

Subject : Operating System Concepts

12

Day : Friday

Date : 11/11/2011



Time : 10:00 a.m. to 1:00 p.m.

Max Marks : 70 Total Pages : 1

N.B.:

- 1) Each question carries **FOURTEEN** marks.
- 2) Q. No. 1 is **COMPULSORY**.
- 3) Attempt any **FOUR** questions from Q. No. 2 to Q. No. 7.
- 4) Draw diagrams **WHEREVER** necessary.
- 5) Figures to the **RIGHT** indicate full marks.

- Q.1 a)** Consider the following jobs are to be executed with one processor. (07)

Job	Arrival time	Burst time
1	1	5
2	0	7
3	3	3
4	2	10

Calculate average turn around time and total wait time using round robin with time slot = 2.

- b)** What are different types of operating systems? Explain each in brief. (07)

- Q.2 a)** What is meant by segmentation? Explain segmentation with paging. (07)

- b)** Explain different types of file access methods. (07)

- Q.3** Consider the following page reference string 7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1. How many page faults would occur for the following page replacement algorithms, assuming 3 frames. (14)

- a) Least recently used
- b) First in First out.

- Q.4 a)** What is interrupt? Explain how interrupts are handled. (07)

- b)** Explain contiguous storage allocation strategy with example. (07)

- Q.5 a)** Explain layered system structure of operating system. (07)

- b)** What is multiprogramming with variable number of partitions? Explain with suitable examples. (07)

- Q.6 a)** What are services performed by operating system for process management? (07)

- b)** What is deadlock? What are necessary conditions to occur the deadlock? (07)

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

- a) Message exchange
- b) Interprocess synchronization
- c) Virtual memory
- d) Principles of security.

Day : Monday

Date : 14/11/2011



Time : 10:00 a.m. to 1:00 p.m.

Max Marks : 70 Total Pages : 1

N.B:

- 1) Each question carries **FOURTEEN** marks.
- 2) Questions I is **COMPULSORY**.
- 3) Attempt any four questions from Q.2- Q.7
- 4) Draw neat and clean diagram **WHEREVER** necessary.

- Q.1** a) Create a table named Circle with two columns radius and area. Write a PL/SQL block to calculate area of circle for radius varying from 1 to 10 and insert those values into the table. (07)
- b) What is PL/SQL? Explain the advantages of PL/SQL over SQL. (07)
- Q.2** a) What is Oracle? Explain the Various tools of Oracle. (07)
- b) Explain how Oracle satisfies Codd's Rules. (07)
- Q.3** Explain the following with syntax and example. (14)
- a) Sequence
 - b) Stored Procedure and Functions
- Q.4** What is Cursor? Explain the various types of cursors with examples. (14)
- Q.5** a) Write a PL/SQL block to accept 10 numbers in loop and print the Square of accepted even numbers and cube of odd numbers. (07)
- b) Write a PL/SQL block to check whether a number entered is palindrome or not. (07)
- Q.6** Consider the following table structure: (14)
- Dept(D_no,D_name,Location)
Emp(E_no,E_name,salary,commission,Hire_date,D_no,job)
- a) Create above tables with proper constraints.
 - b) Display employees whose name start with letter "a".
 - c) Display employees hired in the month of October and salary between 5000 and 10000.
 - d) Display the Department name in which employee named Raj is working.
 - e) Delete a record from employee whose employee number is 52.
 - f) Display the employee details in ascending order on column employee name.
 - g) Display all employees under department "sales" with salary greater than 15000.
- Q.7** Write short note on any two. (14)
- a) SQL Component
 - b) Triggers
 - c) Views
 - d) Locks

Day : Wednesday

Date : 16/11/2011



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Time : 10:00 a.m. to 1:00 p.m.

Max Marks : 70 Total Pages : 1

N.B:

- 1) Each question carries **FOURTEEN** marks.
- 2) Questions I is **COMPULSORY**.
- 3) Attempt any four questions from Q.2- Q.7
- 4) Draw neat and clean diagram **WHEREVER** necessary.

- Q.1 a) Design Visual Basic application with user interface which will contain a combo box, textbox. Load the distinct city names from "Customer" table in a combo box at a runtime. When user selects a city, it displays appropriate record in the data grid. (07)
- b) What is Event Driven Programming? Explain how event driven programming differs from procedural programming. (07)
- Q.2 a) Create a Visual Basic application that accepts two numbers and performs mathematical operations such as add, subtract, multiply and divide. Display the result in messagebox. (07)
- b) Explain different type conversion functions in VB. (07)
- Q.3 a) Describe in detail following control structures with suitable examples. (07)
- i) If statement
 - ii) Do until loop
- b) What are different data types in VB? (07)
- Q.4 Differentiate between- (14)
- i) List box and Combo box
 - ii) Input box and Message box
 - iii) Picture box and Image control
 - iv) Random file and Sequential file Access
- Q.5 a) Explain how control array are implemented in VB at even time with an example. (07)
- b) Explain Dialog Box in detail. (07)
- Q.6 a) Explain the properties of data control for connecting to database. (07)
- b) What is report? Write a procedure to create data report. (07)
- Q.7 Write short notes (any two) (14)
- i) Errors in VB
 - ii) MDI ✓
 - iii) Data types
 - iv) Properties of toolbars

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Day : Friday

Date : 18/11/2011



Time : 10:00 a.m. to 1:00 p.m.

