

Day : Saturday

Date : 07/05/2011



1614

Time : 2:00 p.m. to 5:00 p.m.

Max Marks : 70

**N.B.:**

- 1) **Q.No.1 is COMPULSORY.**
- 2) Each question carries **14** marks.
- 3) Attempt **ANY FOUR** questions from **Q.2 to Q.7.**
- 4) Use of non programmable **CALCULATOR** is allowed.
- 5) Graph paper and Statistical table will be permitted if necessary.

**Q.1 a)** Use the false position method to find the root of the equation  $x^2 - x - 2 = 0$  in the range  $1 < x < 3$ .

**b)** Solve the following system of equation by using Gauss Seidel iterative method

$$3x_1 + 2x_2 = 5$$

$$x_1 - 3x_2 = 5$$

**Q.2 a)** Convert the following decimal into binary equivalent.

i) 43.375

ii) 0.65

**b)** Find the square root of 1.5 using the Lagrange and interpolation formula. The table gives square root for integer.

x	1	2	3	4	5
f(x)	1	1.4142	1.7321	2	2.2361

**Q.3 a)** Solve the following system of linear equations by Gauss Elimination Method.

$$3x_1 + 6x_2 + x_3 = 16$$

$$2x_1 + 4x_2 + 3x_3 = 13$$

$$x_1 + 3x_2 + 2x_3 = 9$$

**b)** Draw 'less than' and 'more than' ogives from the following distribution of marks obtained by 100 candidates in an examination.

Marks obtained	1 - 10	11 - 20	21 - 30	31 - 40	41 - 50	51 - 60
No. of candidates	3	16	26	31	16	8

**Q.4** Calculate mean, median and mode from the following data:

x	5	6	7	8	9	10	11	12	13	14	15
Frequency	18	15	34	47	68	90	80	62	35	27	11

**Q.5 a)** Find the rank correlation for the following data:

x	56	42	72	36	63	47	55	49	38	42	68	60
y	147	125	160	118	149	128	150	145	115	140	152	155

**b)** The mean of 30 observation is 150 on checking it was found that two observation are wrongly copied as 7 and 3. If the wrong observations are replaced by correct values 6 and 10 then find the correct mean.

**Q.6** From the given data find:

- a) Two regression coefficient.
- b) Two regression equation.
- c) Most likely figure of production when demand is 30.

X-Demand	25	28	35	32	31	30	29	38	34	32
Y-Production	43	46	49	41	36	32	31	30	33	39

**Q.7** Write short notes on **ANY TWO** of the following:

- a) Errors in Arithmetic
- b) Bisection Method
- c) Methods of Data Collection
- d) Limitation of Statistics

Day : Thursday  
Date : 05/05/2011



Time : 2:00 p.m. to 5:00 p.m.  
Max Marks : 70

14

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**N.B.:**

- 1) Q. No. 1 is **COMPULSORY**.
  - 2) Solve any **FOUR** questions from Q. No. 2 to Q. No. 7.
  - 3) Each questions carries **14 (Fourteen)** marks.
- 

**Q.1** Your institute has planned an annual get together for the student. You have been appointed as the coordinator and head of the event. You have one month to prepare for the same. The Director and faculty have asked you to submit a detailed plan of the event to be organized. Consider all aspects and submit the same.

**Q.2** Discuss the principles of management put forth by Taylor.

**Q.3** Differentiate between delegation and Decentralization.

**Q.4** "Ethics is essential to Business" Justify the statement.

**Q.5** What is leadership? Discuss the qualities of a good leader.

**Q.6** Discuss control process for effective management.

**Q.7** Write short notes :

- a) Evolution of Management thought
- b) Behavioral approach to leadership
- c) Non budgetary control devices.

\* \* \*



Subject : Systems Analysis & Design

15

Day : Tuesday  
Date : 03/05/2011



Time : 2:00 p.m. to 5:00 p.m.  
Max Marks : 70

**N.B:**

- 1) Each Question carries **FOURTEEN** marks.
- 2) Question **I** is **COMPULSORY**.
- 3) Attempt any **FOUR** questions from **Q-2 –Q-7**.
- 4) Use of non programmable scientific calculator is allowed.

**SECTION-I**

- Q.1. a)** Discuss the advantages and disadvantages of Questionnaires and Interviews.
- b)** Sagar Medical stores sales the medicines to customers as per the prescription. Bill is prepared for every sale, which is given to the customer. Customer makes payment against the bill. Customer can pay payment in Installments. Draw Context Level And First Level DFD.
- Q.2** Explain Prototyping Model in Detail.
- Q.3** What Is Testing? Explain how testing is benefited to Software Industry.
- Q.4** What is Data Dictionary? Explain with suitable Example.
- Q.5** What is Interface? Explain in detail the Input and Output Design.
- Q.6** How system analyst acts as middle man between Software Developer and End user.
- Q.7** Write a short notes on (**ANY TWO**) :
- a) System Design
  - b) E-R Diagram
  - c) Structured English
  - d) Decision Support System

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Day : Saturday  
Date : 30/04/2011



Time : 2:00 p.m. to 5:00 p.m.  
Max Marks : 80

**N.B:**

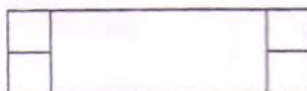
- 1) Attempt any **FIVE** questions from Section-I. Each question carries 10 Marks.
- 2) Attempt any **TWO** questions from Section-II. Each questions carries 15 Marks.
- 3) Answers to the both sections should be written in the **SAME** answer Book.

**SECTION-I**

- Q.1** What do you mean by domain name? How domain name is mapped to the respective IP address?
- Q.2** What considerations are required while designing a website?
- Q.3** Explain the following HTML Tags
- a) <Div>
  - b) <script>
  - c) <Body>
  - d) <Table>
- Q.4** Explain various data types used in Java script
- Q.5** What is a TCP/IP? Explain its various layers.
- Q.6** Explain the looping statements used in Java script with appropriate examples.
- Q.7** Write short notes on **ANY TWO** of the following.
- a) Cookies
  - b) Internet Service providers
  - c) WWW

**SECTION-II**

- Q.8** Write a HTML code for displaying the following structure using frame tag in a webpage.



- Q.9** Design webpage in HTML containing all text formatting tags.
- Q.10** Design a registration form using HTML and write a client side script using Java script for the following
- a) Check for the empty
  - b) Check for numbers

Day : Thursday  
Date : 28/04/2011



Time : 2:00 p.m. to 5:00 p.m.  
Max Marks : 80

**N.B.:**

- 1) Attempt any **FIVE** questions from Section – I each questions carries **10** marks.
- 2) Attempt any **TWO** questions from Section – II each questions carries **15** marks.
- 3) Answer to both the sections should be written in **SAME** answer book.

### SECTION – I

- Q.1** Explain Database Management Systems three tier architecture in detail.
- Q.2** Distinguish between Hierarchical Data Model and Network Data Model.
- Q.3** What is concurrency control? Explain the two different control mechanisms with examples.
- Q.4** What do you mean by data mining? Explain the stages of data mining process in detail.
- Q.5** Explain the following set operations:  
i) Union      ii) Intersect      iii) Minus
- Q.6** Explain different types of integrity constraints that can be specified on the database.
- Q.7** Write short notes **ANY TWO** of the following:  
a) Replication Transparency  
b) Data Warehousing  
c) Data Independence
- Q.8** What is normalization, 1NF, 2NF, 3NF? Normalize following employer data up to 3NF  
Emp No  
Emp name  
Dept No  
Dept name  
Manager name  
Course No  
Course title  
Project Code  
Project name
- Q.9** Consider following database:  
Student (S\_No, S\_Name, Birthdate, Class)  
Course (C\_No, C\_Name)  
Result (S\_No, C\_No, Grade)  
Write following queries:  
a) List S\_Name, C\_Name and total no of students who have secured 'A' grade for each course.  
b) List S\_Name, C\_Name and grades of students in 'MCA'  
c) Display list of students where Birthdate is in 'October'  
d) Display class wise students.
- Q.10** Write short notes on **ANY THREE** of the following:  
a) Types of attributes  
b) 2PL  
c) Log based recovery  
d) Transaction state

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Day : Monday

Date : 05/12/2011



Time : 2:00 p.m. to 5:00 p.m.

