(III)

| ARU | Course Title: | RELATIONAL DATABASE MANAGEMENT SYST | | | | | |
|-----|----------------------|-------------------------------------|------------|------------|------------|----|--|
| | Duration: | 2 Hours | Year: | II | Max.Marks: | 50 | |
| A | Date: | 16.02.2021 | Major: | Comp. Sci. | Semester: | IV | |
| No. | Course Code: | 10CT41 | Programme: | B.Sc. | CIA: | Ι | |

| Answei | r ALL the Questions: $(10 \text{ X } 1 = 10 \text{ M})$ | arks) |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 1 | A relational database consists of a collection of | CO1 |
| | A. Tables B. Fields C. Records D. Keys | |
| 2 | A in a table represents a relationship among a set of values. | CO1 |
| | A. Column B. Key C. Row D. Entry | |
| 3 | The term is used to refer to a row | CO1 |
| | A. Attribute B. Tuple C. Field D. Instance | |
| 4 | For each attribute of a relation, there is a set of permitted values, called the of that attribute. | CO1 |
| | A. Domain B. Relation C. Set D. Schema | |
| 5 | Which one of the following is a procedural language? | CO1 |
| | A. Domain relational B. Tuple relational C. Relational algebra D. Query language | |
| 6 | Ranking of queries is done by which of the following? | CO2 |
| | A. Group by B. Order by C. Having D. Both Group by and Order by | |
| 7 | Which of the following is the oldest database model? | CO1 |
| | A. Relational B. Deductive C. Physical D. Network | |
| 8 | A collection of data designed to be used by different people is called a/an | CO2 |
| | A. Organization B. Database C. Relationship D. Schema | |
| 9 | Which of the following terms does refer to the correctness and completeness of the data in a database? | CO2 |
| | A. Data security B. Data constraint C. Data independence D. Data integrity | |
| 10 | In a granularity hierarchy the highest level represents the | |
| | A. Entire database B. Area C. File D. Record | CO1 |
| | SECTION – B (Remembering) | _ 、 |
| Answei | r any FIVE Questions: $(5 \times 2 = 10 \times 10^{-10} \times 10^{$ | arks) |
| 11 | Define data. | CO1 |
| 12 | Define Record. | CO1 |
| 13 | Define Row & Column | CO1 |
| 14 | Write about RDBMS | CO1 |
| 15 | Define FIELD | CO1 |
| 16 | What is a TABLE? | CO1 |
| 17 | Define ACID properties | CO2 |
| | SECTION – C (Understanding) | |
| Answei | r any THREE Questions: $(3 \times 6 = 18 \text{ M})$ | arks) |
| 18 | Difference between Primary and Foreign Key | CO1 |
| 19 | Discuss about the advantages & disadvantages of DBMS | CO1 |
| 20 | Explain about the types of data model. | CO1 |
| 21 | Explain about Application of database | CO1 |
| 22 | Discuss about Alternate, Candidate and Composite key. | CO1 |
| | SECTION – D (Applying) | |
| Answer | r any ONE Question: $(1X 12=12 M)$ | arks) |
| 23 | Difference between DBMS & RDBMS | CO1 |
| 24 | Explain about the Normalization? | CO2 |

| | Course Title: | | DOT NET PROGRAMMING | | | |
|-----|----------------------|------------|---------------------|------------|------------|----|
| | Duration: | 2 Hours | Year: | II | Max.Marks: | 50 |
| a l | Date: | 19.02.2021 | Major: | Comp. Sci. | Semester: | IV |
| JET | Course Code: | 10CT42 | Programme: | B.Sc | CIA: | Ι |

