VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234

|  | DEPARTMENT OF COMPUTER SCIENCE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Course Code: | 10CT61 | Programme: | B. Sc., Comp. Sci. | CIA: | II |
|  | Date: | 11.06.2022 | Part: | III | Semester: | VI |
|  | Duration: | 2 Hours | Academic Year: | 2021-22 | Max. Marks: | 50 |
|  | Study Component: |  | Core |  |  |  |
|  | Course Title: | WEB PROGRAMMING |  |  |  |  |

## SECTION - A (Remembering)

Answer ALL the Questions:
( 10 X 1 = 10 Marks)
1 How to define a function in PHP?
a) function \{function body\}
b) data type functionName(parameters) \{function body\}
c) functionName(parameters) \{function body\}
d) function functionName(parameters) \{function body\}

2 Which two predefined variables are used to retrieve information from forms?
a) \$GET \& \$SET
b) \$_GET \& \$_SET
c) $\$$ __GET \& $\$$
_SET
d) GET \& SET

3 How many methods are available for the exception class?
a) 5
b) 6
c) 7
d) 8

4 Who is the father of PHP?
a). Rasmus Lerdorf
b) Willam Makepiece
c) Drek Kolkevi
d) List Barely
$5 \quad$ What does PHP stand for?
i) Personal Home Page
ii) Hypertext Preprocessor
iii) Pretext Hypertext Processor
iv) Preprocessor Home Page
a) Both (i) and (ii)
b) Both (ii) and (iv)
c) Only (ii)
d) Both (i) and (iii)
$6 \quad$ PHP files have a default file extension of.
a) . html
b) xml
c) .php
d) .ph

7 A hexadecimal literal begins with
a) 00
b) $0 x$
c) $0 X$
d) Both 0x and 0X

8 Which of the following is not considered as an error in JavaScript?
a) Syntax error
b) Missing of semicolons
c) Division by zero
d) All of the mentioned

9 The type of a variable that is volatile is
a) Volatile variable
b) Mutable variable
c) Immutable variable
d) Dynamic variable

10 Cookies were originally designed for
CO
a) Client-side programming
b) Server-side programming
c) Both Client-side \& Server-side programming
d) none

## SECTION - B (Remembering)

Answer any FIVE Questions:
(5 X 2 = 10 Marks)
11 How to create a variable in PHP CO4
12 Write PHP program to display "hello world" CO4
13 Define functions $\mathbf{C O 3}$
14 Define include() CO5
15 What is the usage of header() CO5
16 List out the Events of the radio elements $\mathbf{C O 3}$
17 Define cookies $\mathbf{C O 3}$
Answer any THREE Questions:
18 Write short notes on functions in php ..... CO5
19 Explain briefly about Radio and check box elements with example ..... CO3
20 Write procedure to run a PHP program with example ..... CO4
21 Discuss about data types in PHP ..... CO4
22 Discuss about for and for each iteration in PHP ..... CO5
SECTION - D (Applying)
Answer any ONE Question:(1X 12= 12 Marks)
23 Explain about operators and the else if clause in PHP ..... CO4
24 Write a procedure to connect PHP and MYSQL with example ..... CO5

## $\boldsymbol{\&} \boldsymbol{\&} \boldsymbol{\&} \boldsymbol{\&} \boldsymbol{\&} \boldsymbol{\&}$

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Course Code: | 10EP6A | Programme: | B.Sc., Comp. Sci. | CIA: | II |
|  | Date: | 13.06.2022 | Part: | III | Semester: | VI |
|  | Duration: | 2 Hours | Academic Year: | 2021-22 | Max. Marks: | 50 |
|  | Study Component: |  | Elective |  |  |  |
|  | Course Title: | DATA MINING AND DATA WAREHOUSING |  |  |  |  |

## SECTION - A (Remembering)

Answer ALL the Questions:
(10 X 1 = 10 Marks)
1 The degree to which numeric data tend to spread is called $\qquad$ CO3
a) Central tendency
b) dispersion
c) weighted average
d) midrange

