



College with Potential for Excellence

Residential & Autonomous – A Gurukula Institute of Life-Training Re-accredited (3rd 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: 75

<u>SECTION – A</u>

Answer ALL Questions

 $(10 \times 1 = 10)$

1. The diagram	of continuous rectan	gles obtained is call	led		
a) Polygon	b) Par chart	c) Histogram	d) Pie chart		
2. The median	of values 18, 20, 15, 3	35, 25 is			
a) 25	b) 15	c) 20	d) 18		
3. Range is					
a) L-S	b) X _{max} - X _{min}	c) S-L	d) Both A&B		
4	is the best & po	werful measure of a	dispersion.		
a) Standard deviation		b) Quartile De	b) Quartile Deviation		
c) Mean Devi	iation	d) Range			
5. In a throw of	f coin what is the prob	bability of getting h	ead.		
a) 2/1	b) 2	c) 1/2	d) 1		
6. Baye's theor	rem developed by				
a) Michael Ba	ayes	b) Pascal Baye	b) Pascal Bayes		
c) Thomas Bayes		d) Format Bay	d) Format Bayes		
7. Toss of a co	in, find the sample spa	ace			
a) (H, T)	b) (H, H)	c) (T, T)	d) None of these		

8. Which of the following is not possible in probability distribution?						
a) P (x) >=0	b) $\sum P(x) = 1$	c) $\sum x P(x) = 2$	d) $P(x) = -0.5$			
9. In Sampling	g without replace	ement, an element can be o	chosen			
a) Less than	once	b) More than o	nce			
c) Only once	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			

<u>SECTION – B</u>

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.

<u>SECTION – C</u>

Answer ALL Questions

 $(5 \times 5 = 25)$

18. a) Find the median for following distribution:

Wages	2000- 3000	3000- 4000	4000- 5000	5000- 6000	6000- 7000	
No of Workers	3	5	20	10	5	

b) A cycle pedals from his house to his college at a speed of 10km p/h and back from the college to his house at 15km p/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:

dF = 6 (2-x) (x-1) dx, $1 \le x \le 2$. Is given by $6 \log (16G) = 19$.

[OR]

b) The probability density function of a random variable X is

$$f(x) = \begin{cases} 0 & \text{for } x \le -a \\ \frac{1}{a2}(a+x) & \text{for } -a < x \le 0 \\ \frac{1}{a2}(a-x) & \text{for } 0 < x \le a \\ 0 & \text{for } x \ge a \end{cases}$$

Verify that $\int_{-\infty}^{\infty} f(x) dx = 1$

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 $n_1 = 8$, $n_2 = 10$ and the sample means are 84.4 and 102.6. Find S^2_x and S^2_y .

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

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 of X, x	0	1	2	3	4	5	6	7
P(x)	0	k	2k	2k	3k	k ²	$2k^2$	$7k^2+k$

i) Find k ii) Evaluate P(X<6), P(X>=6) and P(0<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 parts 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: 75

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

Answer ALL Questions

 $(10 \times 1 = 10)$

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 m	atrix	b) Lower triangular matrix				
c) Upper triang	gular matrix	d) Singular matrix				
3. $E^4-4E^3+6E^2-$	+-4E+1=					
a) E ⁴	b) (E-1) ⁴	c) (E+1) ⁴	d) (E-1) ³			
4. EY ₀ =						
a) Y ₋₁	b) y ₀	c) y ₁	d)y ₂			
5. Simpson's on	e third rule degree is	·				
a) 1	b) 2	c) 4	d) 6			

6. Simpson's three eigth rule degree is _____a) 1b) 2c) 3d) 6

7. Taylors series method will be very useful to give some initial starting

values for powerful methods such as _____.

a) Euler Method.

b) Runge-Kutta Method.

c) Newton-Raphson Method. d) Gauss Elimination Method.

- 8. Trapezoidal rule is derived from ______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_____
- 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
 - ____ method is used.
- a) Forward difference
- c) Newton's divided difference
- d) Lagrangian

b) backward difference

<u>SECTION – B</u>

Answer any FIVE Questions

- 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 $\int_0^1 \frac{dx}{1+x^2}$, with 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

<u>SECTION – C</u>

Answer ALL Questions

18. a) Solve the positive root of $x^3 - 4x + 1 = 0$ by Regula-Falsi method

[OR]

0 1 1 b) Find the inverse of A = 1 2 0 using Gaussian elimination method 3 -1 -4 19. a) solve the following system of equation by Gauss Elimination method 2x + y = 3; 7x - 3y = 4

[OR]

b) Find the missing value of the following table

X	0	1	2	3	4
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

X	-1	1	2	3		
Y	-21	15	12	3		
[OR]						

b) Apply Gauss Forward formula to obtain f(x) at x=3.5 from the table below

X	2	3	4	5
Y	2.626	3.454	4.784	6.986

21. a) Evaluate $\int_0^2 \frac{dx}{1+x^2}$, taking h=0.2 using Trapezoidal Rule

[OR]

b) Evaluate
$$\int_0^1 \frac{dx}{1+x^2}$$
, using Romberg's method

22. a) Given
$$y' = x + y$$
 and $y(0) = 1$ then determine the value of y at

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' = -y, given y(0) = 1.