| | SECTION - A (F | (cincindering) | |
|----------|---------------------------------------------------|-----------------------|----------------------------------------|
| Answer | ALL the Questions: | _ | (10 X 1 = 10 Marks) |
| 1 | .A GUI: | | CO1 |
| | A. uses buttons, menus, and icons. B | 3. should be easy for | a user to manipulate. |
| | C. stands for Graphic Use Interaction. | D. Both a and b. | |
| 2 | Which is not a main component of the Visual | Studio IDE? | CO1 |
| | A. Solution Explorer. B. Tool Box. C | C. Start Menu. D. | Designer Window. |
| 3 | Which is not a common property of the contro | l class? | CO1 |
| | A. Show. B. BackColor. C | C. Font. D. For | eColor. |
| 4 | The Button control can be activated | · | CO1 |
| | A. programmatically through the click event. | B. by clicking only | button with the mouse. |
| | C. double clilcking the object | D. through click | event and button. |
| 5 | Which is a numeric data type? | | CO1 |
| | A. Floating point. B. Integer. C | 2. Float and Integer. | D. Boolean. |
| 6 | What is the value of the index for the first elem | nent in a VB.NET ar | ray? CO2 |
| | A. 0. B. 1. C. 2. | D. 3. | |
| 7 | The solution explorer will not display | · | CO2 |
| | A. Form Properties B. Reference Fo | lder C. Form File | D. Assemble File |
| 8 | How do user terminate code execution using V | B.NET method? | CO2 |
| - | A. Exit. B. Close. C | C. Close Sub. | D. Exit Sub. |
| 9 | Controls are called | | CO2 |
| 10 | A. Code. B. Part of the menus. | C. Rules. | D. Objects. |
| 10 | Which menu item is not typically found in the | File Menu? | CO2 |
| | A. Close. B. Copy. C. Exit. | D. Print. | |
| | SECTION – B (F | (kemembering) | |
| Answei | any FIVE Questions: | | $(5 \times 2 = 10 \text{ Marks})$ |
| 11 | Define dot net? | | |
| 12 | what do you mean by CLR? | | |
| 13 | Expand: FCL, WCF, LINQ, and MSIL. | | |
| 14 | Define c# variable. | | |
| 15 | Write a Brook statement with example | | |
| 10 17 | while a Break statement with example. | | |
| 1/ | Explain any four advantage of array. | Indonation dina) | 02 |
| Answa | SECTION = C (U) | nuerstanung) | (3 V 6- 18 Marks) |
| 18 | Benefits of dot net | | $(3 \mathbf{A} 0 - 10 \mathbf{WarKs})$ |
| 10 | Write a program in Arithmetic Operation using | g Interface | C01 |
| 20 | Explain the visual studio IDF | 5 interface. | C01 |
| 20 | Explain the Visual studio IDE. | ٩ | |
| 21 | Explain any four advantage of array | | CO2 |
| | SECTION – D | (Applying) | 02 |
| Answei | any ONE Ouestion: | (rr -)8) | (1X 12= 12 Marks) |
| 23 | Explain about the Dot Net Framework compor | nents with diagram. | CO1 |
| 24 | Write a program in String Function using sorti | ng names. | CO2 |
| | | ~ | |

1

| W. | | Course Code: | 10CT61 | Programme: | B.Sc | CIA: | Ι |
|----------|------------|-------------------------|--------------------------------------------------------------------------------------|-------------------|---------------------------|---------------------|------------|
| | (A) | Date: | 18.02.2021 | Major: | Comp. Sci. | Semester: | VI |
| | | Duration: | 2 Hours | Year: | III | Maximum: | 50 |
| HANDHEAD | THEAD | Course Title: | | WEB P | ROGRAMMING | G | |
| | | | an antan | | | <u> </u> | |
| A | | | SECTION – | • A (Remembering | g) | | |
| Answe | Fypon | A HTML 2 | | | | (10 X 1 = 10 Mar) | KS) \1 |
| 1 | | ver Texture Making | of Language B | Hyper Text Marku | in Language | CC | /1 |
| | C. Hvr | ber Text Marking of | Links. D. Higher | r Text Markup Lan | ip Language. | | |
| 2 | Which | HTML tag is used t | o display a pictu | re on a webpage? | -88 | CC |)1 |
| | A. pict | ure. B. image. | C. img. | D. src. | | | |
| 3 | | tag makes | the enclosed tex | t into italic. | | CC |)1 |
| | A. | B. <a> | C. <u></u> | D. <i></i> | | | |
| 4 | Links a | are inserted using the | e el | ement | | CC |)1 |
| | a. <a> | b. | c. | d. | | | |
| 5 | The | element is us | ed to create an u | nordered list. | | CC |)2 |
| | A. h1. | B. h6. C. ul. D. h | r. | | | | |
| 6 | Where | is the correct place | to insert a JavaSo | cript? | | CC |)2 |
| | a) The | <head> section</head> | b) The <body.< td=""><td>> section</td><td>a a a</td><td>,</td><td></td></body.<> | > section | a a a | , | |
| 7 | c) The | <title> section</title> | d) Both the < | nead> section and | the <body> section</body> | on are correct | N 2 |
| 1 | what I | int name="vvv is" | b) <script sro<="" td=""></script> | | | | |

| HEARD | Course Title: | DATA MINING AND DATA WAREHOUSING | | | | | |
|-------|----------------------|----------------------------------|------------|------------|------------|----|--|
| | Duration: | 2 Hours | Year: | III | Max.Marks: | 50 | |
| | Date: | 19.02.2021 | Major: | Comp. Sci. | Semester: | VI | |
| | Course Code: | 10EP2A | Programme: | B.Sc., | CIA: | Ι | |

SECTION – A (Remembering)