2 The operation of moving from finer granularity data to a coarser granularity by means of aggregation is called $\qquad$ -
a) Roll-up b) Drill-down
c) Dicing
d) Pivoting

3 Hybrid learning is $\qquad$ -
a) machine learning with different techniques
b) learning algorithmic analysis
c) Learning by generalizing from examples
d) none of these

4 is observations
a) quartile plots
b) Q-Q plot
c) box plot
d) histogram

5 If a rule concerns associations between the presence or absence of items is called a $\qquad$ CO 4
a) Boolean association rule b) quantitative association rule
c) dimensional association rule d) multilevel association rule

6 If a rule references two or more dimensions, then it is $\qquad$ association rule
a) Multilevel b) multidimensional c) Single dimensional d) Boolean

7 methods are used by researchers in machine learning, expert systems, statistics and neurobiology
a) Classification and prediction
b) association rule c) clustering
d) outlier analysis

8 Which one of these is a technique for classification?
a) Linear regression
b) Decision tree induction
c) non-linear regression d)generalized linear regression

9 algorithm constructs decision tree using top-down recursive divide-and-conquer mechanism
a) Apriori
b) Greedy
c) Djikstra
d) none of these

10 methods addresses the problem of over fitting of the data
a) Tree pruning b) classification rule c) tree induction
d) fragmentation

## SECTION - B (Remembering)

Answer any FIVE Questions:
11 Define data generalization? CO3
12 Expand DMQL? CO3
13 Define attribute removal? CO3
14 List the steps for mining class comparison? $\mathbf{C O 4}$
15 Define classification? $\mathbf{C O 4}$
16 Distinguish Classifier and Predictor? CO5
17 Give two examples of datamining software? CO5

## SECTION - C (Understanding)

Answer any THREE Questions:
(3 X 6= 18 Marks)
18 Describe the procedure involved in comparison of different classes? CO3
19 Discuss briefly about the issues in classification and prediction? CO4
20 Write a short note on Classification by back-propagation? CO4
21 Brief a note about the typical requirements of clustering in datamining? CO5
22 Analyze social impacts of datamining? CO5
SECTION - D (Applying)
Answer any ONE Question:
(1X 12= 12 Marks)
23 Enumerate on types of data in cluster analysis?
CO4
24 Explain in detail the trends and applications of datamining
CO5

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Course Code： | 10GE21 | Programme： | B．A／B．Sc．／B．Com／ B．Com（CA） | CIA： | II |
|  | Date： | 09．06．2022 | Part： | IV | Semester： | II |
|  | Duration： | 2 Hours | Academic Year： | 2021－22 | Max．Marks： | 50 |
|  | Study Component： |  | Generic Elective Course |  |  |  |
|  | Course Title： | WEB PROGRAMMING |  |  |  |  |

## SECTION－A（Remembering）

Answer ALL the Questions：
（ $10 \times 1$ X 10 Marks）
1 What should be the first tag in any HTML document？
A．＜head＞
B．〈title＞
C．〈html＞
D．＜document＞

2 Website is a collection of．
A．audio files．
B．video file
C．image file．
D．html file．

3 How can we make a bulleted list？
CO 2
A．＜list＞．
B．＜nl＞．
C．＜ul＞
D．＜ol＞
4 The URL means
A．use resource locator．
B．undefined resource locator
C．uniform resource locator．
D．user defined locator．

5 Which tag inserts a line horizontally on your web page？
A．＜hr＞
B．＜line＞．
C．＜line direction＝＂horizontal＂＞．
D．〈tr＞．

6 The enclose HTML tags within？
CO 3
A．\｛\}
B．＜＞
C．＜？？＞
D．！！

7 What is the correct HTML for adding a background color？
A．＜body color＝＂yellow＂＞
B．＜body bgcolor＝＂yellow＂
C．background＞yellow＜／background＞
D．＜body background＝＂yellow＂＞

