

QP Code : 1614

(Time: 3 hours)

(Total Marks: 80)

1. Question No 1 is compulsory.
2. Attempt any three out of the remaining five questions.

- Q1. (a) What are some typical technical goals and business goals for organizations today? Define bandwidth, throughput and latency of a network. 10
- Q 1 (b) What are the main phases of network design as per the PDIOO approach? What are the goals and functions of the distribution layer? 10
- Q2. (a) What is the relevance of queuing theory in network design? Discuss M/M/1 queuing model. 10
- Q2.(b) What are the key features of the distribution layer? What is the advantage of using a layer-3 switch in the core of a campus network? Can a layer-2 switch be used instead? Why or why not? 10
- Q3 (a) What are the challenges of a network manager? How are fault management and performance management handled by an NMS? 10
- Q3(b) Explain the difference between the database of a network management system and its MIB. Discuss the structural differences between SMI and MIB. 10
- Q4. (a) What is the necessity of TMN? Discuss the functional model of TMN along with its applications and limitations. 10
- Q4. (b) What is remote monitoring? Explain the RMON MIB framework. 10
- Q5 (a) Discuss Information model of SNMP. What are managed objects? How are they defined? 10
- Q5 (b) Describe the architecture of SNMP. Discuss SNMP community and community profile. 10
- Q6. Short notes on: (any two) 20
- i) ASN.1 notation
 - ii) Ethernet Design rules and scalability constraints
 - iii) TMN Cube
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ME (CMPN) SEM I (CB4J)

AAC 12/5/2015

QP Code : **1608**

(3 Hours)

[Total Marks : 80

- N. B. : (1) Question No. 1 is compulsory.
(2) Solve any **three** questions out of the remaining **five** questions.
(3) Assume suitable data wherever necessary and justify the same.
(4) **Figures** to the **right** indicate **full** marks.

1. (a) Explain quick sort algorithm and analyze it. 10
(b) Define O , θ and Ω notations for algorithm complexity and solve the recurrence 10
$$T(n) = 4.T(n/2) + n^2$$
2. (a) Give approximation algorithm for TSP. 10
(b) Explain Floyd - Warshall algorithm in detail. 10
3. (a) Determine LCS of $\langle 101000111010 \rangle$ and $\langle 01001001010 \rangle$. 10
(b) Explain Bellman Ford algorithm with an example. 10
4. (a) Explain Rabin-Karp string matching algorithm in detail. 10
(b) Compare and contrast different algorithms to construct a minimum spanning tree from a graph with an example. 10
5. (a) Solve the following linear program using simplex method 15
Maximize $5x_1 + 3x_2$
Subject to the condition
 $x_1 + x_2 \leq 2$
 $5x_1 + 2x_2 \leq 10$
 $3x_1 + 8x_2 \leq 12$
 $x_1, x_2 \geq 0$
(b) Write a note on push relabel algorithm. 5
6. Write short notes on :- 20
(a) Zero Sum Games
(b) Online paging problem
(c) Vertex cover problem
(d) 0/1 knapsack algorithms

M.E. I (CBGS) (CMPN)

18/5/15

M.E. I Parallel Computing

QP Code : 8769

Total Marks : 80

Duration : 3 Hrs

N.B : 1) Q.1 is compulsory .

2) Attempt Any 3 out of remaining .

3) Assume suitable data wherever required .

Q.1 a) Discuss in detail classification of parallel computers? (10)

b) Explain different types of parallel algorithm models with example. (10)

Q.2 a) What is the need of decomposition? List & explain various decomposition techniques with examples. (10)

b) Explain Maximizing data locality method for reducing the interaction overhead. (10)

Q.3 a) What is Cannon's algorithm for matrix multiplication? Discuss performance analysis of cannon's algorithm. (10)

b) Explain parallel quick sort algorithm. (10)

Q.4 a) Discuss architecture of Parallel Virtual Machines (PVM) ? (10)

b) What is Message passing programming? Explain in details blocking & Non-blocking Message Passing operation? (10)

Q.5 a) What is the effect of granularity on performance of parallel programs. (10)

b) Write a note on Message Passing Interface (MPI). (10)

Q.6 Write a note on : (Any 2) (20)

a) Parallel programming models.

b) performance metrics for parallel systems .

c) High performance JAVA

d) OpenMp.

M.E. I (CBGS) (CMPN)

18/5/15

M.E. I Parallel computing

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M. E. (Comp) Sem IV
28/05/15 CBW
Advance database Design
QP Code : 1626

(Hours 3)

[Total Marks : 80

- N.B. (1) Question no. 1 is compulsory.
(2) Attempt any **three** out of remaining
(3) Assume suitable data whenever required
1. (a) Prepare Document type definition (DTD) for the following.
Consider a banking enterprise where each bank keeps track of their customers, depositor accounts & loan accounts. It has multiple branches & each branch can have multiple depositor accounts & loan accounts. 5
(b) Describe the steps involved in database design lifecycle. 5
(c) Differentiate between relational databases, object relational databases and object oriented databases. 5
(d) Explain Query optimization. 5
2. (a) Construct ODL schema for the Company database. 10
(b) Describe EER to ODL Mapping with an example. 10
3. (a) Discuss Concurrent control in Database Management system. 10
(b) Design Distributed Database Management Schema for Railway Reservation System. First construct ER diagram of Railway Reservation System. Specify Data Distribution and Replication among sites. Create Global schema for the application. 10
4. (a) Describe horizontal and vertical fragmentation in distributed databases by giving examples. 10
(b) Describe distributed deadlock handling in detail. 10
5. (a) Explain different forms of temporal databases. 10
(b) Explain data mining techniques in brief. 10
6. Write Notes on (Any two):— 20
(a) Web databases
(b) Database Security
(c) Multimedia databases
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M.E. COMP (I) (CBAS)
E-Business Tech.

3/6/15

QP Code : **1637**

(3 Hours)

[Total Marks : 80

N. B. : (1) Question No. 1 is compulsory.

(2) Attempt any three out of remaining five questions.

1. (a) Identify and explain fundamental models of e-business. 10
(b) Describe the scale of ethical behavior. 10
 2. (a) How does e-business differ from e-commerce with example. 10
(b) Explain each of the key steps in the strategic planning process. 10
 3. (a) List and explain the primary methods used for successful e-business research. 10
(b) What is cost benefit analysis? 10
 4. (a) Describe the steps involved in the consumer and organizational buying processes. 10
(b) What does the implementation of an e-business plan involve? 10
 5. (a) How SWOT analysis help to improve business? 10
(b) Discuss the advantages and disadvantages of globalization. 10
 6. (a) List and explain different e-payment options for online transaction. 10
(b) Write short note on Digital Property and Distribution Rights. 10
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