Code No: 07A51701   **R07**   **Set No. 2**

III B.Tech I Semester Examinations,May 2011
BASICS OF TELEMATICS
Electronics And Telematics

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

Answer any FIVE Questions
All Questions carry equal marks
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1. Write in detail about baseband encoding. [16]

2. Write notes on:

   (a) ISO-OSI model

   (b) Virtual Circuit. [10+6]

3. (a) Explain the working of an automatic telephone system.

   (b) Write the advantages and disadvantages of using a PBX for data as well as voice switching. [8+8]

4. Write short notes on the following:

   (a) FDDI

   (b) R-ALOHA [8+8]

5. Write notes on:

   (a) Repeaters, bridges, routers and application level gateways.

   (b) Over provisioning and Back pressure. [10+6]

6. Explain in detail, operation with modems on leased lines and on dialed connections. [16]

7. (a) Write notes on subscriber line termination.

   (b) Describe the working of HAYE's transmission bridge. [8+8]

8. (a) Explain the network response map?

   (b) Explain the working of expanding ring search?

   (c) Explain the term routing table? [6+6+4]

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Code No: 07A51701 **R07** **Set No. 4**

III B.Tech I Semester Examinations,May 2011
BASICS OF TELEMATICS
Electronics And Telematics

Time: 3 hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. How packets store and forward influences the internet technologies? What are the problems associated with store and forward routing? [16]

2. (a) Briefly explain the working principle of automatic telephone system.
   (b) Briefly explain the working of supervisory and metering circuits in the automatic telephone system. [8+8]

3. (a) Explain switch fabrics in packet switching?
   (b) Write notes on message switching? [8+8]

4. (a) Explain the principle of loop signaling on junction lines.
   (b) Explain the trunking arrangement of a 10,000 line exchange. [8+8]

5. (a) Explain the polling and probing of centralized and distributed multiple access schemes.
   (b) Explain about Direct sequence - Code division multiple access (DS - CDMA) technique? [8+8]

6. (a) Explain the five general interface management lines in IEEE 488?
   (b) Discuss about the functional specifications of IEEE 488? [8+8]

7. (a) What are the principle functions of a modem? List the modem standards developed by CCITT in the V-series recommendations.
   (b) Discuss the standard interface between the modem and the data processing equipment.
   (c) Compare WDM & CDM. [6+6+4]

8. Explain the following:
   (a) Topology dissemination
   (b) Sequence numbers-wrapped sequence number
   (c) Lollipop sequence to the link state routing. [6+6+4]

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R07

Set No. 1

III B.Tech I Semester Examinations,May 2011
BASICS OF TELEMATICS
Electronics And Telematics

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. (a) Compare & Contrast circuit switching and packet switching?

   (b) Discuss circuit switching in detail? [8+8]

2. (a) Explain the terms routing, routing table and routing protocol.

   (b) Write the requirements of routing protocols.

   (c) What are the available choices for routing protocols to the designers?[6+6+4]

3. Compare the post network services with the network layer of OSI stack. Mention the issues considered by networks layer. [16]

4. (a) Compare & Contrast FDD & TDD?

   (b) Compute parameter 'a' for the network where the mean packet size is 500 bytes and:

       i. Link bandwidth is 8Mbps and link delay is 4μs

       ii. Link bandwidth is 500kbps and link delay is 250μs. [8+8]

5. (a) Compare the simplex, half-duplex and full-duplex operation.

   (b) Draw the block diagram of statistical multiplexer and explain the functions of each element. [8+8]

6. (a) Explain working junction diagram of trunk automatic exchange.

   (b) Explain the principle of differential signaling. [8+8]

7. (a) In a three digit exchange present the various functions performed by different selectors right from the beginning of establishment of call to termination of a call.

   (b) Explain the working of PABX. [8+8]

8. Explain the datarate/distance capabilities of different serial interfaces with a neat figure. Justify why RS-422 has higher performance compared to other serial interfaces? [16]

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Code No: 07A51701 · R07 · Set No. 3

III B.Tech I Semester Examinations,May 2011
BASICS OF TELEMATICS
Electronics And Telematics

Time: 3 hours · Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. (a) Write short notes on:
      i. Centralized access schemes
      ii. Distributed access schemes.
   (b) Compare and contrast FDMA & CDMA? [8+8]

2. (a) What are the different types of DC signaling used in junction and trunk lines? Explain them.
   (b) Draw VF repeater for speech amplification and explain about singing point. [8+8]

3. (a) Mention the advantages & disadvantages of packet switching techniques?
   (b) Discuss in detail the necessity and use of buffer switching? [8+8]

4. (a) What are the problems present with store and forward routing of internet?
   (b) What is the structure of IP address?
   (c) How the end-to-end reliability is provided in internet and how it is different from telephone network. [4+6+6]

5. (a) Discuss the issues involved in wide area multicast with an illustration?
   (b) Explain how the Wide Area Multicast performs flooding and reverse path forwarding? [8+8]

6. Explain about Trunk Automatic Exchange (TAX) with a neat working junction diagram. [16]

7. (a) Compare the performances of various interface standards.
   (b) Compare the performances of various multiplexing schemes. [8+8]

8. (a) Discuss the control circuits for operation with modems on leased lines.
   (b) Describe the following interface standards.
      i. RS-449
      ii. V.24/V.28
      iii. X.21 bis. [8+8]

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