8 Which of the following is not a browser？
A．Microsoft Bing．
B．Netscape Navigator．
C．Mozilla Firefox．
D．Opera．

9 How can we make a Number list？
A．＜list＞．
B．$\langle\mathrm{nl}>$ ．
C．＜ul＞
D．＜ol＞．

10 There are $\qquad$ different of heading tags in HTML
A． 4
B． 5
C． 6
$\mathrm{CO5}$

## SECTION－B（Remembering）

Answer any FIVE Questions：
（5 X 2 ＝ 10 Marks）
11 Define HTML．
CO1
12 Expand IP and TCP．CO1
13 List out the any four web browsers？CO2
14 Define＜body＞tag．CO3
15 List out the any four table attributes？ $\mathbf{C O 3}$
16 Define list CO4
17 The following purpose of tag．$\quad$ CO5
（i）〈a＞
（ii）＜hr＞

## SECTION－C（Understanding）

Answer any THREE Questions：
（3 X 6＝ 18 Marks）
18 Explain the HTML page formatting basics：
CO1
19 Briefly explain about unordered list with example program CO2
20 Write any simple program to create table $\mathbf{C O 3}$
21 Discuss in detail image tag and attributes？CO4
22 Briefly explain about ordered list with example program CO5

> SECTION - D (Applying)

Answer any ONE Question：
（1X 12＝ 12 Marks）
23 Write a HTML program to display your Bio－Data using form tag．
CO1
24 How to create table using its various attributes？Explain with an example program． $\mathbf{C O 3}$

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Course Code: | 10SB62 | Programme: | B.Sc., Comp. Sci. | CIA: | II |
|  | Date: | 06.06.2022 | Part: | IV | Semester: | VI |
|  | Duration: | 1 Hour | Academic Year: | 2021-22 | Max. Marks: | 25 |
|  | Study Component: |  | Skill Based |  |  |  |
|  | Course Title: | CYBER SECURITY |  |  |  |  |

## SECTION - A

Answer ALL the Questions:
(5 X 1 = 5 Marks)
1 There are $\qquad$ types of computer virus.
a) 5
b) 7
c) 10
d) 12

2 A computer $\qquad$ is a malicious code which self-replicates by copying itself to other CO 4 programs.
a) program
b) virus
c) application
d) worm

3 Which of the following is not a type of virus? CO 4
a) Boot sector
b) Polymorphic
c) Multipartite
d) Trojans

4 What is data encryption standard (DES)?
$\mathrm{CO5}$
a) block cipher
b) stream cipher
c) bit cipher
d) byte cipher

5 In cryptography, the order of the letters in a message is rearranged by $\qquad$
a) transpositional ciphers
b) substitution ciphers
c) both transpositional ciphers and substitution ciphers
d) quadratic ciphers

## SECTION - B

Answer any TWO Questions:
( $\mathbf{2}$ X $2=4$ Marks)
6 Define Virus CO4
7 What is meant by Trojans? $\mathrm{CO4}$
8 Define worm CO4
9 Define Cryptography. CO5
SECTION - C
Answer any ONE Question:
(1 X 6= 6 Marks)
10 Write about the types of virus
CO4
11 Describe about the Cryptography and Encryption Techniques CO5

## SECTION - D

Answer any ONE Question:
(1 X 10= 10 Marks)
12 Explain about the different between virus and worm
CO4
13 Explain the MD5 Algorithm CO5
$\boldsymbol{\&} \boldsymbol{\&} \boldsymbol{\&} \boldsymbol{\&} \boldsymbol{\&} \boldsymbol{\&}$

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| Course Code: | 10AE21 | Programme: | B. Sc., Comp. Sci. | CIA: | II |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Date: | 13.06 .2022 | Part: | III | Semester: | II |
| Duration: | 2 Hours | Academic Year: | 2021-22 | Max. Marks: | 50 |
| Study Component: | Ability Enhancement Course |  |  |  |  |
| Course Title: | STATISTICS \& PROBABILITY |  |  |  |  |

