browser
ii) HTTP

## SECTION - D

## Answer any TWO Questions

21. Write a HTML program to display your Bio- Data using Form tag
22. Discuss in detail about list tag with list out the name list?
23. How to create table using its various attributes with example.
24. Write a HTML program to display your time table.

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B.Sc. Computer Science Degree (Semester) Examinations, April 2021

Part - IV: Skill Based Subject: Fourth Semester: Paper - I
UNIX AND SHELL PROGRAMMING
Under CBCS - Credit 2
Time: 2 Hours

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$
1 . What is a shell script?
a) group of commands
b) a file containing special symbols
c) a file containing a series of commands
d) group of functions
2. The first line in any shell script begins with a $\qquad$
a) \&
b)!
c) \$
d) \#
3. expr is a $\qquad$ command
a) internal
b) external
c) shell
d) derived
4. Which of the following commands let us perform a set of instructions repeatedly?
a) for
b) while
c) until
d) for, while, until
5. Which of the following keywords are used in while loop?
a) do
b) done
c) then
d) do and done
6. Which one of the following is used for looping with a list?
a) while
b) until
c) case
d) for
7. Which command identifies the resource of a command?

## SECTION - C

## Answer ALL Ouestions

$(3 \times 9=27)$
18. a) Discuss about UNIX file system organization with diagram.
[OR]
b) Discuss about the salient features of UNIX.
19. a) Explain any 5 basic commands in UNIX.
[OR]
b) Write a procedure to save a file in UNIX editor.
20. a) Write short notes about shell scripting and advantages.
[OR]
b) Discuss about while statement in UNIX shell script.

## SECTION - D

## Answer any TWO Questions

21. Discuss about the salient features of UNIX.
22. Explain types of shells in UNIX.
23. Write a shell script to check given number is odd or even?
24. Write short notes about case statement in shell script?

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B.Sc. Computer Science Degree (Semester) Examinations, April 2021

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

Time: 2 Hours

## SECTION - A

## Answer ALL Questions

$(10 \times 1=10)$

1. Which of the following does not stages of Ethical Hacking?
a) Security Access
b) Gaining Access
c) Maintaining Access
d) Scanning
2. Which of the following statements best describes a white-hat hacker?
a) Security professional
b) Former black hat
c) Former grey hat
d) Malicious hacker
3. An $\qquad$ algorithm transforms the Cipher text into plaintext
a) ENC
b) DEC
c) Symmetric ENC
d) Asymmetric ENC
4. The letters $\qquad$ and $\qquad$ count as one letter.
a) $\mathrm{H}, \mathrm{I}$
b) J, I
c) I, J
d) J, K
5. Cryptography relates to $\qquad$
a) Editing
b) Hacking
c) Testing
d) Security
6. TCP/IP is a $\qquad$
a) Network
b) Software
c) Hardware
d) Protocol
7. Which is not an objective of network security?
a) Identification
b) Authentication
c) Access control
d) Lock
8. Cryptology means $\qquad$
a) Cryptography + Crypto design
b) Cryptography + Cryptanalysis
c) Cryptography + Steganography
d) Cryptography + Crypto
9. Which of the following keys not used in cryptography are
a) Secret Key
b) Private Key
c) Public key
d) Primary key
10. Cryptography, a word with Greek origins, means
a) Corrupting Data
b) Secret Writing
c) Open Writing
d) Closed Writing

## SECTION - B

## Answer any FIVE Questions

$(5 \times 2=10)$
11. What do you meant by Ethical Hacking?
12. List out the Stages of Ethical Hacking.
13. Give a classification of Passwords.
14. List out the advantages and disadvantages of Hacking.
15. Write any two examples of Rail Fence Cipher Algorithm.
16. What are the Major Different between Encryption and Decryption?
17. Define Key and types.

## SECTION - C

## Answer ALL Questions:

18. a) Who is Hacker? Explain the different types of Hacker?
[OR]
b) Explain about the Different types of Passwords.
19. a) Write a short note on Basic Terms in Cryptography?
[OR]
b) How a Virus Spread Infect System.
20. a) Convert to the Plain Text $\rightarrow$ Cipher Text Using Play Fair Cipher Algorithm.

| Keyword: Computer | Plain Text I: Science |
| :--- | :--- |
| Plain Text II: Commerce | Plain Text III: History |

[OR]
b) Give a short notes on Foot printing?

## SECTION - D

## Answer any TWO Questions:

21. Explain about the different Stages of Ethical Hacking.
22. Discuss about the Password Cracking Techniques.
23. Explain about the Virus Detection Methods.
24. Discuss about the Play-Fair Cipher Algorithm and Rules with Examples for Draw Matrix on

| Keyword | : Security |
| :--- | :--- |
| Plain Text I | : Your Name |
| Plain Text II | : Your Father Name |
| Plain Text III | : Your Mother Name |