Max Marks : 80 Total Pages : 1

N.B.:

- 1) Attempt any **FIVE** questions from Section – I each questions carries 10 marks.
- 2) Attempt any **TWO** questions from Section – II each questions carries 15 marks.
- 3) Answer to both the sections should be written in **SAME** answer book.

### SECTION-I

- Q.1 What is a Transaction? Explain ACID properties of Transaction.
- Q.2 What are different database users? Explain the characteristics of database.
- Q.3 Explain any five Aggregate functions of SQL with syntax and examples.
- Q.4 What is data modeling? Explain different types of data models.
- Q.5 Discuss E.F. CODD's rules.
- Q.6 What are different types of locks? Explain two phase locking protocols?
- Q.7 Write short notes on Any **TWO** of the following:
  - a) Knowledge Discovery
  - b) Lost update problem
  - c) Instance and schema

### SECTION-II

- Q.8 Normalize following employer data up to 3NF  
Emp-No, Emp-Name, Dept-No, Dept-Name, Manager-No, and Manager-Name, course -No, Course- Title, project-code project- Name.
- Q.9 Considers the following relation database:  
Lives (person name, street, city)  
Works (person name, Company name ,salary)  
Located\_in(company\_name,city)  
Managers (persons name, manager name)
  - a) List all companies located in KOLHAPUR
  - b) Find the name of all employees who works for ABC Bank Corporation.
  - c) Find the name and city of all employees who work for ABC Bank Corporation.
  - d) Give all manger a 10% raise.
  - e) Display all persons who are working in city 'Pune'.
- Q.10 Write short notes on Any **THREE** of the following:
  - a) Shadow paging
  - b) Transparency
  - c) Data Independence
  - d) Types of attributes.

Day : Wednesday

Date : 07/12/2011



Time : 2:00 p.m. to 5:00 p.m.

Max Marks : 80 Total Pages : 1

**N.B:**

- 1) Attempt any **FIVE** questions from Section-I. Each question carries 10 Marks.
- 2) Attempt any **TWO** questions from Section-II. Each questions carries 15 Marks.
- 3) Answers to the both sections should be written in the **SAME** answer Book.

### SECTION-I

- Q.1** What is a domain? Explain the process of domain registration.
- Q.2** What is java script? Explain various uses of java script.
- Q.3** Explain various text formatting tags with appropriate examples.
- Q.4** What is CSS? Explain the properties of border in CSS format.
- Q.5** How to use image as a link in HTML document. Explain important attributes of image.
- Q.6** What do you mean by a web browser? Explain any two browsers in detail.
- Q.7** Write short notes on **ANY TWO** of the following
- a) Cookies
  - b) TCP/IP
  - c) Role of FTP

### SECTION-II

- Q.8** Design HTML forum and show HTML elements used for
- 1) Designing online deposit
  - 2) Online funds transfer form one account to another's.
- Q.9** Explain the following. HTML tags with proper syntax
- a) <IMG>
  - b) <SELECT> <OPTION>
  - c) <FRAME>
  - d) <TABLE>
  - e) <A HREF>
- Q.10** Write a java script to display list of odd numbers from 1 to 40



Day : Friday  
Date : 09/12/2011



Time : 2:00 p.m. to 5:00 p.m.  
Max Marks : 70    Total Pages : 1

**N.B:**

- 1) Each Question carries **FOURTEEN** marks.
- 2) Question I is **COMPULSORY**.
- 3) Attempt any **FOUR** questions from Q-2 –Q-7.
- 4) Use of non programmable scientific calculator is allowed.

**SECTION-I**

- Q.1.** a) Draw Context Level, First Level and Second Level DFD for College Admission Process.
- b) How following terms are useful to system analyst who is working on the development of computer based information system?
- a) System Boundary
  - b) System Environment
  - c) Feedback
  - d) Open System
  - e) Closed System
  - f) Subsystem
- Q.2** As you are a Software Engineer how you will study the feasibility for banking system Explain in Detail.
- Q.3** What is Rapid Application Development Model (RAD)? How RAD model is used in Software Development.
- Q.4** What is Interface? Explain in detail the Input and Output Design.
- Q.5** What is Quality? How quality is improved in Software Development.
- Q.6** What is Data Dictionary? Explain with suitable Example.
- Q.7** Write a short notes on (ANY TWO) :
- a) Software Maintenance
  - b) Interview and its type
  - c) MIS
  - d) Structured English



Subject : Management-II (Fundamentals of Management)

Day : Monday

Date : 12/12/2011



Time : 2:00 p.m. to 5:00 p.m.

Max Marks : 70 Total Pages : 1

**N.B.:**

- 1) Q. No. 1 is **COMPULSORY**.
- 2) Solve any **FOUR** questions from Q. No. 2 to Q. No. 7.
- 3) Each questions carries **14 (Fourteen)** marks.

- Q.1** A company primarily in the construction industry manufacturing furniture fixtures has approached you to devise a suitable organizational structure as they lacked the same initially and felt the need due to high growth. They now cater to metro cities and few major states of India. Devise a suitable structure and justify.
- Q.2** Why is Control function important to a Manager? Discuss the control process in brief.
- Q.3** What are steps of planning that Managers need to undertake?
- Q.4** Define leadership. What are the different types of leadership?
- Q.5** What is functional type of organization? Illustrate the need for such type of organizational structure.
- Q.6** Discuss the need of Ethics in business Management.
- Q.7** Write short notes :  
a) Management thought in antiquity  
b) Trait approach to leadership  
c) Advantages of delegation.

\* \* \*

Subject : Mathematics-II (Numerical & Statistical Methods)

10

Day : Wednesday

Date : 14/12/2011



Time : 2:00 p.m. to 5:00 p.m.

Max Marks : 70 Total Pages : 2

**N.B.:**

- 1) Q.No.1 is **COMPULSORY**.
- 2) Each question carries **14** marks.
- 3) Attempt **ANY FOUR** questions from **Q.2** to **Q.7**.
- 4) Use of non programmable **CALCULATOR** is allowed.
- 5) Graph paper and Statistical table will be permitted if necessary.

**Q.1 a)** Find the real roots of the equation  $x^3 - 3x + 4 = 0$  using False-Position method between -2 and -3.

**b)** Solve the following system of linear equations using Gauss Seidel iterative method.

$$20x + y - 2z = 17$$

$$3x + 20y - z = -18$$

$$2x - 3y + 20z = 25$$

**Q.2 a)** Find the truncation error in the result of the following function for  $x = \frac{1}{5}$  when we use (i) first three terms (ii) first four terms (iii) first five terms

$$e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \frac{x^5}{5!}$$

**b)** Find the square root of 2.5 using the Lagrange interpolation formula. The table below gives square roots for integers.

x	1	2	3	4	5
f(x)	1	1.4142	1.7321	2	2.2361

**Q.3 a)** Solve the following system of linear equations by Gauss Elimination Method.

$$2x + y + z = 10$$

$$3x + 2y + 3z = 18$$

$$X + 4y + 9z = 16$$

**b)** Obtain the table of divided difference and estimate the value of  $f(1.5)$  using the table

i	0	1	2	3	4
$x_i$	1	2	3	4	5
$f(x_i)$	0	7	26	63	124

**Q.4** Calculate mean and mode of the following data related to weight of 120 articles.

Weight (in gm)	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
No. of articles	14	17	22	26	23	18



- Q.5 a) Calculate the Karl Pearson's coefficient of correlation from the following data of students.