## SECTION - A (Remembering)

Answer ALL the Questions:
( 10 X 1 = 10 Marks)
1 __ is the study of functional relationship between the variables, making it possible to predict $\mathbf{C O 3}$ lestimate the unknown value of one of the variables from the known value of the other.
a) Correlational Analysis
b)Regression Analysis
c)Mean Difference Analysis
d)None of these

2 Which of the statements do not hold true?
a)Both regression coefficients cannot be greater than 1
b)Regression coefficients are unaffected by origin shift and scale shift
c) Both correlation and regression coefficients are of same sign
d) Two regression lines coincide iff $\mathrm{r}= \pm 1$

3 . If $\gamma$ is the correlation coefficient between x and y , then correlation coefficient between $2 \mathrm{x} \quad \mathbf{C O 3}$ and $3 y+2$ is
a) $\gamma$
b) $2 \gamma$
c) $3 \gamma+2$
d) $6 \gamma+2$

4 If $\mathrm{A}=\{1\}$ and $\mathrm{B}=\{2,3\}$ in $\mathrm{S}=\{1,2,3,5,6\}$, which is the event representing the occurrence of exactly one of events $\mathrm{A}, \mathrm{B}$ ?
a) $\{1,2,3\}$
b) $\}$
c) $\{2,3\}$
d) S

5 Phenomenon of Statistical Regularity is observed when
a) Number of trials of a random experiment increases
b) Number of trials of a random experiment is kept minimal
c) Relative frequencies approach divergent values
d) None of these

6 Which of these definitions of probability defines probability as a function whose domain is the class of events taking values on the real line?
a)Classical definition
b)Axiomatic definition
c) Frequency definition
d) None of these

7 . For any 2 events A and $\mathrm{B}, \mathrm{P}(\mathrm{AUB})=$
a) $\mathrm{P}(\mathrm{A})+\mathrm{P}(\mathrm{B})$
b) $\mathrm{P}(\mathrm{A})+\mathrm{P}(\mathrm{B})-\mathrm{P}(\mathrm{A} \cap \mathrm{B})$
c) $\mathrm{P}(\mathrm{A})-\mathrm{P}(\mathrm{A} \cap \mathrm{B})$
d) $\mathrm{P}(\mathrm{A})-\mathrm{P}(\mathrm{B})-\mathrm{P}(\mathrm{A} \cap \mathrm{B})$

8 Two cards are drawn from a well shuffled pack of 52 cards. Find the probability that they are both aces if the first card is replaced.
a) $1 / 144$
b) $1 / 169$
c) $4 / 169$
d) $1 / 36$

9 A class contains 10 men and 20 women of which half men and half women have brown eyes. Find the probability that a person chosen at random is a man or has brown eyes.
a) $1 / 5$
b) $1 / 2$
c) $1 / 3$
d) $2 / 3$

10 A pair of fair dice is tossed. What is the probability that the maximum of the two numbers is greater than 4 ?
a) $4 / 36$
b) $20 / 36$
c) $2 / 36$
d) $6 / 36$

## SECTION - B (Remembering)

Answer any FIVE Questions:

13 A box contains 3 red, 6 white, 7 blue balls. What is the probability that 2 balls drawn are white and blue?
14 1. Two coins are tossed 500 times, and we get: Two heads: 105 times, One head: 275 times and No CO4 head: 120 times .Find the probability of each event to occur.

15 Two players, Sangeet and Rashmi, play a tennis match. The probability of Sangeet winning the match is 0.62 . What is the probability that Rashmi will win the match?
16 If $\mathrm{P}(\mathrm{A})=7 / 13, \mathrm{P}(\mathrm{B})=9 / 13$ and $\mathrm{P}(\mathrm{A} \cap \mathrm{B})=4 / 13$, evaluate $\mathrm{P}(\mathrm{A} \mid \mathrm{B})$.
17 Mention the types of sampling. CO5

## SECTION - C (Understanding)

Answer any THREE Questions:
18 Discuss about the various operation of sets.
19 The length X of a certain type of light bulb may be supposed to be a continuous random variable with probability density function: $\mathrm{F}(\mathrm{x})=\mathrm{a} / \mathrm{x}^{3}, 1500<\mathrm{x}<2500$

$$
=0 \text {, else where. }
$$

Determine the constant " $a$ ".
20 Explain the properties of Distribute function.
21 Explain the M.G.F of CHI-Square distribution? CO5
22 Summarize the application of T distribution.

