

VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

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 2022 Part – III: Ability Enhancement Course: Second Semester: Paper – I

STATISTICS & PROBABILITY

Under CBCS and LOCF - Credit 5

Time: 3 Hours

AND HEART HEAD

Max. Marks: 75

SECTION - A

Answer ALL Questions

 $(10 \times 1 = 10)$

- 1. A study based on complete enumeration of data is known as
- a) Sample survey b) Pilot survey
- d) None of the above c) Census survey

2. Frequency of a variable is always____

- a) In percentage b) A fraction d) None of the above c) An integer
- 3. Which of the following is true?
- a) GM ≤ AM ≤ HM b) AM≥GM≥HM
- c) GM≥AM≥HM d) HM≤AM≤GM

4. Which of the following is not a positional measure?

a) Median b) Ouartile c) Percentile d) None of these

5. Fit a straight line for the following data:

X 1 2 3 4 6 8 Y 2.4 3 3.6 4 5 6

a) y=0.605x+1.796

- b) y=0.506x+1.976
- c) y=0.506x+1.796 d) y=0.506 x+1.976

6. Pick out the elementary events from below

i) $\{a, b, c\}$, ii) $\{1, 2\}$, iii) $\{1\}$, iv) $\{3, 4, 5\}$, v) $\{a, b\}$, vi) $\{c\}$

b) ii, iii, iv d) iii, vi a) i, iv, vi c) i, iv

7. Let A, 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) $A \cap B \cap C$ c) $A \cap B \cap Cc$ d) $AUB \cap Cc$

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 $F(x)=\Sigma f(u)$, $u \le x$ is called

the _____ of the random variable.

- a) probability mass function
- b) cumulative probability distribution function
- c) distribution function d) Both (b) and (c)

<u>SECTION – B</u>

Answer any FIVE Questions

 $(5 \times 2 = 10)$

- 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.

Answer ALL Questions

18. a) Find the Arithmetic mean of the marks from the following table

SECTION – C

X	1	2	3	4	5	6	7	
У	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 years):	20-30	30-40	40-50	50-60	60-70	70-80	80-90	
No. of 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 of X, x:	0	1	2	3	4	5	6	7
P(X):	0	k	2k	2k	3k	k ²	$2 k^2$	$7k^2+k$
·> E' 11		••	F 1	· D/3		D/17	A) 11	

- i) Find k ii) Evaluate P(X < 6), $P(X \ge 6)$ and P(0 < 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.

$(5 \times 5 = 25)$

herits and de

[OR]

b) Briefly explain Applications of Chi-Square Distribution?

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

23. Find the median wages of the following distribution.

Wages ₹	2000-3000	3000-4000	4000-5000	5000-6000	6000-7000
No. of 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 A/B has a larger wage bill?

ii) Which firm A/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 : $F(X) = 6x (1-x), 0 \le x \le 1$
- i) Check that f(X) is p.d.f
- ii) Determine a number b such that P(x < b) = P(x > b)
- 27. List out some applications of t-Distribution, explain.

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[Affiliated to Madurai Kamaraj University] **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

Max. Marks: 75

<u>SECTION – A</u>

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 _____ 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: $e^{x}-4x=0$ using Newton-Raphson iteration.

b) x=0.35 and x =2.1

c) x=0.35740 and x =2.15329

a) x=0.61906 and x=1.51213

d) Newton- Raphson iteration cannot be used since the answer oscillates between 2 and -2

5. _____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_____

- a) smoothing function b) interpolating function
- c) collocation polynomial d) interpolation formula

7. In Simpson's $(1/3)^{rd}$ Rule the number of intervals _____.

- a) odd c) multiple of 3 d) multiple of 6 b) even
- 8. In Simpson's rule will give exact result, if the entire curve y=f(x) is itself a_____
- c) Parabola a) Straight line. b) Chord d) Tangent line.

9. The main disadvantage of Lagrangian interpolation is that it is difficult to

find the order of the _____ 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

3x+4y+5z=18

2x-y+8z=05x-2y+7z=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 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

X:	25	30	35	40
Y=f(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

1.	1		1	7
V٠	1	5	5	Δ
X:	1	2	7	8

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

X:	7	8	9	10
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

X:	4	5	7	10	11	13		
Y:	48	100	294	900	1210	2028		
[OR]								

b) Write down the Simpson's One Third rule.

22. a) Using Euler's method solve numerically the equation, Y'=X+Y, Y(0)=1, for X=0.0(0.2)(1.0)

[**OR**]

b) Apply the fourth order Runge Kutta method to find Y(0.2) given that Y'=X+Y, Y(0)=1

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

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

X:	20	23	26	29
Y:	0.3420	0.3907	0.4384	0.4848

25. Find the following table, estimate $e^{0.644}$ correct to five decimal using

i) Stirling's, ii) Bessel's and Everett's method and also find e^x at x=0.638

X:	0.61	0.62	0.63	0.64	0.65	0.66	0.67
e ^X :	1.840431	1.858928	1.877610	1.896481	1.915541	1.934792	1.954237

26. Evaluate $_0 \int dx/1 + X^2$ by:

i) Trapezoidal rule, ii) Simpson's rule,

iii) Weddle's rule. And also check up the result by actual integration.