$(10 \times 1 - 10 \text{ Marks})$

CO2

| Answer | • ALL the Questions: $(10 \times 1 = 10 \text{ M})$ | larks) |
|-----------------|--------------------------------------------------------------------------------------------------------------------|----------|
| 1 | The process of removing noise and inconsistent data is called | COI |
| | a) Data selection b) Data cleaning c) Data integration d) Pattern recognition | COI |
| 2 | Application of intelligent methods in a process to extract data patterns is called | CO1 |
| | a) Biometrics b) Data selection c) Data mining d) Pattern recognition | 001 |
| 3 | is not a Data mining functionality | 001 |
| | a) Clustering & Analysis b) selection and interpretation c) classification & regression | COI |
| 1 | (a) Characterization and discrimination General characteristics or features of a target class of data refers to | |
| - | a) Data classification b) Data selection c) Data Discrimination d) Data characterization | CO1 |
| 5 | Which of the following is true for data classification? | |
| 5 | a) A sub-division of a set b) A measure of accuracy c) Assigning a classification task d) | CO1 |
| | All of these | COI |
| 6 | is a subject-oriented, integrated, time-variant and a non-volatile collection of data that | |
| Ũ | supports management decisions. | CO1 |
| | a) Data mining b) Web mining c) Data warehousing d) Text mining | 001 |
| 7 | Tasks in Data mining which characterizes the general properties of data in a database are | |
| | called tasks. | CO2 |
| | a) Predictive b) Conceptualization c) Descriptive d) Discrimination | |
| 8 | The core of the multidimensional data model is called the | cor |
| | a) tables b) database c) data cube d) Dimensions | 02 |
| 9 | A system can be designed based on star or snowflakes schema | cor |
| | a) OLTP b) OLAP c) Record d) Relationships | 02 |
| 10 | Concept description is most basic form of mining | CO^{2} |
| | a) Predictive b) comparative c) descriptive d) none of these | 02 |
| | SECTION – B (Remembering) | |
| Answer | fany FIVE Questions: 	(5 X 2 = 10 N) | Iarks) |
| 11 | Define KDD? | CO1 |
| 12 | Give any two advantages of Online Analytical Processing? | CO1 |
| 13 | Define a Data Warehouse? | CO1 |
| 14 | Classify the categories of tasks in Data Mining? | CO1 |
| 15 | List the types of schema used in designing a multidimensional data model? | CO2 |
| 16 | Define Online Analytical Processing? | CO2 |
| 1/ | Define Concept Hierarchy? | 02 |
| Anorrow | SECTION – C (Understanding) (2 X (-19 N) | (anlea) |
| Answer | $\mathbf{A} = \mathbf{A} \mathbf{A} \mathbf{A} \mathbf{A} \mathbf{A} \mathbf{A} \mathbf{A} \mathbf{A}$ | |
| 10 | Distinguish between Data characterization and Data discrimination? | |
| 20 | Compare the characteristics Outlier Analysis and Evolution analysis? | |
| 20 21 | Distinguish between OI TP and OI AP? | CO1 |
| $\frac{21}{22}$ | Bring out in brief the characteristics of a multidimensional data model with a suitable | 004 |
| | example? | CO2 |
| | SECTION – D (Annlying) | |
| Answer | $\frac{1}{1} = 12 \text{ M}$ | larks) |
| 23 | Enumerate on the architecture of Data mining? | COÍ |

| | 0 | |
|----|-----------------------------------------------------------------------|--|
| 24 | Enumerate on the various types of operations in OLAP with an example? | |

| VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 62523 | ;4 |
|-----------------------------------------------|----|
| DEPARTMENT OF COMPUTER SCIENCE | |