## SECTION - D (Applying)

Answer any ONE Question:
(1X 12= 12 Marks)
23 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 $k$ (ii) Evaluate $P(x<6), P(X>=6)$, and $p(0<x<5)$.

24 If $X$ is chi-square variate with $n$ d.f., then prove that for large $n, \sqrt{ } 2 x-N(\sqrt{ } 2 n, 1)$.

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|  | Course Code: | 10AT41 | Programme: | B. Sc., Comp. Sci. | CIA: | II |
|  | Date: | 13.06.2022 | Part: | III | Semester: | IV |
|  | Duration: | 2 Hours | Academic Year: | 2021-22 | Max. Marks: | 50 |
|  | Study Component: |  | Allied |  |  |  |
|  | Course Title: | NUMERICAL METHODS FOR COMPUTER SCIENCE |  |  |  |  |

## SECTION - A (Remembering)

Answer ALL the Questions:
( $10 \times 1=10$ Marks)
1 In which of the following method, we approximate the curve of solution by the tangent in CO1 each interval.
a) Picard's method
b) Euler's method
c) Newton's method
d) Range Kutta method

2 Jacobi's method is also known as
CO1
a) Displacement method
b) Simultaneous displacement method
c) Simultaneous method
d) Diagonal method

3 The number of significant digits in the number 204.020050 is
a) 5
b) 6
c) 8
d) 9

4 In a ordinary differential equations the first category methods is
$\mathrm{CO5}$
.a. Taylor Method
b. Euler Method
c. Runge-Kutta Method
d. Pointwise Method

5 A $\qquad$ of differential equations is a function which satisfies the differentialequations.

CO5 a.Solution. b.General solution. c.Particular solution. d.Complete solution.

6 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

7 64 The degree of $y(x)$ in Trapezoidal Rule is $\qquad$ .
a.1.
b.2.
c.3.
d. 6.

8 The degree of $y(x)$ in Simpson's $(1 / 3)$ rd Rule is $\qquad$ .
a.1.
b.2.
c. 3 .
d. 6

9 The degree of $y(x)$ in Simpson's (3/8)th is $\qquad$
a.1.
b.2.
c.3.
d.6.

10 Numerical differentiation can be used only when the difference of some order
a. Equally spaced. b. Unequally spaced. c. Are constant. d. Independent

## SECTION - B (Remembering)

Answer any FIVE Questions:
(5 X 2 = 10 Marks)
11 Which order of R.K method is called Modified Euler method CO5
12 Write a formula of Improved Euler's method CO5
13 Write Steps to find inversion of matrix using Gauss Elimination method CO1
14 Write a formula of Regula- falsi method CO1
15 Write a procedure to solve Newton forward differentiation method CO4
16 Write down first derivative of Newton Backward differentiation formula CO4
17 Why we use Romberg's method CO4

## SECTION - C (Understanding)

Answer any THREE Questions:
(3 X 6= 18 Marks)
18
CO4
Evaluate $\int_{0}^{1} \frac{d x}{1+x 2}$ using Romberg's method. Hence, obtain an appropriate value for $\pi$

19 Given $y^{\prime}=-y$ and $y(0)=1$, determine the value of $y$ at $x=(0.01)(0.01)(0.04)$ by Euler $\quad$ CO5 method
20 Solve the equation $\frac{d y}{d x}=1-y$, given $\mathrm{y}(0)=0$ using modified Euler's method find y at $\mathrm{CO5}$ $\mathrm{x}=0.1,0.2$.
21 Solve for a positive root of $x 3-4 x+1=0$ by Regula falsi method
22 Find by Guassian elimination method, the inverse of $\mathrm{A}=\left(\begin{array}{ccc}3 & -1 & 1 \\ -15 & 6 & -5 \\ 5 & -2 & 2\end{array}\right)$