Students	A	B	C	D	E	F	G	H	I	J
Marks in Sub I	105	104	102	101	100	99	98	96	93	92
Marks in Sub II	101	103	100	98	95	96	104	92	97	94

- b) The mean and median of a group of 75 observations were calculated to be 27 and 28 respectively. It was later discovered that one observation was wrongly read as 53 instead of 33. Examine to what extent the calculated values of the two averages would be affected by the discovery of the error.

- Q.6 In the following table recorded data showing the test score made by salesman on intelligence test and their weekly sales.

Salesman	1	2	3	4	5	6	7	8	9	10
Test score	40	70	50	60	80	50	90	40	60	60
Sales (000)	2.5	6.0	4.5	5.0	4.5	2.0	5.5	3.0	4.5	3.0

Calculate the regression lines of sales on test scores and estimate the most probable weekly sales volume if a salesman makes a score of 70.

- Q.7 Write short notes on **ANY TWO** of the following:

- Numerical Counting
- Methods of Data Collection
- Absolute and Relative Errors
- Diagrammatic Representation

\* \* \* \*

Day : Friday

Date : 21/12/2012



Time : 02.00 PM TO 05.00 PM

Max Marks : 80 Total Pages : 1

**N.B.:**

- 1) Attempt any **FIVE** questions from Section – I each questions carries 10 marks.
- 2) Attempt any **TWO** questions from Section – II each questions carries 15 marks.
- 3) Answer to both the sections should be written in **SAME** answer book.

**SECTION-I**

- Q.1 Explain advantages and disadvantages of DBMS in detail.
- Q.2 What is data model? Explain different types of data models.
- Q.3 What is a deadlock? Explain how to present it using Timestamps wait-die, Wound –wait methods with examples.
- Q.4 What is an entity? Explain with example how ERD'S are useful in table design.
- Q.5 Define Data Abstraction? Explain its different levels in detail.
- Q.6 Define Transaction. Explain its different levels in detail.
- Q.7 Write short notes on Any **TWO** of the following:
- a) Types of attributes
  - b) Groups by clause
  - c) Role of database administration.

**SECTION-II**

- Q.8 Consider the following relational database:
- i) Lives ( Person name, street, city)
  - ii) Works ( person name, com-name, salary)
  - iii) Located in ( Company name, city)
  - iv) Managers ( person name, manager name)
- a) Create above tables with appropriate constraints
  - b) Find the name of all employees who work for XYZ Bank Corporation.
  - c) Find the name and city of all employees who work for XYZ Bank Corporation.
  - d) Display all persons who are working in city 'Pune'.
  - e) Select the person who is a manager in Pune.
- Q.9 Normalize following employee data up to 3NF,  
Emp- no, Emp-name, Dept- no, Dept- name,  
Manager –no, Manager-name, Course- no,  
Course title, Project Code, Project name.
- Q.10 Write short notes on Any **THREE** of the following:
- a) Check points
  - b) Shadow paging
  - c) Object oriented database
  - d) Data abstraction



Day : Saturday  
Date : 22/12/2012



Time : 02.00 PM TO 05.00 PM  
Max Marks : 80 Total Pages : 1

**N.B:**

- 1) Attempt any **FIVE** questions from Section-I. Each question carries 10 Marks.
- 2) Attempt any **TWO** questions from Section-II. Each questions carries 15 Marks.
- 3) Answers to the both sections should be written in the **SAME** answer Book.

**SECTION-I**

- Q.1** Explain the Frame tag in detail with proper examples.
- Q.2** What is an IP address? Explain the process to assign an IP address.
- Q.3** Explain the following HTML Tags
- a) <Div>
  - b) <script>
  - c) <Body>
  - d) <Table>
- Q.4** Explain various looping statements used in Java script with appropriate examples.
- Q.5** What is a domain? How domain name is mapped to the respective IP address?
- Q.6** What is list? Explain types of list with appropriate examples..
- Q.7** Write short notes on **ANY TWO** of the following.
- a) Applications of internet.
  - b) User defined functions in Java script.
  - c) WWW

**SECTION-II**

- Q.8** Write a client side script to check the entered email address is valid or not using java script
- Q.9** Design webpage in HTML containing all text formatting tags.
- Q.10** Write HTML code to create a table which displays the Bus timings. Fieldnames should be Bus\_no, Name, Departure Time, Destination, and Arrival Time.

Subject : Management-II (Fundamentals of Management)

8

Day : Tuesday

Date : 01/01/2013



Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 1

N.B.:

- 1) Q. No. 1 is **COMPULSORY**.
- 2) Solve any **FOUR** questions from Q. No. 2 to Q. No. 7.
- 3) Each questions carries 14 (**Fourteen**) marks.

- Q.1 Apply the steps of planning to organize an intercollegiate sports event in your institute.
- Q.2 "Businesses need to be socially responsible in their operations". Discuss some ways to achieve it.
- Q.3 Discuss briefly different types of organizational structures.
- Q.4 "Failure to plan can deviate from achieving objectives of an organization". Discuss the need for planning.
- Q.5 What is leadership? Discuss requisites to be a successful leader.
- Q.6 What are the various control techniques utilized by organization?
- Q.7 Write short notes :
  - a) Scientific Management Principles
  - b) Delegation of authority
  - c) Divisional organization.

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Day : Friday

Date : 28/12/2012



Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 1

**N.B.:**

- 1) Q.No.1 is **COMPULSORY**.
- 2) Each question carries 14 marks.
- 3) Attempt **ANY FOUR** questions from Q.2 to Q.7.
- 4) Use of non programmable **CALCULATOR** is allowed.
- 5) Graph paper and Statistical table will be permitted if necessary.

- Q.1 a)** Find the truncation error in the result of the following function for  $x = -\frac{1}{2}$  when we use (i) first three terms (ii) first four terms (iii) first five terms

$$e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \frac{x^5}{5!}$$

- b) Define statistics and explain the importance of statistics in computer science.

- Q.2 a)** Find a root of the equation  $x^3 + x - 1 = 0$  correct to three decimal places, by the method of False Position.

- b) Use Lagrange's Interpolation formula to find the value of y when x = 10, if the following values of x and y are given.

x	5	6	9	11
y	12	13	14	16

- Q.3 a)** Using Newton's forward formula find the value of f(1.6), if

x	1	1.4	1.8	2.2
f(x)	3.49	4.82	5.96	6.5

- b) Solve the following equations by Gauss-Seidel Method

$$83x + 11y - 4z = 95$$

$$7x + 52y + 13z = 104$$

$$3x + 8y + 29z = 71$$

- Q.4** From the following data, construct

- a) Frequency Histogram      b) Frequency Polygon      c) Frequency curve.

No. of Individuals	100-149	150-199	200-249	250-299	300-349	350-399	400-449	450-499
Income (Rs.)	21	32	52	105	62	43	18	9

- Q.5** Find out the Mean, Median and the Mode in the following series:

Size (below)	5	10	15	20	25	30	35
Frequency	1	3	13	17	27	36	38

- Q.6** From the data given below find:

- a) The two regression coefficients.
- b) The two regression equations.
- c) The coefficient of correlation between the marks in Economics and Statistics.
- d) The most likely marks in Statistics when marks in Economics are 30.

Marks in Economics	25	28	35	32	31	36	29	38	34	32
Marks in Statistics	43	46	49	41	36	32	31	30	33	39

- Q.7** Write short notes on ANY TWO of the following:

- a) Types of Errors
- b) Limitations of Statistics
- c) Merits and demerits of Arithmetic mean
- d) Types of Correlation

Subject : Database Management Theory

7

Day : Thursday  
Date : 07/11/2013



Time : 02.00 PM TO 05.00 PM  
Max Marks : 70 Total Pages : 1

**N. B.:**

- 1) Q.No.1 is **COMPULSORY**.
- 2) Attempt **ANY FOUR** questions from Q.2 to Q. 7.
- 3) Use of non-programmable scientific **CALCULATORS** is allowed.
- 4) Graph papers and statistical tables will be provided if **NECESSARY**.