Max Marks : 70 Total Pages : 2

N.B.:

- 1) Each question carries **FOURTEEN** marks each.
- 2) Q. No. 1 is **COMPULSORY**.
- 3) Solve any **FOUR** questions from Q. No. 2 to Q. No. 7.
- 4) Figures to the **RIGHT** indicate full marks.
- 5) Use of non-programmable calculator is allowed.

- Q.1 a)** Analyze the following transaction of Rohan Traders, Delhi for April 2010 and (07)
record the same into the Journal.

Date	Transactions
1 April	Started business with Rs.50,000/-.
4 April	Deposited into Bank Rs.10,000/-.
12 April	Salary paid to Ashish Rs.1,800/-.
30 April	Withdraw Rs.500/- for domestic purposes.

- b)** Define Management accounting and explain its nature and scope. (07)

- Q.2** What are the advantages and limitations of Budgetary control? (14)

- Q.3** State the advantages and limitations of marginal costing. (14)

- Q.4** What is a 'ratio'? What are the limitations of ratio analyzes. (14)

- Q.5** Define 'Financial Accounting'. What are the functions of Financial Accounting? (14)

P.T.O.

- 16
- Q.6 From the following Trial Balance of Bharat, Mumbai. Prepare Trading and Loss A/c for the year ended 31st March 2010 and a Balance Sheet as at date.

Particular	Debit Rs.	Credit Rs.
Capital		
Land & Building	87000	
Plant & Machinery	17500	
Goodwill	20000	
Drawings	22600	
Cash in hand	1795	
Stock on 1 st April 2009	27000	
Wages	10000	
Purchase less returns	69000	
Carriage inward	600	
Traveller's commission	6000	
Insurance	2000	
Motor car	3000	
Carriage outward	1400	
Sales less returns		
Salaries	15000	
Bank charges	105	
Reserved for Bad & doubtful debts		
Debtors	20000	
Creditors		
Total Rs.	3,03,000	3,03,000

The following adjustments are to be considered.

- On 31st March 2010 the stock was valued at Rs.46,000/-.
- Insurance premium amounting to Rs.800/- is prepaid.
- Outstanding salaries amounted to Rs.1,000/-.

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

- Sales book
- Trading A/c
- Classification of Accounts
- Tally.

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Day : Monday

Date : 21/11/2011



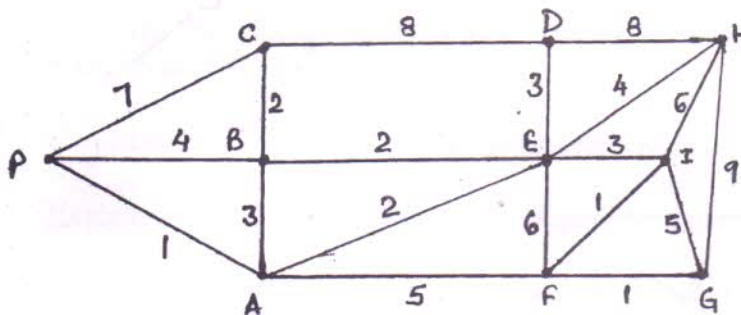
Time : 10:00 a.m. to 1:00 p.m.

Max Marks : 70 Total Pages : 2

N. B.:

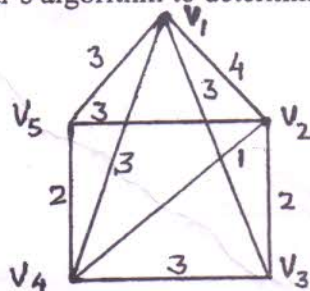
- 1) Each question carries **FOURTEEN** marks.
- 2) **Q. No. 1** is **COMPULSORY**.
- 3) Attempt any **FOUR** questions from **Q. 2** to **Q. 7**
- 4) Use of **NON PROGRAMMABLE** scientific calculator is allowed.

- Q. 1 a)** Every morning the lazy postman takes the bus to post office, from there, he chooses the route to reach home as quickly as possible (not ending at the post office) below is map of streets along which he must deliver mail, giving the number of minutes required to walk each block whether delivering or not. P denotes the post office and H denotes the home. What must the edges traveled more than once satisfy? How many times will each edge to be traversed in the optimal route? Use any method. **(08)**



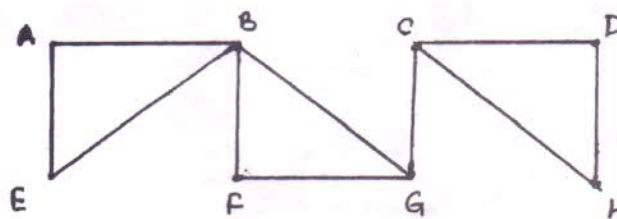
- b)** Prove that: A finite connected graph G is Eulerian if and only if each vertex has even degree. **(06)**

- Q. 2 a)** Apply Kruskal's algorithm to determine a shortest path. **(07)**



- b)** Draw the 2-tree T which corresponds to the algebraic expression $E = (x + 3y)^4 (a - 2b)$ and find preorder of T . **(07)**

- Q. 3 a)** Define degree of graph? Find degree of each vertices for below graph: **(07)**



P. T. O.