## SECTION - D (Applying)

Answer any ONE Question:
23 Find positive root of $x 3-x=1$ correct to four decimal places by Bi -section method
24 Apply fourth order Range-kutta method to find y at $\mathrm{x}=0.1,0.2$ given that

$$
y^{\prime}=x+y, y(0)=1
$$

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| Course Code: | 10CT21 | Programme: | B. Sc., Comp. Sci. | CIA: | II |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Date: | 08.06 .2022 | Part: | III | Semester: | II |
| Duration: | 2 Hours | Academic Year: | $2021-22$ | Max. Marks: | 50 |
| Study Component: | Core Course |  |  |  |  |
| Course Title: | OBJECT ORIENTED PROGRAMMING WITH C++ |  |  |  |  |

## SECTION - A (Remembering)

Answer ALL the Questions:
( 10 X $1=10$ Marks)
1
___ is the mechanism which allows a class A to inherit properties of a class B. CO4
A. Data abstraction
B. Encapsulation
C. Inheritance
D. Polymorphism

2
2 $\qquad$ is a default access specifier for members of class in C++.
A. protected
B. public
C. private
D. default

3 Public, private, protected are $\qquad$ .
A. identifiers.
B. data members.
C. access specifies.
D. type of class

4 Overloaded functions are $\qquad$ .

CO
A. very long functions that can hardly run.
B. Two or more functions with the same name but different number of parameters or type.
C. short functions that can easily modified.
D. One function containing another one or more functions inside it.

5 Which of the following is not a type of inheritance? CO4
A. Multiple.
B. Multilevel.
C. Distributive.
D. Hybrid.

6 A is an instance of class. CO5
A. code.
B. object.
C. variable.
D. pointer.

7
A. Inheritance
B. Data overloading
C. Operator overloading
D. Message binding
$\qquad$ is a relationship between classes. CO is one of the ways to achieve polymorphism.
A. Polymorphism
B. Inheritance
C. Overloading
D. Overriding
A. Global. is not a type of scope in c++.
C. File.
D. Function.
A. cannot be created
$\qquad$
C. a constant
B. initialized only once.
D. a class

CO 3

## SECTION - B (Remembering)

Answer any FIVE Questions:
11 Define Destructor CO3
12 Define Constructor CO3
13 Define Copy Constructor CO3
14 Define Inheritance CO4
15 Define Multipath Inheritance CO4
16 Write about Polymorphism CO5
17 Define pointer CO5
SECTION - C (Understanding)
Answer any THREE Questions:
(3 X 6= 18 Marks)
18 Explain about Argument Constructor $\mathbf{C O 3}$
19 Write about single inheritance CO4
20 Explain about the Access specifiers CO4
21 Discuss about Virtual Functions $\mathbf{C O 5}$
22 Describe about the THIS pointer CO5
SECTION - D (Applying)
Answer any ONE Question:
(1X 12= 12 Marks)
23 Explain about the Inheritance and its types with Example
CO4
24 Apply the concept of pure virtual function CO5

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Course Code: | 10CT22 | Programme: | B.Sc., Comp. Sci. | CIA: | II |
|  | Date: | 11.06.2022 | Part: | III | Semester: | II |
|  | Duration: | 2 Hours | Academic Year: | 2021-22 | Max. Marks: | 50 |
|  | Study Component: |  | Core Course |  |  |  |
|  | Course Title: | DATA STRUCTURE |  |  |  |  |

## SECTION - A (Remembering)

Answer ALL the Questions:
(10 X $1=10$ Marks)
1 $\qquad$ methods addresses the problem of over fitting of the data
a) Tree pruning
b) classification rule
c) tree induction
d) fragmentation

2 a tree means processing it in such a way that each node is visited only once.
a) Traversing
b) Implement
c) Partition.
d) Node.