| | <u>(1)</u> | Course Co | ode: | 10SB41 | Programme: | B.Sc., | CIA: | Ι |
|-------------|---------------|----------------------|---------------------------------------|-----------------|--------------------|-----------------------|------------------|------------|
| | 2 | Date: | | 15.02.2021 | Major: | Comp. Sci. | Semester: | IV |
| | | Duration : | | 2 Hours | Year: | II | Max.Marks: | 25 |
| MANU HEARIN | | Course Ti | tle: | | UNIX AND SH | IELL PROGRAM | IMING | |
| | | | | SEC | CTION – A | | | |
| Answei | ALL | the Question | s: | | | | (5 X 1 = 5 Mark) | s) |
| 1 | What | t is a shell scr | int? | | | | CC |)1 |
| 1 | a. gro | oup of comma | ands | | b. a file contai | ning special symbol | ls | |
| | c. a f | ïle containing | a series | s of commands | d. group of fur | nctions | | |
| 2 | To sp | pawn a child o | of our ov | wn choice for r | unning the script, | we can use <u>com</u> | mand. CC |)1 |
| 2 | a.ps | • • • | b.pr | | c.sh | d. \$\$ | | |
| 3 | The o | complete set o | of position \mathcal{I}_{μ} | onal parameter | s is stored in | as a single string | . CC |)] |
| 1 | a. ən Ever | D. J vifis closed | o# with a co | C. [*] | u. 55 | | CC |)1 |
| + | a els | $rac{1}{2}$ | i i i i i i i i i i i i i i i i i i i | c if | d_else if | | | /1 |
| 5 | Test | works in | wavs. | 0.11 | | | CC |)1 |
| - | a. 3 | b. 2 | 2 | c. 4 | d. 1 | | | - |
| | | | | SEC | CTION – B | | | |
| Answei | any T | FWO Questic | ons: | | | | (2 X 2 = 4 Mark) | s) |
| 6 | Defi | ne Operating | System. | | | | CC |)1 |
| 7 | Wha | t is meant by | UNIX? | | | | CC |)1 |
| 8 | Diffe | erence betwee | n Multiı | user and multit | asking | | CC |) 1 |
| 9 | Who | is founder of | UNIX (| operating syste | m? | | CC |)1 |
| | (| | | SEC | CTION - C | | | ` |
| Answei | any C | JNE Question | 1S: IV avata | mononization | with diagram | | (1 X 0= 0 Mark) | (S) |
| 10 | Evol | ain any 5 hasi | a comm | anda | i with diagram. | | |)1)1 |
| 11 | SECTION D | | | | | | | |
| Answei | · anv (| ONE Question | 1 : | SEC | | (1 | X 10= 10 Mark | (S) |
| 12 | Disci | uss about the | salient f | eatures of UNI | X. | () | |)1 |
| 13 | Exp | lain types of s | hell | | | | CC |)1 |



Answer **ALL** the Questions:

| ET. | Course Code: | 10SB62 | Programme: | B.Sc. | CIA: | Ι |
|-----|----------------------|------------|------------|---------------------|------------|----|
| | Date: | 13.02.2021 | Major: | Computer Science | Semester: | VI |
| AU | Duration: | 1 Hour | Year: | III | Max.Marks: | 25 |
| | Course Title: | | CYB | ER SECURITY | | |

SECTION – A

(5 X 1 = 5 Marks)

| 1 | Which of the following does not stages of Ethical Hacking? | CO1 |
|----------|----------------------------------------------------------------------------------------------------|---------|
| | A) Security Access B) Gaining Access C) Maintaining Access D) Scanning | 001 |
| 2 | A) Security professional B) Former black bet | COI |
| Z | C) Former grey hat D) Malicious hacker | |
| | The keys used in cryptography are | CO5 |
| 3 | A) Secret key B) Private key C) Public key D) All of them | 000 |
| | An encryption algorithm transforms the plaintext into | CO5 |
| 4 | A) Cipher text B) Simple Text C) Plain Text D) Empty Text | |
| | | CO5 |
| | $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | |
| | $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | |
| _ | | |
| 5 | U V W X Z | |
| | This table using VL is anowated as CD but NS is anowated as | |
| | A) A D B) DA C) VA D) Both A & B | |
| | A) AF D) FA C) VA D) Dour A & D | |
| | SECTION – B | |
| Answer | r any TWO Questions: $(2 \times 2 = 4 \times 10^{-5})$ | Aarks) |
| 6 | Give note on Ethical Hacking? | CO1 |
| 7 | List out the advantages and disadvantages of Hacking. | CO1 |
| 8 | What are the major different between Encryption and Decryption? | CO5 |
| 9 | Define Key and types. | CO5 |
| A | SECTION - C | |
| Answei | r any ONE Questions: $(I X 0 = 0 N$ What do you moont by Hocker? And different types of Hocker? | /larks) |
| 10 | Write a short notes on Pasia Terms in Cruntography? | |
| 11 | SECTION – D | 005 |
| Answei | $\mathbf{SECTION} = \mathbf{D}$ | (arks) |
| 12 | Explain about the different Stages of Ethical Hacking. | CO1 |
| 13 | Discuss about the Play-Fair Cipher Algorithm and Rules with any three own Examples. | CO5 |
| | | |