- Q.1 a)** Consider the following database structure [07]  
 Department (Dno (PK), Dname, Location)  
 Employee (Eno (PK), Ename, Salary, Dno)  
 Write SQL Statements for the following:
- i) Create above tables with proper constraints (2)
  - ii) Print the department wise maximum salary. (2)
  - iii) List all the name of employees having salary greater than 5000. (1)
  - iv) List all the employees whose department Location is 'Mumbai' (2)
- b)** Describe the 3-tier architecture of DBMS, and explain how it helps to achieve Data Independence. [07]
- Q.2** Discuss Relational , Hierarchical and Network data Model in detail. [14]
- Q.3** Draw an ER diagram for Library Management Systems. [14]
- Q.4** What is a deadlock? Explain Time-stamp based deadlock prevention techniques in detail. [14]
- Q.5** Normalize the following data up to 3NF: [14]  
 Empno, Empname, Empdeptno, Deptname, Deptcityno, Deptcityname,  
 Districtname, Empdateofbirth, Empsex, Emptrainingno, Trainingname,  
 Trainingyear.
- Q.6** Explain with example the shadow paging technique for data Recovery. [14]
- Q.7** Write short notes on **ANY TWO** of the following: [14]
- a) Data Mining
  - b) Database users
  - c) Cardinality Ratios
  - d) DDL and DML



Subject : Web Supporting Technologies

Day : Saturday  
Date : 09/11/2013



Time : 02.00 PM TO 05.00 PM  
Max Marks : 70 Total Pages : 1

**N.B.:**

- 1) Q. No. 1 is **COMPULSORY**.
- 2) Attempt **ANY FOUR** questions from Q.2 – Q.7.
- 3) Figures to the right indicate **FULL** marks.

**Q.1** Explain TCP/IP with the functionality of each layer. (14)

**Q.2** Explain programming constructs used in JavaScript with suitable examples. (14)

**Q.3 a)** Compare internet and intranet. (07)

**b)** Explain following concepts: (07)

- i) IP address
- ii) Virtual and Physical domain

**Q.4** What is the need of DHTML? Explain different elements used in form design with their functionalities. (14)

**Q.5** Write HTML code using FRAMES to display following structure. (14)


**Q.6** Write HTML code to display time table of BCA class. (Hint: Use table) (14)

**Q.7** Write short notes on **ANY TWO** of the following: (14)

- a) Hyperlinks in HTML
- b) External Style Sheets
- c) JDOM
- d) Cookies

Subject : Systems Analysis & Design

9

Day : Tuesday  
Date : 12/11/2013



Time : 02.00 PM TO 05.00 PM  
Max Marks : 70 Total Pages : 1

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**N.B.**

- 1) **Question No.1 is COMPULSORY.**
  - 2) **Attempt ANY FOUR Questions from Q.No.2 to Q.No.7.**
  - 3) **Each question carries 14 marks.**
- 

- Q.1** a) Define system. Explain its characteristics with suitable example. (07)
- b) Draw context level and first level Data Flow Diagram for Railway Reservation System. (07)
- Q.2** Explain various phases of system development life cycle. (14)
- Q.3** What is the role of system analyst in system development? (14)
- Q.4** Explain structured chart in detail. Give example. (14)
- Q.5** Explain interview as a fact finding technique. What are the types of interview technique? (14)
- Q.6** What components make up a decision table? How do analysts develop a decision table? (14)
- Q.7** Write short notes ANY TWO of the following: (14)
- a) User manual
  - b) E-R diagram
  - c) User interface design
  - d) Data dictionary



Subject : Management-II (Fundamentals of Management)

10

Day : Friday

Date : 15/11/2013



15327

Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 1

**N.B.:**

- 1) Q. No. 1 is **COMPULSORY**.
- 2) Attempt any **FOUR** questions from Q. No. 2 to Q. No. 7.
- 3) Each question carries **EQUAL** marks.

**Q.1** Prepare an organization structure for Laptop Manufacturing Company which wants to diversify their business in Urban Area. Justify your answer. (14)

**Q.2** "Management is an art of getting work done through and with the people." Discuss in detail. (14)

**Q.3** "Planning is a bridge between the present and the future." Explain. (14)

**Q.4** What do you mean by decentralization? What are the determinants of decentralization? (14)

**Q.5** What are the merits and demerits of participative leadership style over the autocratic leadership style? (14)

**Q.6** Business motive and social responsibility cannot go hand in hand. Do you agree? Give reasons for your answer. (14)

**Q.7** Write notes on any **TWO** of the following: (14)

- a) Delegation of Authority
- b) Control process
- c) Henry Fayol.

\* \* \*

## Subject : Mathematics-II (Numerical &amp; Statistical Methods)

Day : Monday

Date : 18/11/2013



Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 2

**N.B.:**

- 1) **Q. No. 1 is COMPULSORY.**
- 2) Attempt any **FOUR** questions from **Q. No. 2 to Q. No. 7.**
- 3) Each question carries **14** marks.
- 4) Use of non programmable **CALCULATOR** is allowed.
- 5) Graph paper and statistical table will be permitted if necessary.

**Q.1 a)** Use the False Position method to find the root of equation:

$$x^2 - x - 2 = 0 \text{ in the range } 1 < x < 3.$$

**b)** Distinguish primary and secondary data. Give a brief account of the chief methods of collecting primary data.

**Q.2 a)** Below given the frequency distribution of weights of a group of 60 students.

Wt. in Kg	30-34	35-39	40-44	45-49	50-54	55-59	60-64
No. Student	3	5	12	18	14	6	2

Draw histogram and find:

- i) Modal value and
  - ii) Coefficient of deviation on same graph
- b)** Find a roots of equation using bisection method:
- $$x^2 - 3x + 2 \text{ in the range } -3 < x < 0.$$

**Q.3 a)** Following table showing the wage distribution in a certain factory determine:

Weekly Wage in Rs.	1200-1400	1400-1600	1600-1800	1800-2000	2000-2200	2200-2400	2400-2600	2600-2800	2800-3000	3000-3200
No. of Workers	8	12	20	30	40	32	18	7	6	4

Compute third Quartile and Median.

- b)** An office contains 12 clerks. The long serving clerks feel that they should have seniority increment based on length of service into their salary structure, HR manager produces ranking according to their efficiency. Do the data support the clerks claim for seniority increment?

Ranks according to length of service	1	2	3	4	5	6	7	8	9	10	11	12
Ranking According to efficiency	2	3	5	1	9	10	11	12	8	7	6	4

P. T. O.



12

<b>Salesmen:</b>	1	2	3	4	5	6	7	8	9
<b>Test Score:</b>	40	70	50	60	80	50	90	40	60
<b>Sales ('000 Rs):</b>	2.5	6.0	4.0	5.0	4.0	2.5	5.5	3.0	4.5

Calculate the regression equations of sales on test scores and estimate probable weekly sales volume if a salesman makes a score of 100.

- b) Represent in binary form:
- i) -13                      ii) 0.65

- Q.5** a) The mean of 30 observations is 150 on checking it was found that two observations are wrongly recorded as 7 and 3. If wrong observations are replaced by correct values 6 and 10 then find correct mean.
- b) Find the Lagrange's interpolation polynomial which agrees with the following data:

$x$	1.0	1.1	1.2
$\cos x$	0.5403	0.4536	0.3624

Use it to estimate  $\cos(1.15)$

- Q.6** a) A candidate obtained the following percentages of marks in an examination: English 60, Hindi 75, Mathematics 63, Physics 59, Chemistry 55. Find the candidate's weighted Arithmetic mean if weights 1, 2, 1, 3, 3 respectively are allotted to the subjects.
- b) Write brief Note on (Any ONE):
- i) Scatter diagrams                      ii) Graphical data representation

- Q.7** Describe the term 'statistics' with the help of :
- |                 |                |
|-----------------|----------------|
| i) Definition   | ii) Scope      |
| iii) Importance | iv) Limitation |

\* \* \* \* \*

## Subject : Database Management Theory

70

Day : Monday

Date : 28/04/2014



Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 1

## N. B.:

- 1) Q.No.1 is **COMPULSORY**.
- 2) Attempt **ANY FOUR** questions from Q.2 to Q. 7.
- 3) Use of non-programmable scientific **CALCULATORS** is allowed.
- 4) Graph papers and statistical tables will be provided if **NECESSARY**.