3 The queue which wraps around upon reaching the end of the array is called as $\qquad$ .
a) circular queue
b) linked queue
c) doubly linked list
d) representation of queue

4 Expression into postfix expression: $(\mathrm{A}-\mathrm{B}) *(\mathrm{D} / \mathrm{E})$
CO
a) $\mathrm{ABDE}-* /$
b) - * / ABDE
c) AB-DE*/
d) $*$ - A B / D E

5 For the heap sort, access to nodes involves simple $\qquad$ operations.

CO4
a) binary
b) arithmetic
c) algebraic
d) logarithmic

6 is not a technique of tree traversal.

CO4
a) pre-order
b) post-order
c) prefix
d) in-order

7 Accessing and processing each array elements is called $\qquad$ .
a) sorting
b) traversing
c) searching
d) merging

8 involves maintaining two tables in memory.
a) Arranging
b) Bonding
c) Combing
d) Chaining

9 The $\qquad$ is used in an elegant sorting algorithm.
$\mathrm{CO5}$
a) Heap sort
b) Quick sort
c) Merge sort
d) Radix sort.

10 The term push and pop is related to _.
$\mathrm{CO5}$
a) Array
b) Lists
c) Stack
d) Trees

SECTION - B (Remembering)
Answer any FIVE Questions:
(5 X 2 = 10 Marks)
11 List the attributes of a singly linked list?
CO3
12 List the types of linked lists? $\quad \mathbf{C O 3}$
13 What does a node contain in a linked list? CO3
14 Define a Leaf node in a tree?
CO4
$\mathbf{1 5}$ List the types of tree data structures? $\mathbf{C O 4}$
16 List the components of a graph data structure? $\mathbf{C O 5}$
17 Define sorting? CO5

## SECTION - C (Understanding)

Answer any THREE Questions:
(3 X 6= 18 Marks)
18 Discuss briefly on the operations of a singly linked list?
CO3
19 Write a note on the types of linked list with a neat diagram? CO4
20 Illustrate the search operation using a binary search tree? CO4
21 Illustrate the working of bubble sort with an example? CO5
22 Discuss about Warshall's algorithm? CO5
SECTION - D (Applying)
Answer any ONE Question:
(1X 12= 12 Marks)
23 Explain in detail traversal in binary trees?
CO4
24 Compare and comment on the working of Insertion sort and Merge sort? CO5

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| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | Course Code: | 10 CT 41 |  | Programme: | B. Sc., Comp. Sci. | CIA: |
|  | Date: | 08.06 .2022 | Part: | III | Semester: | IV |
|  | Duration: | 2 Hours | Academic Year: | $2021-22$ | Max. Marks: | 50 |
|  | Study Component: |  | Core |  |  |  |
|  | Course Title: | RELATIONAL DATABASE MANAGEMENT SYSTEM |  |  |  |  |

## SECTION - A (Remembering)

Answer ALL the Questions:
1 Referential integrity constraints are also called as $\qquad$ CO 3
A. Functional dependencies
B. Subset dependencies
C. Superset dependencies
D. Primary dependencies
2 What statement is used to define a new assertion in SQL?
A. create check
B. create assertion where
C. create whereD. create assertion check
3 How many primitive operators of relation algebra as proposed by codd $\mathrm{CO3}$
A. 2
B. 3
C. 4
D. 6
4 Which is a unary operation
A. Selection operation
B. Primitive operation
C. Projection operationD. Generalized selection
5 Which of the three possible types of triggers does SQL Server support?
A. INSTEAD OF only
B. AFTER only
C. BEFORE only
D. INSTEAD OF and AFTER only
6 SQL data definition commands make up a $\qquad$ -
A. DDL
B. DML
C. TCL
D. XML
7 The SQL keyword(s) $\qquad$ is used with wildcards. CO4
A. LIKE only
B. IN only
C. NOT IN only
D. IN and NOT IN
8 $\qquad$ commands in SQL allow controlling access to data within database:
CO5
A. Database
B. Data
C. Data controlD. All of these
9 Which constraint that requires that the column contain a value when it is initially inserted into CO5 the table:
A. IS NULL
B. NOT NULLC. UNIQUE
D. NONE
10 How many set operations supports the oracle SQL:
$\mathrm{CO5}$
A. 2
B. 3
C. 4
D. 5