| | | DEPARIN | IENT OF COM | PUTER SCIE | LINCE | | | |
|---------------------------|------------------------------------------|-----------------------------|--------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--|--|
| | Course Code: | 10AT21 | Programme: | B.Sc | CIA: | Ι | | |
| | Date: | 20.02.2021 | Major: | Comp. Sci. | Semester: | II | | |
| | Duration: | 2 Hours | Year: | Ι | Max.Marks | 50 | | |
| | Course Title: | | STATISTIC | CS & PROBA | BILITY | | | |
| SECTION _ A (Remembering) | | | | | | | | |
| Answe | er ALL the Questions: | | | 9 | (10 X 1 = 10 Ma | rks) | | |
| 1 | The arithmetic mean of | 7.3.12.8.10 is | | | C | 01 | | |
| - | A) 8 E | $\frac{1}{C}$ | 9 D) 2 | | | 0 - | | |
| 2 | The median of values 1 (25) | 8, 20,15,35,25 is | D) 19 | | C | 01 | | |
| 3 | A) 25 E Range of 8, 12,5,15 and | 10 is | 20 D) 18 | | C | 01 | | |
| - | A) 2 E | b) 5 C) | 10 D) No | ne | - | - | | |
| 4 | of a set of obser | vations is their s | um divided by the | number of observer | ervations. C | 01 | | |
| 5 | Literal meaning of disp | ersion is | Mean D) Me | alan | C | 02 | | |
| - | A) Measures | B) Aver | ages C) Sca | tteredness | D) Deviations | - | | |
| 6 | The formula for Co-effi | cient of variation | is | 1/0D) + 100 | C | 02 | | |
| 7 | A) (SD/AM)*10 Third Quartile of 40 is | $0 \qquad B) SD^*A$ | AM C) (AI | M/SD)*100 | D) SD-AM | 02 | | |
| , | A) 30 B) 20 | C) 35 | D) 25 | | C | | | |
| 8 | is the difference | between two ext | reme observations | of the distribut | ion. C | 02 | | |
| 0 | A) Mean Deviat | ion B) Stand | lard Deviation | C) Quartiles | D) Range | 03 | | |
| , | A) $0 <= P(E) < 1$ | B) $0 <= P(E) <= 1$ | C) $0 < P(E) < = 1$ | D) 0<1 | P(E)<1 | 05 | | |
| 10 | The no. of cases possible | e outcome in any | rtrial is known as_ | | C | 03 | | |
| | A) Favourable Event | B) Mutuall | y Exhaustive Even | nt | | | | |
| | C) Equally likely Ever | section - | tive Event - B (Rememberin | a) | | | | |
| Answe | er any FIVE Questions: | | D (Rememberin | 6) | (5 X 2 = 10 Ma) | rks) | | |
| 11 | Find the Mean and Med | ian for the follow | ving 10 students. | | C | 01 | | |
| | 20,22,27,30,40,48,45,32 | 2,31,35 | | | ~ | • • | | |
| 12 | Write a steps for the fin | d mode value in o | discrete method. | | C | | | |
| 13 | List out the types of Me | asure of Dispersi | on. | | | | | |
| 14 | Define Range with Exa | npie. | | | | 02 | | |
| 15 | Define Foxourable Even | with example. | koly Evont with or | ampla | | 03 | | |
| 10 | What is the chance that | a lean year select | ad at random will | contain 53 Sur | udave? | 03 | | |
| 1/ | what is the chance that | a leap year sereer | | contain 55 Sui | Current Contraction Contractio | | | |
| | | SECTION - | C (Understandin | ng) | | | | |
| Answe | er any THREE Questions | | | | (3 X 6= 18 Ma | rks) | | |

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18 Calculate the Arithmetic Mean of the marks from the following table:

Х F

19 Find the Mode for the following Distribution:

| Class | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
|-------|------|-------|-------|-------|-------|-------|-------|-------|
| Marks | 5 | 8 | 7 | 21 | 28 | 20 | 10 | 10 |

CO 1

CO 1

20 Calculate the Mean & Root Mean Square Deviation for the following data.

| Marks | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 |
|----------|-------|-------|-------|-------|-------|-------|-------|
| No. Of | 3 | 61 | 132 | 153 | 140 | 51 | 2 |
| Students | | | | | | | |

21 A) A Coin tossed 3 times, Find the Chance a Throwing (ii) Two Tails and Head, (iii) Head and Tail Alternative (i) Three Heads,

B) A Box Contains 3 Red, 6 White, 7 Blue Balls. What is the Probability that 2 balls drawn are White and Blue?

22 If two Dice are thrown, What is the Probability that the sum is (a) Greater than equal 8, **CO 3** and (b) neither 9 nor 11.

SECTION – D (Applying)

Answer any **ONE** Question:

23 The Median and Mode of the following wages distribution are known to be Rs. 33.50 and CO 1 Rs. 34.00 Respectively. Show that the values of f3, f4 and f5 are 60, 100 and 40 respectively.

| Wages | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | Total |
|-----------|------|-------|-------|-------|-------|-------|-------|-------|
| Employees | 4 | 16 | f3 | f4 | f5 | 6 | 4 | 230 |

24 Each Questions are both same (4) marks:

A) Prove that for any Discrete Distribution, Standard Deviation is not less than mean Deviation from Mean.