- Q.1 a) Draw an E-R diagram for College Admission Process. [10]  
b) Write a note on role and responsibilities of DBA. [04]
- Q.2 Define Database. Explain the advantage of database technology over traditional file processing system. [14]
- Q.3 What is normalization? Explain 1NF, 2NF and 3NF with example. [14]
- Q.4 Explain CODD's Rules for RDBMS. [14]
- Q.5 a) Define Transaction. Explain ACID properties of transaction. [07]  
b) Explain the 2-phase locking technique for concurrency control. [07]
- Q.6 What is the need for recovery? Explain shadow paging and log based recovery mechanisms. [14]
- Q.7 Write short notes on **ANY TWO** of the following: [14]  
a) SQL  
b) Data Warehousing  
c) Data Independence  
d) Distributed database

\* \* \* \*



Subject : Web Supporting Technologies

71

Day : Wednesday

Date : 30/04/2014



Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 1

**N.B.:**

- 1) Q. No. 1 is **COMPULSORY**.
- 2) Attempt **ANY FOUR** questions from Q.2 – Q.7.
- 3) Figures to the right indicate **FULL** marks.

**Q.1** What is the need of interactive web pages? Explain different elements used on form with their functionalities. (14)

**Q.2** a) Explain various internet applications in detail. (07)

b) Discuss process to assign IP addresses. (07)

**Q.3** a) Discuss Java Script dialog boxes with examples. (07)

b) Give syntax with appropriate example for following: (07)

- i) Div tag
- ii) Span tag

**Q.4** State and explain built in functions used in JavaScript. (14)

**Q.5** Write a HTML code using Frame to develop following structure. (14)


**Q.6** Design registration form for hospital using HTML. Write client side script using Java Script for following: (14)

- a) To check cell no. is ten digits.
- b) Proper validation to check e-mail ID
- c) Name, address and cell number should not be blank.

**Q.7** Write short notes on **ANY TWO** of the following: (14)

- a) CSS
- b) Lists in HTML
- c) Linking documents in HTML
- d) Cookies

Subject : Systems Analysis & Design

Day : Friday

Date : 02/05/2014



Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 1

72

**N.B:**

- 1) Each Question carries **FOURTEEN** marks.
- 2) Question I is **COMPULSORY**.
- 3) Attempt any **FOUR** questions from **Q-2 –Q-7**.
- 4) Use of non programmable scientific calculator is allowed.

**SECTION-I**

- Q.1. a)** Discuss Different Fact Finding Techniques.
- b)** Draw ER Diagram for the Library Management System.
- Q.2** As you are a Software Engineer how you will study the feasibility for banking system. Explain in Detail.
- Q.3** Explain Different Dialog strategies.
- Q.4** Explain various phases of Software Development Life Cycle.
- Q.5** What is System Flow chart? Explain it with Example.
- Q.6** Explain in detail System Requirement Specification with one example.
- Q.7** Write a short notes on (**ANY TWO**) :
- a) Decision Tree
  - b) System Analyst
  - c) Interfaces
  - d) DSS

\* \* \* \*



**Subject : Management-II (Fundamentals of Management)**

73

Day : Monday

Date : 05/05/2014



Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 1

**N.B.:**

- 1) Q. No. 1 is **COMPULSORY**.
- 2) Solve any **FOUR** questions from Q. No. 2 to Q. No. 7.
- 3) Each questions carries **14 (Fourteen)** marks.

**Q.1** An organization manufacturing components for auto industry has approached you due to some problems internally. Having introspected you have found out that ...

- They have a work force of more than 200.
- That the working conditions and structure is very rigid.
- Managers don't easily trust the workforce and take all decisions themselves.
- Suggest suitable solutions to the problem so as to increase productivity.

**Q.2** What are the ways in which business can be socially responsible?

**Q.3** "Being a good leader is a requisite in business organizations." Elucidate role of a leader.

**Q.4** Discuss the outcome and effect by delegation of authority by top management within organizations.

**Q.5** Discuss the nature of planning. Briefly highlight on types of plans.

**Q.6** "The control function is integral to effective management". Discuss.

**Q.7** Write short notes :

- a) Managerial functions at different levels in organization
- b) Taylors principle of management
- c) Feedback control.

\* \* \*

Subject : Mathematics-II (Numerical & Statistical Methods)

Day : Wednesday  
Date : 07/05/2014



Time : 02.00 PM TO 05.00 PM  
Max Marks : 70 Total Pages : 1

74

B.:

- 1) Q.No.1 is **COMPULSORY**.
- 2) Each question carries **14** marks.
- 3) Attempt **ANY FOUR** questions from **Q.2 to Q.7**.
- 4) Use of non programmable **CALCULATOR** is allowed.
- 5) Graph paper and Statistical table will be permitted if necessary.

- Q1 a) Define statistics and explain the importance of statistics in mathematics.  
b) Write short notes on Errors and also explain their types.

- Q2 a) Find the root of  $x^3 - 2x + 5 = 0$  using Newton-Raphson Method.  
b) Use Lagrange's formula to find the form of  $f(x)$ , given that

x	0	2	3	6
f(x)	648	704	729	792

- Q3 a) Solve the system of equations by Gauss Elimination Method.  
 $8x_2 + 2x_3 = -7$   
 $3x_1 + 5x_2 + 2x_3 = 8$   
 $6x_1 + 2x_2 + 8x_3 = 26$   
 b) Construct a backward difference table for the following data:

x	1	2	3	4	5
y	1	8	27	64	125

- Q4 a) Draw a frequency curve for the following distribution.

Age (years)	17 - 19	19 - 21	21 - 23	23 - 25	25 - 27	27 - 29	29 - 31
No. of students	7	13	24	30	22	15	6

- b) Explain the different methods of collecting primary data.

- Q5 Calculate mean, median and mode for the following data:

Earning (Rs.)	66 - 67	67 - 68	68 - 69	69 - 70	70 - 71	71 - 72
No. of Persons	15	24	40	20	14	11

- Q6 From the following data obtain the two regression equations.

Sales	91	97	108	121	67	124	51	73	111	57
Purchases	71	75	69	97	70	91	39	61	80	47

- Q7 Write short notes on **ANY TWO** of the following:  
 a) Types of Tabulation  
 b) Limitation of Statistics  
 c) Methods of Concurrent Deviation  
 d) Characteristics of Numerical Computing



**Subject : Database Management Theory**

Day : Monday

Date : 10/11/2014



Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 1

**N.B.:**

1. **Q.1 is COMPULSORY.**
2. Attempt any **FOUR** Questions from Q.2 to Q.7
3. Each question carries **14 MARKS.**

- 
- Q.1** a) Explain the advantages of DBMS over traditional file processing. (07)  
b) What is data independence? Explain types of data independence. (07)
- Q.2** a) Explain CODD's rules in detail. (07)  
b) Explain ACID properties of transaction. (07)
- Q.3** a) Explain log based recovery techniques in detail. (07)  
b) Explain the various integrity constraints in database. (07)
- Q.4** Draw an E-R Diagram for Library Management System and reduce it to Relational Database. (14)
- Q.5** Explain **ANY TWO** from the following with examples. (14)  
a) DDL  
b) Aggregate Functions  
c) JOINS
- Q.6** a) Explain advantages and disadvantages of distributed database. (07)  
b) Explain the various stages in Data Mining process. (07)
- Q.7** Write short notes on **ANY TWO** of the following: (14)  
a) Data warehouse Architecture  
b) Deadlock  
c) Shadow Paging

**Subject : Web Supporting Technologies**

Day : Tuesday

Date : 11/11/2014



Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 1

**N.B.:**

- 1) **Q.No.1 is COMPULSORY.**
- 2) Attempt **ANY FOUR** questions from **Q.No.2** to **Q.No.7.**
- 3) Figures to the right indicate **FULL** marks.