## SECTION - B (Remembering)

Answer any FIVE Questions:
(5 X $2=10$ Marks)
11 Define Normalization. CO3
12 Define File Organization CO3
13 Define RAID. CO3
14 What is a transaction? $\quad$ CO4
15 What is index? List its types CO4
16 What are the various modes in which a data item may be locked? CO5
17 What are the two approaches to store a relation in the distributed database? CO5

## SECTION - C (Understanding)

Answer any THREE Questions:
(3 X 6= 18 Marks)
18 Specify the various ways of organizing records in files and explain any one file organization in CO3
19 Explain Query optimization? Give the syntax for EXPLAIN command CO4
20 Discuss why concurrency control is needed. CO4
21 Draw and explain the architecture of a distributed system. CO5
22 What are the basic issues while implementing distributed databases? CO5

> SECTION - D (Applying)

Answer any ONE Question:
(1X 12= 12 Marks)
23 Explain B+ trees with example.
CO4
24 Explain in details concurrency control and recovery. CO5

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Course Code: | 10CT42 | Programme: | B.Sc., Comp. Sci. | CIA: | II |
|  | Date: | 11.06.2022 | Part: | III | Semester: | IV |
|  | Duration: | 2 Hours | Academic Year: | 2021-22 | Max. Marks: | 50 |
|  | Study Component: |  | Core |  |  |  |
|  | Course Title: | DOT NET PROGRAMMING |  |  |  |  |

## SECTION - A (Remembering)

Answer ALL the Questions:( 10 X $1=10$ Marks $)$
1 Which is not an optional element of a sub procedure declaration? ..... CO2
A. Parameters.

B. Public.

C. Sub.

D. Statements.
2 Which method will return the number of elements in an array? CO 2
A. Dimension.
B. Length.
C. Number.
D. Size.
3 How do user terminate code execution using VB.NET method?.
CO 2
A. Exit.
B. Close.
C. Close Sub.
D. Exit Sub.
4 Tick event is found only in the object $\qquad$ .
A. Form
.B. Timer.
C. TextBox.
D. Label.
5 Which is not a common control event?
CO
A. Click.
B. SingleClick.
C. DoubleClick.
D. MouseMove.
6 The CancelButton property belongs to $\qquad$ object. CO 3
A. Button.
B. Form.
C. Label.
D. TextBox.
7 The CancelButton property belongs to which object?
$\mathrm{CO3}$
A. Button
B. Form
C. Label
D. TextBox
8 Each web application has its own set of cached, application and $\qquad$ data. $\mathrm{CO5}$
A. virtual
B. local
C. session
D. global
9 How many files do a Config folder contains?
$\mathrm{CO5}$
A. 3
B. 2
C. 5
D. 6
10 Dataset class has no direct connection to a .
A. data Object.
B. data source.
C. table.
D. records SECTION - B (Remembering)
Answer any FIVE Questions:
11 Define Array ..... CO2
12 What do you mean by Function? ..... CO2
13 Define polymorphism ..... CO3
14 Define abstraction ..... CO3
15 Display any four file operations ..... CO3
16 Expand: ADO, ASP ..... CO5
17 What is SQL ..... CO5
SECTION - C (Understanding)
Answer any THREE Questions:(3 X 6= 18 Marks)
18 Discuses about the function returning a value with example ..... CO2
19 Explain the Recursive function with example ..... CO2
20 Explain about file handling with example program. ..... CO3
21 Explain about Menus with example program ..... CO5
22 Benefits of ADO .NET. ..... CO5
SECTION - D (Applying)
Answer any ONE Question: ..... (1X 12= 12 Marks)
23 Explain about the passing array as function arguments with example ..... CO2
24 Discuses about the dialogue box with example programs. ..... CO5