B) It was group of 200 candidates the A.M and S.D of scores were found to be 40 and 15 respectively. Later on it was discovered that the scores 43 and 35 were misread as 34 and 53 respectively. Find the Corrected A.M and S.D corresponding to the corrected figures.

C) An analysis of monthly wages paid to the workers of two Firms A and B. Belonging to the same Industry Gives the following results:

| Company | Firm A | Firm B |
|-----------------------------------------|---------|---------|
| Worker Details | | |
| No. of Workers | 500 | 600 |
| Averages of Wages | Rs. 186 | Rs. 175 |
| Variance of Distribution of Wages | 81 | 100 |

I. Which Firm A or B has a larger Average wage Bill?

II. In Which Firm A or B is there greater variability in individual Wages?

CO 3

(1X 12= 12 Marks)

CO 2

т

| UICAIRI | Course Title: | NUMER | ICAL METHO | DS FOR COMPU | TER SCIENCE | C |
|----------------|----------------------|------------|------------|--------------|-------------|----|
| | Duration: | 2 Hours | Year: | II | Max.Marks: | 50 |
| | Date: | 20.02.2021 | Major: | Comp. Sci. | Semester: | IV |
| | Course Code: | 10AT41 | Programme: | B.Sc | CIA: | Ι |

| Answer | ALL the Questions: | (10 X 1 = 10 Marks) |
|------------------|------------------------------------------------------------------------------|-----------------------------------|
| 1 | used to interpolate nearer to starting value of table | e CO2 |
| | a) Newton forward b) Newton backward c) Guass forward | and backward |
| | d) all | |
| 2 | EY ₀ = | CO2 |
| | a) Y_{-1} b) y_0 c) y_1 d) y_2 | |
| 3 | formulae used for equal interval | CO2 |
| | a) Newton forward b) Newton backward c) Guass forward | and backward |
| | d) all | |
| 4 | is /are following central interpolation methods | CO3 |
| | a) Guass forward b) Guass backward c) Laplace Everett d) al | 1 |
| 5 | Guass forward and backward interpolation derived from | CO3 |
| | a) Newton forward b) Guass forward and backward c) | Laplace Everett |
| | d) Newton's cote | |
| 6 | How we find the missing value use of | CO2 |
| | a) Δ and E b) Δ and F c) Δ and G d) Δ and h | |
| 7 | used to interpolate nearer to ending value of table | CO2 |
| | a) Newton forward b) Newton backward c) Guass forward | and backward |
| 8 | The order of the matrix $B = \begin{bmatrix} 1 & 2 & 5 & 7 \end{bmatrix}$ is | CO2 |
| | A. 1*1 B. 1*2 C. 1*4 D. 1*3 | |
| 9 | The technique for computing the value of the function inside the | CO2 |
| | given argument is called | |
| | a) interpolation b) extrapolation c) partial fraction | |
| 10 | d) inverse interpolation | <i></i> |
| 10 | The technique for computing the value of the function outside of the | CO2 |
| | given argument is called | |
| | a) interpolation b) extrapolation c) partial fraction | |
| | d) inverse interpolation | |
| | SECTION – B (Remembering) | |
| Answer | any FIVE Questions: | $(5 \times 2 = 10 \text{ Marks})$ |
| 11 | Define interpolation | |
| 12 | Write about Gauss-Elimination method | |
| 15 | Write a formula of Newton hockward interpolation with u | |
| 14 1 <i>5</i> | write a presedure to solve Course iorden method | |
| 15 | write a procedure to solve Gauss-jordan method | |
| 10 | Define central interpolation $(\Gamma - 1)^4 = 2$ | |
| 1/ | $(\mathbf{E}-\mathbf{I}) = \mathbf{I}$ | CO2 |