 $(5 \times 2 = 10)$

 $(5 \times 5 = 25)$

<u>SECTION – D</u>

Answer any THREE Questions

$(3 \times 10 = 30)$

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

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

24. The population of a town is as follows

Year X	1941	1951	1961	1971	1981	1991
Population Y 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

Х	3	7	9	10
Y	168	120	72	63

26. Evaluate $\int_{0}^{6} \frac{dx}{1+x^{2}}$ by Trapezoidal, Simpson's both Rule and Actual

integration

27. Apply fourth order Range-Kutta method to find y(0.2) given that y' =

x + y, y(0) = 1 where 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

AND HEART HEAD

Max. Marks: 75

<u>SECTION – A</u>

Answer ALL Ouestions $(10 \times 1 = 10)$ 1. Public, private, protected are _____ a) identifiers b) data members c) access specifies d) type of class 2. Array indexing always starts with the number c) 2 a) 0 d) \0 b) 1 3. ______ function is a function that calls itself repeatedly c) Recursive d) Member a) Friend b) Inline 4. ______ 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 a) function overloading b) operator overloading c) virtual functions d) constructors and destructors 6. _____ 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 a) Abstraction b) Encapsulation c) Inheritance d) Polymorphism

8. Which of the following is not a keyword?

a) Pointer b) Expression c) Variable d) Function

<u>SECTION – B</u>

<u>Answer any FIVE Questions</u> $(5 \times 2 = 10)$

11. Any two difference between C and 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

<u>SECTION – C</u>

 $(5 \times 5 = 25)$

Answer ALL Questions

18. a) Discuss about the data types in C++

[OR]

b) Explain the types of Operators in C++

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

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

23. Explain about the object oriented programming concept in 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



Time: 3 Hours

VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

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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

Max. Marks: 75

<u>SECTION – A</u>

Answer ALL	Questions		$(10 \times 1 = 10)$
1	is a Linear and non –	primitive data st	ructure.
a) Array	b) Integer	c) Float	d) Pointer
2. The logical of	or mathematical model o	f a particular org	anization of data is
called a			
a) data structu	re b) algorithms	c) structure	d) logic structure
3. Process of re	moving an element from	n stack is called _	
a) Create	b) Push	c) Pop	d) sorting
4. A linear list of	of elements in which del	etion can be don	e from one end
(front) and inse	rtion can take place only a	t the other end (re	ar) is known as a?
a) Queue	b) Array	c) Stack	d) Linked List
5. The	for a linked li	st is pointer varia	able that locates the
beginning of t	he list.		
a) Anchor	b) Base	c) Footer	d) Header
6	operation is perform	ed to add new el	ement at the end of
the list in a do	uble 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

a) data items
b) fields
c) nodes
d) linked list.
8. _______ a tree means processing it in such a way that each node is visited only once.

a) Traversing b) Implement c) Partition d) Skipping9. Quick sort procedure was proposed and developed by ______

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

<u>SECTION – B</u>

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?

<u>SECTION – C</u>

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?

<u>SECTION – D</u>

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 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 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: 75

<u>SECTION – A</u>

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

c) Data independence

d) Data integrity

3. A schema describes

a) Record & files b) data elements

d) All of the above

b) Data constraint

4. An entity set that has a primary key is called as _____

a) Strong entity set

b) Weak entity set

d) None of the mentioned

5. Which is NOT one of the most common types of SQL CHECK constraints?

a) System date

c) record relationships

c) Complete entity set

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 _____

a) Report	b) Form	c) File	d) Table			
3. 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, 2	d) SUM, AVG, MIN, MAX, NAME					
9. Aggregate func	ctions are functions t	hat take a	as input and			
return a single v	alue					
a) Collection of	values b) Sin	gle value				
c) Aggregate value d) Both Collection of values & Single value						
10	is Preferred metho	ods for enforcing o	lata integrity			
a) Constraints	b) Stored Procedur	e c) Triggers	d) Cursors			

<u>SECTION – B</u>

<u>Answer any FIVE Questions</u> $(5 \times 2 = 10)$

- 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]