27. Solve $y'=y-x^2$, 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: 75

SECTION – A

Answer ALL	<u>Questions</u>		$(10 \times 1 = 10)$
1. Public, privat	e, protected are		
a) identifiers	b) data members	c) access specifies	d) type of class
2. main () is a		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	is used to write a s	ingle character to ou	tput file.
a) cin()	b) put()	c) get()	d) 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 swi	itch statements are o	called as	_ statements
a) iteration	b) jump	c) selection	d) conditional
7. Which of the	following is not a k	eyword?	
a) inherit	b) auto	c) extern	d) void
8. Data member	s is also called	·	
a) Attribute	b) Method	c) Class	d) Object

9.	Which of the	following	header	file incl	ludes de	efinition	of cin	and cout?
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a) istream.h	b) ostream.h	c) iomanip.h	d) iostream.h
10	_ provides multiway	branching	
a) for	b) if	c) if_else	d) switch

<u>SECTION – B</u>

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?

$\underline{SECTION - C}$

Answer ALL Questions

 $(5 \times 5 = 25)$

18. a) Compare while and do..while statements

[OR]

b) Describe briefly the data types of C++ Language19. 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.

$\underline{SECTION-D}$

Answer any THREE Questions

 $(3 \times 10 = 30)$

- 23. Write detailed note on object-oriented technology concepts in 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

Max. Marks: 75

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

Answer ALL Questions

 $(10 \times 1 = 10)$

1. The logical or	r mathematical model of	f a particular org	ganization of data is
called a	·		
a) data structur	re	b) algorithms	
c) structure		d) logic structu	ure
2. In order trave	ersal of binary search tre	e will produce	
a) unsorted list	t	b) sorted list	
c) reverse of ir	nput	d) none of the	se
3. The	for a linked list is p	pointer variable	that locates the
beginning of th	he list.		
a) Anchor	b) Base	c) Footer	d) Header
4. The data strue	cture required to check	whether an expre	ession contains
balanced parer	nthesis is?		
a) queue	b) stack	c) linked list	d) file
5. A tree is a dat	ta structure which repre-	sents hierarchica	al relationship
between indivi	idual		
a) data items	b) fields	c) nodes	d) linked list
6. If the element	ts A, B, C and D are pla	ced in a stack ar	nd 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 almo	st complete bina	ry tree if
a) each leaf in	the tree is either at level	l. b) for a	any node
c) both a and b).	d) Non	e.

8. For the heap	operations				
a) binary	b) arithmetic	c) algebraic	d) logarithmic		
9involves maintaining two tables in memory.					
a) Arranging	b) Bonding	c) Combing	d) Chaining		
10	data structure is	used to implement De	epth First search		
a) Array	b) Linked list	c) Queue	d) Stack		

<u>SECTION – B</u>

Answer any FIVE Questions

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

SECTION – C

Answer ALL Questions

 $(5 \times 5 = 25)$

 $(5 \times 2 = 10)$

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 expressions20. 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

$\underline{SECTION-D}$

Answer any THREE Questions

 $(3 \times 10 = 30)$

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 A+(B*C -(D/E↑F)*G)*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.



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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

Max. Marks: 75

<u>SECTION – A</u>

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

c) Relation operation

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
T 1 .•	1	1 .	

5. In relation algebra a new term was defined by Codd as _____:

a) Relation b) Relation completeness

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 _____

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 d) SDL c) DDL

9. ______ operator merges the result sets of two component queries:

b) UNION ALL c) INTERSECT d) MINUS a) UNION

10. Aggregate functions are functions that take a ______ 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

 $(5 \times 2 = 10)$

Answer any FIVE Questions

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

18. a) Write notes on data models.