| | | SE | CTION – C (| Understa | nding) | | | | |
|--------|-------------------------------------------------------------|------------------|------------------|--------------|------------|----------|---------|-------------|--------|
| Answer | any THREE Qu | estions: | | • | Ċ, | | (. | 3 X 6= 18 I | Marks) |
| 18 | 18 Solve the system by Gauss-Jordan method | | | | | | | | CO2 |
| | x + 2y + 2z = 7: $3x + 2y + 4z = 13$: $4x + 3y + 2z = 8$. | | | | | | | | |
| 19 | Solve the system by Gauss-Elimination method | | | | | | | | CO2 |
| | 2x + 3y - z = 5: | 4x + 4y - 3z = | 3: $2x - 3y + 2$ | 2z = 2. | | | | | |
| 20 | 2 1 1 | | | | | | | CO2 | |
| 20 | Find the inverse | of by Gaussian | Elimination | Method u | sing A= 3 | 2 3 | | | 001 |
| | | , | | | 1 | 4 9 | | | |
| 21 | Apply Gauss for | ward formula a | and estimate f | (3.5) from | the follo | wing tak | مام | | CO3 |
| 21 | V V | | | (3.3) 11011 | | wing tai | 5 | | |
| | Λ V_f(y) | 2 620 | 2 151 | | 4 | | 5 | | |
| | I = I(X) | 2.029 | 5.434 | | 4./04 | | 0.980 | |] |
| 22 | Apply Gauss ba | ckward formula | a and estimate | √12516 | from the f | followin | g table | _ | CO3 |
| | Х | √12500 | √12510 | $\sqrt{129}$ | 520 | √1253 | 30 | | |
| | Y | 111.803399 | 111.848111 | 111.8 | 392805 | 111.93 | 7483 | | |
| | | | SECTION - | D (Annly | ing) | | |] | |
| Answer | any ONE Quest | ion [.] | | | | | (1 | X 12 = 12 | Marks) |
| 23 | Find $x=46$ and x | = 63 from the f | ollowing data | | | | (- | | CO2 |
| 23 | | | onowing data | | | | | | |
| | X | 45 | 50 | 55 | 60 | | 65 | |] |
| | Y | 114.84 | 96.16 | 83.32 | 74 | .48 | 68. | 48 | |
| 24 | From the follow | ing data find x | =43 and x=84 | and also | express in | x terms | | | CO2 |

| From the following data find $x=45$ and $x=64$ and also express in x terms | | | | | | | | |
|----------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|--|--|
| Х | 40 | 50 | 60 | 70 | 80 | 90 | | |
| Y | 184 | 204 | 226 | 250 | 276 | 304 | | |



Course Code: 10CT21 Ι **Programme:** B.Sc CIA: 16.02.2021 **Major:** Comp. Sci. Π Date: Semester: **Duration:** 2 Hours Year: Ι **Max.Marks:** 50 **OBJECT ORIENTED PROGRAMMING WITH C++ Course Title:**

| Answer | r ALL the Questions | 8: | | (10 X 1 = 1) | 10 Marks) |
|-----------------|---------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------|------------|
| 1 | OOP language suppo | orts object based featur | es, inheritance and | • | CO1 |
| 1 | A. Encapsulation. | B. Polymorphism. | C. Object identity. | D. Functions. | |
| 2 | is the fundam | nental building block of | f object oriented programm | ning language. | CO1 |
| 2 | A. Module. | B. Code. | C. Object. | D. Function. | |
| 3 | Public, private, prote | ected are | | | CO2 |
| 5 | A. identifiers. | B. data members. | C. access specifies. | D. type of class | |
| 4 | A structure defines a | type. | _ | | CO1 |
| • | A. class. | B. pointers. | C. arrays. | D. variables. | |
| 5 | Which of the followi | ing is a logical operator | r? | | CO1 |
| | A. ++ | B.?: | C. == | D. && | COA |
| 6 | A | _ is an instance of class | O | Durchen | CO2 |
| | A. code. | B. object. | C. variable. | D. pointer. | CO1 |
| - | 1S On | e of the ways to ach | eve polymorphism. | | COI |
| / | A. Inheritance. | B. Data overloadin | ig. C. Operator overlo | ading. D. Message | |
| | binding. | | | | ~~ ~ ~ ~ |
| 8 | is a rela | ationship between cla | isses. | | CO1 |
| 0 | A. Polymorphism. | B. Inheritance. | C. Overloading. | D. Overriding. | |
| 9 | In C++, 14 % $4 = $ _ | · | | | CO1 |
| , | A. 1. | B. 2 | C. 3 | D. 4 | |
| | C++ begins its exe | cution with | | | |
| 10 | A. header file. | B. main. | C. class. | D. declaration. | CO1 |
| | | | | | |
| | | SECTION | – B (Remembering) | | |
| Answer | r any FIVE Question | ns: | | (5 X 2 = 1) | 10 Marks) |
| 11 | Any TWO differen | ce between C and C+ | ++ | | CO1 |
| 12 | Define Class | | | | CO2 |
| 13 | Define Methods | | | | CO2 |
| 14 | Define Encapsulati | on | | | CO1 |
| 15 | Define Polymorphi | ism | | | CO1 |
| 16 | Write about Identif | ier | | | CO1 |
| 17 | List out the types of | of Operators | | | CO1 |
| | | SECTION | – C (Understanding) | | |
| Answei | r any THREE Ouest | tions: | - (| (3 X 6= | 18 Marks) |
| 18 | Explain about Incre | ement and Decremen | t Operator with Example | . (e 11 e . | CO1 |
| 19 | Write about WHI | E and DO-WHILE I | oon with Example | - | CO1 |
| 20 | Explain about the S | Scope resolution One | rator | | CO1 |
| 20 | Discuss about Data | types & Variables u | ith examples? | | CO1 |
| $\frac{21}{22}$ | Write a $C^{\perp\perp}$ progra | am to find the odd or | even number | | |
| | while a $C++$ progra | | $\mathbf{N} = \mathbf{D} \left(\mathbf{A} \mathbf{n} \mathbf{n} \mathbf{h} \mathbf{v} \mathbf{n} \mathbf{n} \right)$ | | 002 |
| Anome | r ony ONE Quastion | SECIIC | u – n (Appiying) | (11 10 | 17 Manlea) |
| Answei | Estimate availate al | hout the heats concern | to of OOD with average | (1A 12 =) | 12 widfKS) |
| 23 | Estimate explain at | of taling from the term | the a suitable service 1 | CS ! | |
| 24 | Apply the concept | of infine function with | in a suitable example. | | CO2 |