- 
- Q.1** Explain different layers of TCP/IP in detail. [14]
- Q.2** What is the need of Dynamic HTML? Explain various types of functions supported by Java Script. [14]
- Q.3** a) Explain events supported by Javascript in detail. [07]  
b) Explain various types of Dialog Boxes in Javascript. [07]
- Q.4** Write appropriate HTML syntaxes of following using its all attributes. Also give suitable examples. [14]  
i) Table ii) Frames
- Q.5** Explain different elements used to create forms using Javascript. [14]
- Q.6** Explain Cascading Style Sheets in detail. [14]
- Q.7** Write short notes on **ANY TWO** of the following: [14]  
a) IP addressing  
b) Linking documents in HTML  
c) Date objects  
d) File transfer protocol



## Subject : Systems Analysis & Design

Day : Wednesday

Date : 12/11/2014



Time : 02.00 PM TO 05.00 PM

Max Marks : 70    Total Pages : 1

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**N.B.:**

- 1) **Q. No. 1 is COMPULSORY.**
  - 2) Attempt any **FOUR** questions from **Q. No. 2 to Q. No. 7.**
  - 3) Each question carries 14 marks.
  - 4) Figures to the right indicate **FULL** marks.
- 

- Q.1**    a) Define System. Explain various characteristics of system with suitable examples. (07)
- b) Discuss various skills required by a system analyst in System Development Process. (07)
- Q.2**        What is Structured Analysis? Explain various structured analysis tools. (14)
- Q.3**        Explain Spiral model of System Development Life Cycle (14)
- Q.4**        What is an Interface? Explain Input and Output design with its importance. (14)
- Q.5**        Draw context level, first level and second level data flow diagrams for Library Management System. (14)
- Q.6**        What is a feasibility study? Explain various types of feasibility study. (14)
- Q.7**        Write short notes on any **TWO** of the following: (14)
- a) Software Requirement Specification
  - b) Expert System
  - c) Questionnaires
  - d) Entity Relationship diagram

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**Subject : Management-II (Fundamentals of Management)**

Day : Thursday

Date : 13/11/2014



Time : 02.00 PM TO 05.00 PM

Max Marks : 70      Total Pages : 1

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**N.B:**

- 1) Each question carries **14** marks.
  - 2) Q. No.1 is **COMPULSORY**.
  - 3) Attempt **ANY FOUR** questions from Q.2 to Q.7.
- 

- Q.1** a) 'Management is getting things done through other people', explain.  
b) Discuss in detail, Trait approach to leadership.
- Q.2** What are the steps of planning that manager need to follow to prepare a perfect plan?
- Q.3** Explain the different types of leadership with suitable example.
- Q.4** 'Controlling is important function of Management', Explain with feed forward control and feed back control.
- Q.5** State the principles given by Henry Fayol to modern Management.
- Q.6** What is organisation structure? State the role and importance of divisional organisation structure.
- Q.7** Write short note on **ANY TWO**:
- a) Social Responsibility of Managers
  - b) Functions of Managers
  - c) Factors that raise Ethical standards

\* \* \* \* \*



**Subject : Mathematics-II (Numerical & Statistical Methods)**

Day : Friday

Date : 14/11/2014



Time : 02.00 PM TO 05.00 PM

Max Marks : 70 Total Pages : 2

**N.B.:**

- 1) **Q. No. 1 is COMPULSORY.**
- 2) Attempt any **FOUR** questions from **Q. No. 2 to Q. No. 7.**
- 3) Each question carries **FOURTEEN** marks.
- 4) Use of non programmable **CALCULATOR** is allowed.

**Q.1 a)** Find the real roots of equation  $x^3 - 3x + 4 = 0$  using False position method between  $-2$  and  $-3$ .

- b)** Define 'statistics' with help of:
- |                 |                 |
|-----------------|-----------------|
| i) Definition   | ii) Scope       |
| iii) Importance | iv) Limitations |

**Q.2 a)** Convert the following decimal into binary equivalent:

- |           |          |
|-----------|----------|
| i) 48.375 | ii) 0.95 |
|-----------|----------|

- b)** Use Lagrange's Interpolation formula to find the value of  $y$  when  $x = 10$ , if the values of  $x$  and  $y$  are given.

x	5	6	9	10
y	12	14	12	16

**Q.3 a)** Estimate the values of  $f(42)$  from the following data using Newton's (07) backward Formula.

x	20	25	30	35	40	45
f(x)	354	332	291	260	231	204

- b)** Solve the following equation by Gauss Seidel Method (07)

$$54x + y + z = 110$$

$$2x + 15y + 6z = 72$$

$$-x + 6y + 27z = 85$$

P. T. O.

- Q.4 a) From the following data, construct:  
Frequency Histogram, Ogive curves and then find median graphically.

No. of Individuals	100-149	150-199	200-249	250-299	300-349	350-399
Income (Rs.)	21	32	18	105	63	38

No. of Individuals	400-449	450-499	500-549	550-599
Income (Rs.)	10	84	9	43

- Q.5 Calculate mean and mode of following data related to weight of 120

Wt ( in gm)	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No of article	14	20	18	12	15	13	23

- Q.6 Write short notes on any **TWO** of the following:

- Types of Errors
- Analysis of data using regression method
- Methods of data collection

- Q.7 a) Find Rank correlation of following data:

x	56	42	72	36	63	47	55	49	38	42
y	147	125	160	118	149	128	150	145	115	140

- b) A candidate obtained the following percentage of marks in an exam  
English 70, Hindi 65, Mathematics 80, Physics 68, Chemistry 75  
candidates weighted Arithmetic mean if weights 1, 2, 1, 3, 3 respectively  
allotted to the subjects.

\* \* \* \* \*



Max Marks : 100    Total Pages : 1

- 1) Answer **ANY FOUR** questions from Section-I & **ANY TWO** from Section-II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections to be written in **SAME** answer book.

<b>Q.1</b>	What is Number System? Explain the different Number Systems with base, symbols/elements and the examples of number system.	<b>[15]</b>
<b>Q.2</b>	With the help of block diagram, explain the Input – Output Interface of the computer system.	<b>[15]</b>
<b>Q.3</b>	Explain the terms a) Types of Memory b) Peripheral devices	<b>[15]</b>
<b>Q.4</b>	With the help of symbol, algebraic functions and truth table, discuss Digital Logic Gates in brief.	<b>[15]</b>
<b>Q.5</b>	What is micro operation? Explain the types of micro operations with examples.	<b>[15]</b>
<b>Q.6</b>	What is Stack? Explain in brief, stack operations PUSH and POP.	<b>[15]</b>
<b>Q.7</b>	Write short notes on (ANY TWO) a) Computer Registers b) Assembly Language c) CPU	<b>[15]</b>

**Q.8** Write the binary equivalent for the following decimal numbers [20]  
a) 12.5                      b) 28  
b) 38                          d) 42.5

**Q.9** For the given Boolean function  $F = xyz + x'y + yz$  [20]  
a) List the Truth Table  
b) Draw the Logic Diagram and Explain it.

