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T.E. (Information Technology)
COMPUTER NETWORK TECHNOLOGY
(2008 Course) (Semester-I) (314443)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates:
1) **Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 from section I and Q7 or Q8, Q9 or Q10, Q11 or Q12 from section II.**
2) **Answers to the two sections should be written in separate books.**
3) **Neat diagrams must be drawn wherever necessary.**
4) **Figures to the right side indicate full marks.**
5) **Assume suitable data, if necessary.**

SECTION-I

Q1) a) What is routing? State different types of routing? Write properties of routing algorithm. **[8]**

b) What is flow control mechanism? What is the role of timer in the flow control. **[8]**

OR

Q2) a) Compare virtual circuit subnet and datagram subnet. **[8]**

b) Explain in detail Link State routing algorithm with example. **[8]**

Q3) a) What is fragmentation? Explain types of fragmentation with example. **[8]**

b) Explain in detail BGP. **[8]**

OR

Q4) a) Is fragmentation supported by IPv4 and IPv6? Explain. **[6]**

b) Consider any class-C network with default subnet mask. **[10]**

How many actual hosts can be connected in that network? Divide that network into 8 equal subnets?

P.T.O.

What is the new subnet mask?

What is the starting address of the 6th Subnet?

What is the last address of the 6th Subnet?

How many hosts can be connected in each subnet? (Give all details).

Q5) a) What is a Socket? Explain various socket primitives used in client-server interaction. **[8]**

   b) Explain all the fields of TCP header. **[10]**

OR

Q6) a) Explain the three way handshake algorithm for TCP connection establishment. **[10]**

   b) What do you mean by flow control in transport layer? What are the different methods to achieve it? **[8]**

SECTION-II

Q7) a) List the similarities and differences between POP3 and IMAP. **[8]**

   b) Explain persistent and non-persistent HTTP Connection. **[8]**

OR

Q8) a) List and describe seven message types in SNMP. **[8]**

   b) Where and when FTP is used? Explain the importance of two ports in FTP? **[8]**

Q9) a) Explain Round Robin and Weighted Fair Queuing algorithm for scheduling. **[8]**

   b) Explain the RTSP protocol. Why this protocol is needed. **[8]**

OR

*Q10)*a) What do you mean by integrated services? Explain with suitable example.
[8]

b) What is the need of scheduling and policing techniques in multimedia networking. **[8]**

*Q11)*a) Discuss various layers used in ATM architecture. **[9]**

b) Explain Bluetooth architecture with diagram. **[9]**

OR

*Q12)*Write short note on: **[18]**

a) Limitations of Bluetooth.

b) ATM Protocol Stack.

c) Hidden Station problem.

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