SECTION – C

- 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 the Trigger

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

- 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: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL	<u>Questions</u>		$(10 \times 1 = 10)$			
1. Who is the de	veloper of Visual	Basic .NET?				
a) Microsoft	b) IBM	c) Sun Systems	d) Open source			
2. Which is not a	an integer data typ	pe?				
a) Single	b) Byte	c) Short	d) Integer			
3. Which is a type	pe of procedure fo	und 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) DoLoop		b) ForN	b) ForNext			
c) DoWhile		d) For Each	d) For EachWhile			
5 to	ol is used to modi	fy the characteristics of	of a control used in			
Visual Basic .N	NET project					
a) Control Edit	or	b) Properties E	b) Properties Editor			
c) Characterist	ics detail	d) Status Bar	d) Status Bar			
6. Which contro	l is an example of	an object in VB.NET	?			
a) Button	b) Label	c) Textbox	d) All of the above			
7. The first even	t triggered in an .a	aspx page is				
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 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

 $(5 \times 5 = 25)$

Answer ALL Questions

18. a) Explain the visual studio IDE.

[**OR**]

b) Write a program in Arithmetic Operation using Interface.

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

 $(3 \times 10 = 30)$

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.

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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: 3 Hours

Max. Marks: 75

<u>SECTION – A</u>

Answer ALL Questions

1. Expand HTML?

c) Internet Protocol

 $(10 \times 1 = 10)$

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 _____
- a) Information Provider b) Internet Provider
 - d) Information Protocol
- 3. CSS stands for _____
- 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?

a) The World Wide	b) Google			
c) Mozilla	d) Microsoft			
7. PHP scripts are er	closed within			
a) <php> <td>b) <?php ?></td><td>></td></php>	b) php ?	>		
c) ?php ?php		d)	>	
8. Who is the father	of PHP?			
a) Rasmus Lerdorf		b) Willam Mak	epiece	
c) Drek Kolkevi		d) List Barely		
9. PHP files have a c	lefault file extension	on of		
a) .html b)	.xml	c) .php	d) .js	
10. What will be the php<br echo "This is <i>In ?></i>	output of the follo dia";	wing PHP code?		
a) This is India	b) This is <i>India</i>	c) This is	d) Error	

<u>SECTION – B</u>

 $(5 \times 2 = 10)$

Answer any FIVE Questions

- 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

SECTION –	С
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Answer ALL Questions $(5 \times 5 = 25)$ 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

<u>SECTION – D</u>

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





College with Potential for Excellence

Residential & Autonomous – A Gurukula Institute of Life-Training Re-accredited (3rd 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: Elective Subject: Sixth Semester: Paper - I

DATAMINING AND DATAWAREHOUSING

Under CBCS - Credit 5

Time: 3 Hours

Max. Marks: 75

SECTION - A

Answer ALL Questions

 $(10 \times 1 = 10)$

Allowel ALI	<u>- Questions</u>		$(10 \land 1 = 10)$
1. The process	s of removing noise an	d inconsistent data i	s called
a) Data selec	tion	b) Data cleanir	ıg
c) Data integ	ration	d) Pattern reco	gnition
2	_ includes data cleanin	g, data integration,	data selection, data
transformation	on, pattern evaluation	and presentation of	data.
a) KDD b)) data warehouse	c) DBMS	d) Data analysis
3	is a subject	t-oriented, integrated	d, time – variant and
non-volatile	organized collection o	f data to support ma	nagement decision
making.			
a) Database	b) RDBMS	c) Data mining	d) Data warehouse

4. The core of the multidimensional data model is the

b) Data cube a) Database c) Dimension d) Schema

5. Concept description is the most basic form 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 d) multilevel association rule c) dimensional association rule 8. 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. ______ algorithm constructs decision tree using top-down recursive divide-and-conquer mechanism b) Greedy c) Djikstra a) Apriori d) RSA 10. _____ 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

<u>SECTION – B</u>

<u>Answer any FIVE Questions</u> $(5 \times 2 = 10)$

- 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?

<u>SECTION – C</u>

Answer ALL Questions

 $(5 \times 5 = 25)$

- 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.

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

- 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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[Affiliated to Madurai Kamaraj University] 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

<u>SECTION – A</u>

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 _____ tags
- a) <image> b) <map> c) <poly> d) <src>
- 4. Shape="_____" creates a circular hotspot
- a) circ b) circle c) round d) encircle
- 5. The input ______ 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 ______ element
- a) title b) head c) frameset d) thead
- 7. Links are inserted using the ______ element
- a) $\langle a \rangle$ b) $\langle b \rangle$ c) $\langle c \rangle$ d) $\langle title \rangle$

