Code No: 07A6EC08 **R07** **Set No. 2**

III B.Tech II Semester Examinations,December 2010
COMPUTER NETWORKS
Common to Information Technology, Electronics And Computer Engineering, Computer Science And Engineering, Computer Science And Systems Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain the home applications of computer networks?
   (b) Compare LAN, MAN and WAN.
   (c) "Bad Technology" is also a problem for OSI reference model.Justify. [4+6+6]
2. (a) Explain shortest path routing in detail
   (b) What is routing? Explain two major classes of routing algorithms? [8+8]
3. Explain the following :
   (a) MACA protocol
   (b) Fast Ethernet. [8+8]
4. (a) Television channels are 6MHz wide. How many bits/sec can be sent if four level digital signals are used? Assume a noiseless channel.
   (b) How does a virtual circuit differ from a physical circuit? What advantages would a virtual circuit provide? [8+8]
5. (a) What are the different types of errors? Also discuss at least two methods for error detection and correction.
   (b) Discuss the services provided by the data link layer to the network layer? [8+8]
6. (a) Explain the ATM addressing with suitable example.
   (b) Give TCP header format and explain. [8+8]
7. What are the two categories of cryptography methods? What is the main difference between two categories? Explain each one of them with examples. [16]
8. Explain the attributes of flow characteristics and explain any two types of the traffic shaping techniques to improve QOS? [16]

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Code No: 07A6EC08 **R07** **Set No. 4**

III B.Tech II Semester Examinations,December 2010
COMPUTER NETWORKS
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Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Write short notes on:
   (a) Digital signatures.
   (b) DNS.
   (c) Cryptography. [5+6+5]
2. Explain in detail about Multiplexing and crash recovery. [16]
3. Explain error detection and error correction techniques. [16]
4. (a) Discuss about the file key assumptions in case of dynamic channel allocation in LANs and WANs?
   (b) Discuss in detail the working of token bus? [8+8]
5. (a) Explain in detail about IP addresses formats with a neat sketch.
   (b) Give a note on congestion prevention polices. [8+8]
6. Explain the Bellman Ford routing algorithm with an example? State its drawbacks. [16]
7. (a) Compare and contrast circuit switching, packet switching and message switching?
   (b) Which switching method is used telephone networks, discuss how the message is transmitted? [8+8]
8. (a) An alternative to a LAN is simply a big timesharing system with terminals for all users. Give two advantages of a client-server system using a LAN?
   (b) Give a detailed description of the Novell Netware IPX packet? [8+8]

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Code No: 07A6EC08 **R07** **Set No. 1**

III B.Tech II Semester Examinations,December 2010
COMPUTER NETWORKS
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Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain about
   (a) Network graph.
   (b) Spanning tree.
   (c) Optimality principle. [5+5+6]
2. (a) Define and explain the following terms:
      i. Computer Network
      ii. Network topology
      iii. Protocol
      iv. Packet.
   (b) Discuss various network applications and goals in detail. [8+8]
3. Discuss about mail access protocols? [16]
4. (a) If a binary signal is sent over a 3KHz channel whose signal to noise ratio is 20dB. What is the maximum achievable data rate?
   (b) Which switching method allows real-time data transfer? Mention the advantages of packet switching? [8+8]
5. (a) What is Hamming Distance? What must be hamming distance of single bit error detecting code?
   (b) Reliability of CRC is better than that of simple parity and LRC. Justify this statement.
   (c) What is meant by bit stuffing? Explain? [6+5+5]
6. Explain congestion control in datagram subnets? [16]
7. (a) Explain flow control and buffering with examples?
   (b) Explain briefly about the sockets in transport layer . [8+8]
8. (a) A channel has bit rate of 4kbps and propagation delay of 20 ms, for what range of frame size stop and wait protocol gives efficiency of 50
   (b) Explain about a bit-map collision free protocol?
   (c) Explain the operation of a LAN bridge from 802.11 to 802.3? [4+4+8]

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Code No: 07A6EC08 **R07** **Set No. 3**

III B.Tech II Semester Examinations,December 2010
COMPUTER NETWORKS
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Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Describe DES algorithm.
   (b) Explain with an example RSA algorithm. [8+8]
2. (a) What are the services provided by the physical layer?
   (b) Explain broad band ISDN in detail. [6+10]
3. Explain the sliding window protocol and compare its performance against the simple stop and wait protocol. [16]
4. (a) How do the layers of the TCP/IP model correlate to the layers of the OSI model?
   (b) Discuss about Internet? [8+8]
5. (a) Find the shortest path from 3 to 2 as shown in figure 1.

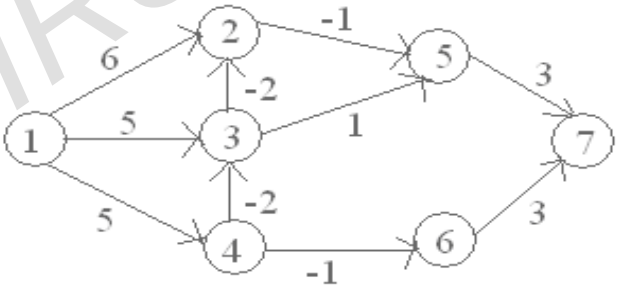

Figure 1:

   (b) Explain flooding. [8+8]
6. Explain in detail about congestion control for multicasting. [16]
7. (a) Explain 802.11 MAC sublayer protocol?
   (b) Discuss in detail the working of token bus? [8+8]
8. Explain mechanism of congestion control in TCP . [16]

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