**Q.10** What is multiplexer? Draw the diagram with function table for the [20]  
4 to 1 line multiplexer and explain the working 4 to 1 line multiplexes

**Subject : Applied Database Management Concepts Using Oracle**

Day : Saturday

Date : 21/11/2015



Time : 10.00 AM TO 01.00 PM

Max Marks : 100 Total Pages : 1

**N. B. :**

- 1) Attempt **ANY FOUR** questions from Section – I.
- 2) Attempt **ANY TWO** questions from Section – II.
- 3) Answers to both the sections should be written in the **SAME** answer book.

**SECTION - I**

- Q. 1** What is RDBMS? Explain CODD's rules for RDBMS. (15)
- Q. 2** Explain the following SQL commands with an example: (15)  
a) ALTER TABLE      b) SELECT      c) UPDATE
- Q. 3** What are data constraints? Explain the concept of Primary Key and Foreign Key with example. (15)
- Q. 4** Explain any 5 string functions and any 5 numeric functions with example. (15)
- Q. 5** What is an index? What are the different types of Index? Explain the syntax for creating an index with an example. (15)
- Q. 6** What is a cursor? What are different types of cursors? Explain the procedure for creating explicit cursor. (15)
- Q. 7** What is Exception Handling? Explain it with an example. (15)

**SECTION - II**

- Q. 8** Consider the following table structure:  
Course (Cno (PK), Cname, Duration, Fees)  
Student(Rno (PK), Name, Address, Date\_of\_Birth, Cno(FK))  
Write SQL queries to:
- a) Create above tables with proper constraints. (04)
  - b) Insert 2 records in both the tables. (02)
  - c) Display names of all the students in an ascending order. (02)
  - d) Display the total number of courses offered. (02)
  - e) Display the course having lowest fees. (02)
  - f) Change the fees of 'MCA' course to 2,00,000. (02)
  - g) Add column 'City' to the Student table. (02)
  - h) Set the city of student 'Raj' , to 'Delhi'. (02)
  - i) Give the course name in which student 'Rahul Verma' is enrolled. (02)
- Q. 9** Write PL/SQL block to:
- a) Enter two numbers and print the largest number. (10)
  - b) To enter the value of Radius and calculate Area of Circle. (10)
- Q.10** Write short notes on (**ANY TWO**) (20)
- a) Group By and Having Clause
  - b) Grant and Revoke statements
  - c) Triggers

\* \* \* \* \*



## Subject : C Programming-II

Day : Tuesday  
Date : 24/11/2015



Time : 10.00 AM TO 01.00 PM  
Max Marks : 100 Total Pages : 1

**N.B:**

- 1) Attempt **ANY FOUR** questions from Section –I and attempt **ANY TWO** From Section –II.
- 2) Answers to both the sections should be written in **SAME** answer book.
- 3) Figures to the right indicate **FULL** marks.

### SECTION-I

- Q.1** What is recursion? Explain it with example. (15)
- Q.2** What do you know about user defined data types? Explain how C supports it. (15)
- Q.3** Why file handling is important? Illustrate following file handling functions with example. (15)
- a) fopen ()
  - b) ferror()
  - c) feof ()
  - d) fseek ()
  - e) fclose ()
- Q.4** a) List and describe steps for handling graphics in C. (15)
- b) Describe memory management functions from “stdlib.h”.
- Q.5** Can we treat single pointer as one dimensional array? Illustrate with example. (15)
- Q.6** What do you understand by keyword “struct”? Illustrate the use of it with example. (15)
- Q.7** Write short notes on any **TWO** of the following: (15)
- a) enum
  - b) Bitwise Operator
  - c) Generic Pointer

### SECTION-II

- Q.8** Write a structure to represent student information like roll no, name, and course. Use it to create array of 10 students. Provide functionality to find students in array by accepting roll no. (20)
- Q.9** Assume that file contents multiple lines. Write a program to read this file and count no of lines containing pattern “ould” and copy that lines to another file. (20)
- Q.10** a) Write two different functions to convert decimal number to binary and binary to decimal using recursion and test it. (10)
- b) A file contains data as Item code, Item name, quantity and unit price. Read this data and print total cost. (10)

**Subject : Financial Management And Accounting**

Day : Friday

Date : 27/11/2015



Time : 10.00 AM TO 01.00 PM

Max Marks : 100 Total Pages : 2

**N.B:**

- 1) Attempt **ANY FOUR** questions from Section I and **ANY TWO** questions from Section II.
- 2) Solve both sections in **SAME** answer book.
- 3) Figures to the right indicate **FULL** marks.
- 4) Use of calculator is **ALLOWED**.

**SECTION-I**

- Q.1** Explain the following Accounting concepts with example. (15)  
i) Entity Concept ii) Going Concern Concept
- Q.2** Explain the following Costs with example. (15)  
i) Fixed Cost ii) Variable Cost
- Q.3** What do you mean by Standard Cost? Explain Material Cost Variance Analysis. (15)
- Q.4** Explain the Nature and Scope of Financial Management. (15)
- Q.5** What are the factors affecting Working Capital. (15)
- Q.6** Explain the Significance of Ratio Analysis. (15)
- Q.7** Write short notes on (ANY TWO): (15)  
a) Venture Capital  
b) Break Even Analysis  
c) Liquidity Ratios

**SECTION-II**

- Q.8** Enter the following Business transactions in the Books of Madhav for the year 2014. (20)
- |          |  |
|----------|--|
| April 1  | Invested cash Rs. 2, 00, 000 into business.                            |
| April 2  | Purchased goods from Amar Ltd. worth Rs. 2,00,000 @ 2% trade discount. |
| April 3  | Sold goods to Nihar worth Rs. 5,00,000 @ 5% trade discount.            |
| April 4  | Received cash from Nihar Rs. 25,000.                                   |
| April 5  | Paid for office Expenses Rs. 30,000.                                   |
| April 6  | Received Commission Rs. 12,000 from Sudhan.                            |
| April 7  | Purchased office furniture worth Rs. 2,50,000 from Ratan.              |
| April 8  | Paid cash to Ratan Rs. 35,000.   |
| April 9  | Purchased goods from Rohan on cash basis Rs. 55,000.                   |
| April 10 | Paid for Carriage Rs. 5,000.   |

**P.T.O.**



**Q.9** For the production of 10,000 units the following are budgeted expenses. (2)

Particulars	Cost Per Unit Rs.
Direct material	60
Direct labour	30
Variable overhead	25
Fixed overhead (100% Fixed)	15
Variable expenses (direct)	5
Selling expenses (10% fixed)	15
Administration expenses (100% fixed)	5
Distribution expenses (20% fixed)	5

Prepare a flexible budget for 12,000 and 14,000 Units.

**Q.10** The following information is available for Product X and Y.

Particulars	Product X Rs.	Product Y Rs.
Sales	5,00,000	6,00,000
Marginal Cost	3,50,000	4,75,000
Fixed Cost	50,000	75,000

You are required to calculate for Product X and Product Y.

- |                       |                      |
|-----------------------|----------------------|
| i) Profit             | ii) P/v Ratio        |
| iii) Break Even Sales | iv) Margin of Safety |

\* \* \* \* \*

**Subject : Computer Organization & Architecture**

Day : Monday  
Date : 11/04/2016



Time : 10.00 AM TO 01.00 PM  
Max Marks : 100 Total Pages : 1

**N.B.:**

- 1) Answer **ANY FOUR** questions from Section-I & **ANY TWO** from Section-II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections to be written in **SAME** answer book.