8. The element pla	aces a button in the form that submits	<u>SECTION – C</u>				
data to the server		Answer ALL Questions	$(3 \times 9 = 27)$			
a) type='reset'	b) type='submit'	18 a) Explain about body tags with suitable example program				
c) type='text'	d) type='password'		xample program			
9. HTML documents are created us	sing editors					
 a) markup b) text 10. DOM is an acronym for a) document object model 	c) image d) paint	b) Write any simple program to create tabl	5			
		19. a) Briefly discuss about ordered list with a	example program			
	b) document object metrics	[OR]				
c) digital object model	d) digital object metrics	b) Briefly explain about unordered list with suitable example program20. a) Briefly discuss about the structure of HTML				
e) digital object model	d) digital object metres					
		[OR]				
<u>SECTION – B</u>		b) Explain the followings: i) Brows	ser ii) HTTP			
Answer any FIVE Questions	$(5 \times 2 = 10)$					
11. Expand WWW and HTTP		<u>SECTION – I</u>	<u>)</u>			
12. Expand <dt> and</dt>		Answer any TWO Questions	$(2 \times 14 = 28)$			
13. List out the any four web brow	sers?	21. Write a HTML program to display your Bio- Data using Form tag				
14. Define Marquee tag with an ex	ample?	22. Discuss in detail about list tag with list out the name list?				
15. The following purpose of tag.		23. How to create table using its various attributes with example.				
i) ii) <i></i>		24. Write a HTML program to display your time table.				
16. Define internet.						
17. Type of list tag in HTML.			,			

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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

Max. Marks: 75

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

Answer ALL	$(10 \times 1 = 10)$		
1. What is a sh	ell script?		
a) group of c	ommands		
b) a file conta	aining special symbo	ols	
c) a file conta	aining a series of con	nmands	
d) group of f	unctions		
2. The first line	e in any shell script l	begins with a	
a) &	b)!	c) \$	d) #
3. expr is a		command	
a) internal	b) external	c) shell	d) derived
4. Which of th	e following comman	ds let us perform	a set of instructions
repeatedly?			
a) for	b) while	c) until	d) for, while, until
5. Which of th	e following keyword	ls are used in while	e loop?
a) do	b) done	c) then	d) do and done
6. Which one of	of the following is us	sed for looping wit	th a list?
a) while	b) until	c) case	d) for

- 7. Which command identifies the resource of a command?
- a) type b) typeset c) select d) source
- 8. Which command wait for the specified process to complete and return the exit status?
- a) sleep b) wait c) delay d) stop
- 9. Which command prints the accumulated user and system times for processes run from the shell?
- a) time

- b) times
- c) both time and times
- d) none of the mentioned
- 10. Which command runs the shell built-in command 'command' with the given argument?
- a) built in
- b) caller
- c) there is no command present for this purpose
- d) none of the mentioned

<u>SECTION – B</u>

Answer any FIVE Questions $(5 \times 2 = 10)$ 11. Define Operating System.

- 12. What is meant by UNIX?
- 13. Write about keywords in shell script.
- 14. Who is founder of UNIX operating system?
- 15. Define shell script
- 16. Write syntax of do..while statement in Unix.
- 17. What is the purpose of ls command?

Answer ALL Questions

 $(3 \times 9 = 27)$

18. a) Discuss about UNIX file system organization with diagram.

SECTION – C

[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.

<u>SECTION – D</u>

Answer any TWO Questions

 $(2 \times 14 = 28)$

- 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 CYBER SECURITY

Under CBCS – Credit 2

Time: 2 Hours

a) ENC

c) Symmetric ENC

Max. Marks: 75

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

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 ______ algorithm transforms the Cipher text into plaintext
 - b) DEC

d) Asymmetric ENC

- 4. The letters ______ and _____ count as one letter.
- a) H, I b) J, I c) I, J d) J, K
- 5. Cryptography relates to _____
- a) Editing b) Hacking c) Testing d) Security
- 6. TCP/IP is a _____
- a) Network b) Software c) Hardware d) Protocol

7.	Which	is	not an	ob	jective	of	network	security	?
					,			~	

a) Identification	b) Authentication
c) Access control	d) Lock
8. Cryptology means	
a) Cryptography + Crypto design	b) Cryptography + Cryptanalysis
c) Cryptography + Steganography	d) Cryptography + Crypto
9. Which of the following keys not use	ed 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

<u>SECTION – B</u>

<u>Answer any FIVE Questions</u> $(5 \times 2 = 10)$

- 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.

<u>SECTION – C</u>

Answer ALL Questions:

 $(3 \times 9 = 27)$

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 → Cipher Text Using Play Fair Cipher Algorithm.

Keyword: Computer Plain Text II: Commerce [OR] Plain Text I: Science Plain Text III: History

b) Give a short notes on Foot printing?

<u>SECTION – D</u>

Answer any TWO Questions:

 $(2 \times 14 = 28)$

- 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