[**OR**]

SECTION – C

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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$(5 \times 5 = 25)$



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B.Sc. Computer Science Degree (Semester) Examinations, April 2022 Part – III: Core Course: Fourth Semester: Paper – II DOT NET PROGRAMMING

Under CBCS and LOCF - Credit 4

Time: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL	<u>Questions</u>		$(10 \times 1 = 10)$		
1. Who is the de	eveloper of Visua	l Basic .NET?			
a) Microsoft.	b) IBM.	c) Sun Systems.	d) Open source		
2. Which is not	an integer data ty	pe?			
a) Single.	b) Byte.	c) Short.	d) Integer		
3. Which is a ty	pe of procedure f	ound in VB.Net?			
a) Event	b) Function	c) Sub	d) All of the above		
4. Which of the	following Loop	structure is not suppor	ted by VB.Net?		
a) DoLo	oop	b) For	.Next		
c) DoWh	ile	d) For Each.	d) For EachWhile		
5	tool is used	l to modify the charac	teristics of a control		
used in Visual	Basic .NET proj	ect.			
a) Control Edi	tor.	b) Properties	b) Properties Editor		
c) Characterist	ics detail.	d) Status Bar			
6. Which contro	ol is an example o	f an object in VB.NE	Τ?		
a) Button.	b) Label.	c) Textbox. d) All of the above		

7. The first event triggered in an .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

<u>SECTION – B</u>

 $(5 \times 2 = 10)$

Answer any FIVE Questions

- 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]

SECTION – C

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.

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

- 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

AND HEART HEAD

Max. Marks: 75

<u>SECTION – A</u>

Answer ALL Questions $(10 \times 1 = 10)$ 1. The ______ element is located within the ... tags. a) hr. b) h6. c) title. d) end. 2. Which type of CSS uses style attribute? a) Interna. d) Mixed b) Inline c) External 3. CSS stands for 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 'f' stands for

a) Floating numbers

b) Representation of functions that returns a value

c) \f is not present in JavaScript d) Form feed

7. PHP files have a default file extension of.

a) htmlb) .xmlc) .phpd) .ph8. 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 _____ class.

a) base

c) null d) predefined

<u>SECTION – B</u>

Answer any FIVE Questions

11. Define cascading style sheets.

12. Recall any two advantages of JavaScript.

b) abstract

- 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

Answer ALL Questions

 $(5 \times 5 = 25)$

18. a) Demonstrate the use of list tag in HTML

[OR]

SECTION – C

b) Explain box model in CSS19. 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()

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

- 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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$(5 \times 2 = 10)$





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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

<u>SECTION – A</u>

Answer ALL Questions

 $(10 \times 1 = 10)$

1. Tasks in Data mining which characterizes the general properties of data

in a database ar	e called	tasks.	
a) Predictive		b) Conceptualiz	zation
c) Descriptive		d) Discriminati	on
2. A star schema	has relationsh	ip with a dimens	sion and fact table
a) One to one	b) many to many	c) one to many	d) all the above
3	_ is defined based on di	mensions and fac	ets
a) Data cube	b) OLTP	c) OLAP	d) Database
4	operation is used t	o navigate from	the less detailed
data to more de	stailed data		
a) Roll-up	b) Drill – down	c) Slice and Did	ce d) Pivot
5. Hybrid learnir	ıg is		
a) machine learning with different techniques			
b) learning algorithmic analysis			
c) Learning by	generalizing from exam	ples	
d) none of these	e		

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 Itemse	d) none of these		
8 refers to the lev	el of understanding and insight that is		
provided by the model			
a) Robustness	b) Scalability		
c) Interpretability	d) Predictive accuracy		
9 is a neural net	work learning algorithm		
a) Back propagation b) Belief network			
c) fuzzy logic	d) none of these		
10algorithm avoids index structure construction and			
minimizes the number of I/Os, it splits the memory buffer into two halves.			
a) Nested Loop	b) Cell-based		
c) index-based	d) Sequential exception		

_____ is not an effective graphical method for plotting and

SECTION – B

 $(5 \times 2 = 10)$

Answer any FIVE Questions

11. What is data transformation?

- 12. Mention the operations in OLAP.
- 13. What is data cube?

6.

7.

9.

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

 $(5 \times 5 = 25)$

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

 $(3 \times 10 = 30)$

- 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

<u>SECTION – A</u>

Answer ALL Questions

 $(10 \times 1 = 10)$

1. What should	be the first tag in any l	HT	ML document?	
a) <head></head>	b) <title></title>	c) <html></html>	d) <document></document>
2. What is the correct HTML for addin			a background co	lor?
a) <body color<="" td=""><td>="yellow"></td><td></td><td>b) <body bgcol<="" td=""><td>or="yellow"></td></body></td></body>	="yellow">		b) <body bgcol<="" td=""><td>or="yellow"></td></body>	or="yellow">
c) background	>yellow <td>></td> <td>d) <body backg<="" td=""><td>ground="yellow"></td></body></td>	>	d) <body backg<="" td=""><td>ground="yellow"></td></body>	ground="yellow">
3. What tag uses	s to display a picture in	n a	webpage?	
a) picture	b) image	c)	img	d) src
4. How can we make a bulleted list?				
a) <list>.</list>	b) <nl>.</nl>	c)	.	d) .
5. DOM is an ac	cronym for			
a) document object model.		b)	b) document object metrics.	
c) digital object model.		d) digital object metrics.		
6. There are different of heading tags in HTML				
a) 4	b) 5	c)	6	d) 7
7. Which tag ins	serts a line horizontally	y 01	n your web page	?
a) <hr/>				b) <line>.</line>
c) <line directi<="" td=""><td>on="horizontal">.</td><td></td><td></td><td>d) .</td></line>	on="horizontal">.			d) .

