Code No: R32041 **R10** **Set No: 1**

III B.Tech. II Semester Regular/Supplementary Examinations, May/June -2014

COMPUTER NETWORKS

(Comm to Electronics and Communication Engineering & Electronics and Computer Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1. a) Compare narrow band and broadband ISDN.
   b) What are various switching techniques? Explain. [7+8]

2. a) List two ways in which the OSI reference model and the TCP/IP reference model are the same and also list two ways in which they differ.
   b) Explain the four basic network topologies, and cite advantages of each type. [8+7]

3. Explain about sliding window protocols for noisy channels. [15]

4. a) Why do we select UDP for voice transmission? Explain.
   b) What is congestion? Explain any one of the congestion control techniques.
   c) How do we provide QoS in switched networks? [5+5+5]

5. a) What are some of the advantages and disadvantages are between static routes and dynamically configured routes?
   b) Compare virtual – circuit and Datagram subnets. [8+7]

6. a) Consider the delay of pure ALOHA versus slotted ALOHA at low load which one is Less? Explain detail.
   b) Sketch the Manchester encoding for the bit stream : 000110101. [8+7]

7. a) Explain IPv4 classful and classless Addressing.
   b) Compare and contrast the interior gateway and exterior gateway protocols. [7+8]

8. Write short notes on
   (i) FTP
   (ii) SNMP
   (iii) Domain Name Space. [5+5+5]

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Code No: R32041 **R10** **Set No: 2**

III B.Tech. II Semester Regular/Supplementary Examinations, May/June -2014

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Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1. a) Compare the static and dynamic routing algorithms.
   b) Explain Hierarchical routing algorithm. [7+8]

2. a) List three advantages and three disadvantages of having international standards for network protocols. [8+7]
   b) What is the difference between half-duplex and full-duplex transmission models.

3. a) Explain Framing, Error control and flow control mechanisms of data link layer.
   b) Give the frame format of HDLC protocol. [8+7]

4. a) Draw the cross-sectional diagrams of the following guided media:
   (i) Coaxial cable
   (ii) Fiber optic cable
   b) Draw the protocol architectural diagram of ATM protocol. [8+7]

5. a) Explain about the connection establishment and connection release at transport layer.
   b) Explain TCP header format with neat diagram. [8+7]

6. a) Describe the difference between subnetting and supernetting .
   b) List and describe the difference between class A,B, and C Sublaer masks. [7+8]

7. a) Brief the general principles of congestion control. [7+8]
   b) What is Internetworking? What is the role of network layer in Internetworking?

8. Write short notes on
   (i) Multi Media.
   (ii) Electronic mail.
   (iii) Network security. [5+5+5]

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Code No: R32041 **R10** **Set No: 3**

III B.Tech. II Semester Regular/Supplementary Examinations, May/June -2014

COMPUTER NETWORKS

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Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1. a) Explain and compare various types of Multiplexing techniques.
   b) Give the characteristics of guided and unguided media. [7+8]

2. a) How do the layers of the internet model correlate to the layers of the OSI model?
   b) How are OSI and ISO related to each other? [7+8]

3. a) Explain how CRC method is used for error detection?
   b) Illustrate the above with one example. [8+7]

4. a) List out the services and applications of SCTP. Also compare TCP, UDP and SCTP Protocols.
   b) Explain congestion control mechanisms used in TCP. [10+5]

5. Explain DES algorithm with neat diagram. [15]

6. a) Explain about the 802.11 protocol stack with neat diagram.
   b) Write short note on Bluetooth architecture. [10+5]

7. Write short notes on following
   (i) Shortest path routing.
   (ii) Flooding.
   (iii) Distance vector routing. [5+5+5]

8. a) What is congestion? Write general principles of congestion control.
   b) Compare various Internet transport protocols. [8+7]

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Code No: R32041 **R10** **Set No: 4**

III B.Tech. II Semester Regular/Supplementary Examinations, May/June -2014

COMPUTER NETWORKS

(Comm to Electronics and Communication Engineering & Electronics and Computer Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1. Draw the protocol suite diagram of TCP and compare it against the OSI Model. [15]

2. a) Compare and contrast a circuit-switched network and a packet switched networks.
   b) What is the role of address field in a packet traveling through a virtual-circuit network?
   c) Compare optical fiber cables with coaxial cables. [5+5+5]

3. a) Compare various Internet transport protocols.
   b) What are the various layers of ATM? Explain. [7+8]

4. a) What is internetworking? Explain.
   b) Discuss the functions of ATM transport protocols. [8+7]

5. a) Draw and explain about the 802.11 frame structure.
   b) Discuss the advantages and disadvantages of credits versus sliding window protocols. [8+7]

6. a) What is the primary purpose of the address resolution protocol(ARP).
   b) Discuss about distance vector routing algorithm.

7. a) Explain IPV4 protocol header format.
   b) Explain why most of the addresses in class A are wasted. Explain why is medium-size or large-size corporation does not want a block of class C addresses. [8+7]

8. Write a brief note on:
   (i) Integrated services
   (ii) SNMP
   (iii) Network Security. [5+5+5]

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