**SECTION-I**

- Q.1** With the help of Block Diagram, Explain the Computer System and its various devices. **[15]**
- Q.2** What is Flip Flops? List and Explain the types of Flip-flops with diagram. **[15]**
- Q.3** Explain the following terms **[15]**  
a) Full Addder b) Instruction Cycle
- Q.4** Define Computer Register. Explain the various Computer Registers with Symbol and function of each computer register for the basic computer. **[15]**
- Q.5** What do you mean Addressing modes? Write the different addressing modes. Explain the importance of each addressing mode. **[15]**
- Q.6** Discuss in detail Assembly Language and Machine Language. Write any Five Assembly Language statements. **[15]**
- Q.7** Write notes on (**ANY TWO**) : **[15]**  
a) Binary Counter  
b) Interrupt  
c) Half Addder

**SECTION-II**

- Q.8** For the given Boolean function  $F=xy+y'z+xz$  **[20]**  
a) List the Truth Table  
b) Draw the Logic Diagram and the Explain it.
- Q.9** Write the 1's and 2's Complements of **[20]**  
a) 11011101 b) 10001001  
c) 11011001 d) 11011101
- Q.10** Perform the Arithmetic addition for the following binary numbers **[20]**  
a) 01010110 b) 01001111  
+ 00010001 + 00010001

\* \* \* \* \*



**Subject : Applied Database Management concepts using Oracle**

Day : Wednesday

Date : 13/04/2016



Time : 10.00 AM TO 01.00 PM

Max Marks : 100 Total Pages : 1

N. B. :

- 1) Attempt **ANY FOUR** questions from Section – I.
- 2) Attempt **ANY TWO** questions from Section – II.
- 3) Answers to **both** the sections should be written in the **SAME** answer book.

**SECTION - I**

- Q. 1 Explain CODD's rules that qualify database as a relational database. (15)
- Q. 2 What is SQL? Explain the various data types and components of SQL. (15)
- Q. 3 Explain the Arithmetic, Relational and Logical operators in SQL. (15)
- Q. 4 Explain any 5 aggregate functions and any 5 string functions with example. (15)
- Q. 5 What is sequence? What is its use? Explain the syntax of creating sequence. Write a sequence to generate numbers from 1 to 50. (15)
- Q. 6 What is PL/SQL? Explain advantages of PL/SQL over SQL. (15)
- Q. 7 What are stored procedures and functions? Explain the difference between them. (15)

**SECTION - II**

- Q. 8 Consider the following table structure:  
 Client\_Master( Cno (PK), Name, City, Balance\_Due)  
 Sales\_Order(Order\_No (PK), Order\_Date, Cno (FK), Delivery\_Date, Order\_Status)  
 Write SQL Queries to:
- a) Create above tables with proper constraints. (04)
  - b) Insert 2 records in both the tables. (02)
  - c) Find the names of clients having alphabet 'a' as a second letter in their name. (02)
  - d) Find the names of clients who stay in 'Mumbai' or 'Delhi'. (02)
  - e) Print the orders placed in the month of January. (02)
  - f) Display orders placed by client 'Ram'. (02)
  - g) Add column Phone Number to Client\_Master table. (02)
  - h) Delete column order\_status from Sales\_Order table. (02)
  - i) Display the list of clients with their Balance\_due in descending order. (02)
- Q. 9 Write a PL/SQL Block to :
- a) Write a PL/SQL Block to display numbers 1 to 10 using For Loop. (10)
  - b) Write a PL/SQL Block to generate Multiplication table of Number 5. (10)
- Q.10 Write short notes on (ANY TWO) (20)
- a) Views
  - b) Set operators
  - c) Cursor

**Subject : C Programming - II**

Day : Monday  
Date : 18/04/2016



Time : 10.00 AM TO 01.00 PM  
Max Marks : 100 Total Pages : 1

**N.B:**

- 1) Attempt **ANY FOUR** questions from Section –I and attempt **ANY TWO** From Section- II.
- 2) Answers to both the sections should be written in **SAME** answer book.
- 3) Figures to the right indicate **FULL** marks.

**SECTION-I**

- Q.1** What is pointer? Why it is essential? Explain how you relate it with arrays. (15)
- Q.2** What is the need of user defined data types in C? Describe how C- language supports it. (15)
- Q.3** What is FILE pointer? Comment on return value of fopen (). List and describe file handling functions used for formatted output and input. (15)
- Q.4** a) Explain how Union is different from Structure. (15)  
b) Describe use of command line arguments.
- Q.5** What types of functions are there in "string.h"? List and describe any six functions from it. (15)
- Q.6** Explain when to use recursion? Also comment on its advantages and disadvantages. (15)
- Q.7** Write short notes on any TWO of the following: (15)  
a) Preprocessors  
b) Generic pointer  
c) "graphics.h"

**SECTION-II**

- Q.8** Write a program to copy content of one file to into another. When coping make sure that lines which starts with the pattern "the" or "The" are not copied. (20)
- Q.9** Define a structure Employee with fields emp\_no, e\_name, dept, phone and basic\_salary. Use this structure to create list of employee with functionality to search employee and display information of it. Also get employee list of particular department. (20)
- Q.10** a) Write a program to read numbers from file and print sum of prime numbers in it. (20)  
b) Write a function to copy and append content of one string into another.



**Subject : Financial Management & Accounting**

Day : Thursday

Date : 21/04/2016



Time : 10.00 AM TO 01.00 PM

Max Marks : 100 Total Pages : 2

**N.B:**

- 1) Attempt **ANY FOUR** questions from Section I and **ANY TWO** questions from Section II.
- 2) Solve both sections in **SAME** answer book.
- 3) Figures to the right indicate **FULL** marks.
- 4) Use of calculator is **ALLOWED**.

**SECTION-I**

- Q.1** Explain the Principles of Double Entry Book-keeping System and rules of preparation of Journal. (15)
- Q.2** What do you mean by Cost sheet? Give a Performa of Cost sheet. (15)
- Q.3** Explain the Utility of Ratio Analysis for management. (15)
- Q.4** Explain the Concepts of Profit Maximization and Wealth Maximization. (15)
- Q.5** Write techniques of Inventory Management. (15)
- Q.6** Explain the following techniques of Capital Budgeting. (15)
- i) Net Present Value
  - ii) Pay Back period
  - iii) Profitability Index.
- Q.7** Write short notes on (**ANY TWO**): (15)
- a) Profitability Ratio
  - b) Equity Shares
  - c) Venture Capital

**SECTION-II**

- Q.8** Enter the following Business transactions in the Books of Amit for the year 2014. (20)
- |         |  |
|---------|--|
| June 1  | Invested Machinery worth Rs. 5, 00, 000 into business.                   |
| June 2  | Purchased goods from Pritam Ltd. worth Rs. 8,00,000 @ 2% trade discount. |
| June 3  | Sold goods to Sahil worth Rs. 5,00,000 @ 5% trade discount.              |
| June 4  | Received cash from Sahil Rs. 35,000.                                     |
| June 5  | Paid for Administrative Expenses Rs. 20,000.                             |
| June 6  | Received Commission Rs. 24,000 from Sudha.                               |
| June 7  | Purchased office equipment worth Rs. 6,50,000 from Rohan.                |
| June 8  | Paid cash to Rohan Rs. 15,000.   |
| June 9  | Purchased goods on cash basis Rs. 55,000.                                |
| June 10 | Paid for Carriage Rs. 15,000.  |

P.T.O.

Q.9 For the production of 5,000 units the following are budgeted expenses.

Particulars	Cost Per Unit Rs
Direct material	120
Direct labour	60
Variable overhead	45
Fixed overhead (100% Fixed)	25
Variable expenses (direct)	10
Selling expenses (10% fixed)	50
Administration expenses (100% fixed)	15
Distribution expenses (20% fixed)	8

Prepare a flexible budget for 6,000 and 8,000 Units.

Q.10 The following information is available for Product P and Q.

Particulars	Product P Rs	Product Q Rs
Sales	10,00,000	12,00,000
Marginal Cost	7,00,000	9,00,000
Fixed Cost	1,50,000	1,50,000

You are required to calculate for Product P and Product Q.

- |                       |                      |
|-----------------------|----------------------|
| i) Profit             | ii) P/v Ratio        |
| iii) Break Even Sales | iv) Margin of Safety |

\* \* \* \* \*