8. Which of the following is not a browser?				
a) Microsoft Bing.		b) Netscape Na	b) Netscape Navigator.	
c) Mozilla Firefox.		d) Opera.	d) Opera.	
9. The enclose	HTML tags with	nin?		
a) { }	b) <>	c) ?	d) !!	
10. HTML web	pages can be re	ead and rendered by		
a) Compiler	b) Server	c) Web Browser	d) Interpreter	
<u>SECTION – B</u>				
<u>Answer any FIVE Questions</u> $(5 \times 2 = 10)$				
11. Define HTM	ML.			
12. Expand HT	TP and TCP.			
13. List out the	any two web br	rowsers?		
14. Define Mar	quee tag with ar	n example?		
15. The followi	ng purpose of ta	ig:		
i) < B r>	ii) <hr/>			
16. Define Tabl	le Header tag.			
17. Explain and	hor tag with exa	ample.		
	S	ECTION – C		

Answer ALL Questions

 $(3 \times 9 = 27)$

18. a) Briefly discuss about the structure of HTML.

[OR]

b) Explain the HTML page formatting basics.

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

<u>SECTION – D</u>

Answer any TWO Questions

 $(2 \times 14 = 28)$

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.

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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

Max. Marks: 75

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	ve	
2. In ethical hack	king and cyber security	y, there are	types of scanning	
a) 1	b) 2	c) 3	d) 4	
3. Which software	e is mainly used to help	users detect viruse	es and avoid them?	
a) Antivirus	b) Malware	c) Adware	d) None	
4. Which of the	following is a tool for	performing foot p	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 hack	ing	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.

a) Blasterb) Creeperc) Sasserd) Both b and c8. 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

<u>SECTION – B</u>

 $(5 \times 2 = 10)$

Answer any FIVE Questions

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

18. a) Write about Ethical Hacking and Cyber Security.

[OR]

SECTION – C

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.

<u>SECTION – D</u>

Answer any TWO Questions

 $(2 \times 14 = 28)$

- 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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 $(3 \times 9 = 27)$

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	ffiliated to Madurai Kamarai Universit	v]	
B.A., B.Sc., B.Com.	B.Com.(CA) Degree (Semester) Ex	aminations, April 2022	
Time: 2 Hours	INTERNET AND WEB DESIGNING CERTIFICATE COURSES	Max. Marks: 50	
	SECTION – A		
Answer ALL Questions		$(10 \times 1 = 10)$	
1. Expand HTML?			
2. Which HTML tag is used to displa	y a picture on a webpage?		
3. Which tag used to display text in i	talics?		
4. What is the use of $\langle br \rangle$ tags in HT	ML?		
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 back	ground color of a web page?		
	SECTION – B		
Answer ALL Questions		$(4 \times 5 = 20)$	
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 HTM	L program		
13.a) How to run a JavaScript program	n		
	[OR]		
b) Write a short note about interne	t		
14.a) Explain about tag and th	eir attributes with example		
	[OR]		
b) Discus about class and id select	ors in CSS		
	SECTION – C		

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 $(2 \times 10 = 20)$

Answer any TWO Questions

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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(Affiliated to Madura	i Kamaraj University]
B.A., B.Sc., B.Com. & B.Com.(CA) Dec	gree (Semester) Examinations, April 2022
Time: 2 Hours CERTIFICAT	FFICE E COURSES Max. Marks: 50
SECTION – A	
Answer ALL Ouestions	$(10 \times 1 = 10)$
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, un	derline, 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 D	
$\frac{SECTION - B}{SECTION}$	
Answer ALL Questions	$(4 \times 5 = 20)$
11.a) Write any 10 basic options of MS-WORD document	2
[OR]	
b) Write the advantages and disadvantages of MS- OFF.	ICE.
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 exa	mple.
14.a) How will you create the presentation. Explain the step	28
[OR]	
b) How will you add an image to your presentation?	
<u>SECTION – C</u>	
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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VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST 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.A., B.Sc., B.Com. & B.Com.(CA) Degree (Semester) Examinations, April 2022 PC HARDWARE & TROUBLESHOOTING Time: 2 Hours CERTIFICATE COURSES Max. Marks: 50 <u>SECTION – A</u>

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?

<u>SECTION – B</u>

Answer ALL Questions

 $(4 \times 5 = 20)$

 $(10 \times 1 = 10)$

CCPC10

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

15. Explain the components of Motherboard and its functions

16. Enumerate on types of Display devices?

17. Explain the components of Network Interface Card?

 $(2 \times 10 = 20)$