U

| | Course Title: | | DATA | STRUCTURE | | |
|--------|----------------------|------------|------------|------------|------------|----|
| HIEAU. | Duration: | 2 Hours | Year: | Ι | Max.Marks: | 50 |
| | Date: | 19.02.2021 | Major: | Comp. Sci. | Semester: | II |
| | Course Code: | 10CT22 | Programme: | B.Sc | CIA: | Ι |

SECTION – A (Remembering)

| Answei | r ALL the Questions: | (10 X 1 = 10 Marks) |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| 1 | refers to a value or a set of values or facts. | CO1 |
| | a) Database b) Data c) Table d) Record | COI |
| 2 | is a collection of field values of a given entity. | C01 |
| | a) File b) Data Item c) Record d) Entity Set | COI |
| 3 | refers to a single unit of value in a record. | CO1 |
| | a) Relation b) Tuples c) Data Item d) Objects | |
| 4 | is about rendering data elements based on relationship, for better organ | ization and CO1 |
| ~ | storage of data. a) DBMS b) Data Mining c) Data structure d) |) File |
| 5 | which one of these is a Non-Primitive data structure? | CO1 |
| 6 | a) integer b) float c) char d) stack Identify the non-linear data structure a) integer b) float a) Tree | d) linked list CO1 |
| 07 | Identify the hon – finear data structure a) fineger b) float c) free If a Linear Array can hold 0 alaments than the maximum value of the index i | |
| / | a = 20 $b = 20$ 7 $d = 8$ | ^s —· C01 |
| 8 | Identify the non $-$ linear data structure a) Stack b) float c) Tree | d) Linked List CO2 |
| 9 | is a sequential search that is performed over all items one by one | |
| , | a) Linear search b) Binary search c) Linear stack d) Intege | cO2 |
| 10 | Binary Search can be categorized into which of the following? | |
| | a) Brute Force technique b) Divide and Conquer c) Greedy algorithm | d) dynamic CO2 |
| | programiing | |
| | SECTION – B (Remembering) | |
| Answei | r any FIVE Questions: | (5 X 2 = 10 Marks) |
| 11 | Give any two uses of a data structure? | CO1 |
| 12 | Give any two examples for Non Linear Non primitive data structure? | CO1 |
| 13 | Define a Record? | CO1 |
| 14 | List the attributes of a Linear Array? | CO1 |
| 15 | List the types of sorting algorithms? | CO2 |
| 16 | Distinguish In-place sorting and Not-in-place sorting? | CO2 |
| 17 | Define Adaptive Sorting? | CO2 |
| | SECTION – C (Understanding) | |
| Answei | r any THREE Questions: | $(3 \times 6 = 18 \text{ Marks})$ |
| 18 | Brief a note on data structure organization? | COL |
| 19 | Summarize the representation of Linear Arrays in memory | COL |
| 20 | Bring out the classification of data structures? | COL |
| 21 | Critically analyze the implementation of a linear array? | COL |
| 22 | Brief a note on Binary search operations? | C02 |
| Angua | section – D (Applying) | (1V 17- 17 Monka) |
| 72 Allswel | Compare and analyze the insertion and deletion operations of Linear Arrays | (IA I2 - I2 WIATKS) with a |
| 23 | suitable algorithms and a program in $C++$ for each operation? | CO1 |
| 24 | Explain the operations of Binary Search with a suitable algorithm? | CO2 |

24 Explain the operations of Binary Search with a suitable algorithm?