MAHATMA GANDHI UNIVERSITY
D.D.M.C.A DEGREE EXAMINATION
MODEL QUESTION PAPER
Third Semester
DMCA 302 Operating Systems

Time: Three Hours  Maximum: 75 Marks

Part A

Answer any ten questions
All questions carry equal marks

1. What are the features of time sharing operating systems?
2. Explain about system calls.
3. Why do you need threads.
4. Discuss the necessary conditions of deadlock.
5. Explain about swapping.
6. Explain the terms first-fit, best fit, and worst fit.
7. What is busy waiting?
8. Write a notes on deadlocks
9. What is meant by virtual memory?
10. What is the reason for page fault?
11. Explain about disk structure?
12. What is a directory system.

(10 x 3 = 30 marks)

Part B

All questions carry equal marks

13. (a) Explain the structure of an operating system.

Or

(b) Explain about different types of operating system.

14. (a) Discuss busy-wait implementation of semaphore.

Or

(b) Discuss the various conditions for deadlock. How can you escape from each condition.

15. (a) Describe paging mechanism in memory management.
Or
(b) Discuss the operation principles behind segmentation.

16. (a) Explain the role of virtual memory in memory management.

Or

(b) Explain various Disk Scheduling algorithms.

17. (a) Explain all file allocation methods.

Or

(b) What is a file? Explain its structure. Discuss various file operations.

(5 x 9 = 45 marks)
Part A
Answer any Ten Questions
Each Question carries 3 marks.

1. What are the advantages of Database Management system over File system?
2. Explain the features of E-R Model.
3. What are the main responsibilities of a database administrators?
4. Explain primary key and foreign key with an example.
5. Briefly explain about the relational algebra operators.
6. What are the different DML commands with example?
7. Explain about the aggregate operators in SQL.
8. What is BCNF?
9. What is meant by functional dependency?
10. What are ACID properties?
11. Explain ARIES?
12. What are the different levels of abstraction?

Part B
All Questions carry Equal marks.

13. a) Explain the structure of a DBMS with a neat diagram.
   
   Or

b) With a neat sketch, explain the E-R Model.

14. a) Explain in detail about relational algebra operators.
   
   Or

b) How to translate E-R model to relational model with an example.

15.a) Explain trigger with an example.
   
   Or

b) Consider the employee database employee.

(Employee – name, street, city)

Works (Employee-name, company-name, salary)
Where the primary keys are underlined. Give the SQL expression for the following:

a) Find the names and cities of residence of all employees who work for the first bank corporation.

b) Find the names, street address and cities of residence of all employees who work for the first bank corporation and earn more than $10,000.

c) Find all the employees in the database who live in the same cities as the companies for which they work.

d) Find all the employees in the database who live in the same cities and on the same streets as do their managers.

16. a) Explain in detail about first and second normal form with example.

Or

b) Explain in detail about third and fourth normal form with example.

17. a) Explain in detail about Lock Based protocol.

Or

b) How to identify and avoid deadlock.
MODEL QUESTION
SEMESTER – III
DMCA 304 Accounting & Financial Management

Time: 3Hrs. Max. Marks: 75

PART – A

(Answer any 10 questions, each question carries 3 marks)

1. Define ratio analysis and mention its characteristics.
2. Explain Role and Activities of an Accountant
3. List the major tools used for financial analysis.
4. Define accounting?
5. Explain the users of accounting information.
6. Briefly explain the accounting process.
7. What do you mean by Common Size Statement?
8. What is posting?
9. Mention the various cash and non-cash transactions.
10. What are the major objectives of preparing trial balance?
11. How is the adjustment of outstanding liabilities treated?
12. Explain the need for calculating profitability ratio.

PART – B

(Answer all the questions, each question carries 9 marks)

Module I


OR

B) What do you mean by GAAP? Explain the accounting standards followed in India.

Module II

14. A) Explain in detail the types of accounts and the golden rule of double entry.

OR

B) Prepare journal entries, ledger and trial balance for the transactions given below.

Sep: 1st Began business by investing cash Rs.10, 000
4th Paid two months’ rent in advance for shop Rs.2, 000
5th Brought equipment for cash Rs.1, 200
7th Brought supplies on credit, Rs.700
10th Paid for advertisement Rs.1, 400
25th Paid wages Rs.1, 500
28th Paid electricity charges Rs. 240.
29 Paid dividends Rs.2500
30\textsuperscript{th} Purchased office furniture. 11, 200

**Module III**

15. A) Explain in detail the format for preparing the Trading, Profit and loss account and Balance sheet. What is the purpose for preparing such statements?

**OR**

B) Prepare the trading profit and loss account from the following trial balance.

<table>
<thead>
<tr>
<th>Trial Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulars</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>Capital</td>
</tr>
<tr>
<td>Drawings</td>
</tr>
<tr>
<td>Opening Stock</td>
</tr>
<tr>
<td>Purchases</td>
</tr>
<tr>
<td>Sundry Creditors</td>
</tr>
<tr>
<td>Sundry Debtors</td>
</tr>
<tr>
<td>Sales</td>
</tr>
<tr>
<td>Discounts</td>
</tr>
<tr>
<td>Commissions</td>
</tr>
<tr>
<td>Returns</td>
</tr>
<tr>
<td>Salaries</td>
</tr>
<tr>
<td>Rent, Rates and Taxes</td>
</tr>
<tr>
<td>Postage, Telegrams and Telephones</td>
</tr>
<tr>
<td>Loan</td>
</tr>
<tr>
<td>Interest</td>
</tr>
<tr>
<td>Furniture</td>
</tr>
<tr>
<td>Brand Names and Designs (Patents)</td>
</tr>
<tr>
<td>Advertisement</td>
</tr>
<tr>
<td>Cash in Hand</td>
</tr>
<tr>
<td>Cash at Bank</td>
</tr>
<tr>
<td>Freight Inward</td>
</tr>
<tr>
<td>Duty Drawbacks (Income)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

**Module IV**

16. A) The Balance Sheet of Sriram Ltd as on 31.12.2002 is as follows:

<table>
<thead>
<tr>
<th>Liabilities</th>
<th>Rs.</th>
<th>Assets</th>
<th>Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity share capital (shares of Rs 10 each)</td>
<td>5,00,000</td>
<td>Land and Buildings</td>
<td>6,00,000</td>
</tr>
<tr>
<td>10% Preference share capital (Shares of Rs 100 each)</td>
<td>2,00,000</td>
<td>Plant and furniture</td>
<td>5,00,000</td>
</tr>
<tr>
<td>Reserves and surplus</td>
<td>3,00,000</td>
<td>Stock in trade</td>
<td>2,40,000</td>
</tr>
<tr>
<td>12% Debentures (Rs 100 each)</td>
<td>4,00,000</td>
<td>Sundry Debtors</td>
<td>1,95,000</td>
</tr>
<tr>
<td>Sundry Creditors</td>
<td>1,50,000</td>
<td>Cash in hand</td>
<td>60,000</td>
</tr>
<tr>
<td>Bank Overdraft</td>
<td>50,000</td>
<td>Prepaid expenses</td>
<td>5,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16,00,000</td>
<td></td>
<td>16,00,000</td>
</tr>
</tbody>
</table>
Calculate current ratio, liquid ratio, debt-equity ratio and capital gearing ratio and proprietary ratio.

OR

B) List the various types of ratios. Explain in detail the liquidity ratios and its significations.

Module V

17. A) Explain the meaning, importance and the format for preparing cash flow statement.

OR

B) Explain the meaning, Concept of Gross and Net Working Capital. How is the Schedule of Changes in Working Capital prepared?