

Code No: RT41042

**R13**

**Set No. 1**

IV B.Tech I Semester Regular Examinations, November - 2016

**COMPUTER NETWORKS**

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70

*Question paper consists of Part-A and Part-B*

*Answer ALL sub questions from Part-A*

*Answer any THREE questions from Part-B*

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**PART-A (22 Marks)**

1. a) Explain about WAN. [4]
- b) What are the different types of ISDN interfaces? [4]
- c) With an example explain the process of Error detection using LRC. [4]
- d) What is the difference between Broadcasting and Multicasting? [4]
- e) What are TCP and UDP protocols? [3]
- f) Explain about HTTP. [3]

**PART-B (3x16 = 48 Marks)**

2. a) Explain the different topologies of the network. [8]
- b) Explain the TCP/IP model? [8]
3. a) Explain the significance of Switching? What are different switching techniques used in computer networks? Discuss. [8]
- b) Discuss about ATM in detail? [8]
4. a) Explain about ALOHA and CDMA. [8]
- b) Explain various classes of IEEE 802.X Standard Ethernet. [8]
5. a) With an example explain the Dynamic routing algorithms used in computer networks. [8]
- b) What are the reasons for congestion? What are the problems with congestion? [8]
6. a) Explain the Services of Transport layer. [8]
- b) Explain leaky bucket and token bucket algorithms. [8]
7. a) Explain how Network Security can be achieved. [8]
- b) Write about electronic mail in detail. [8]

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**Set No. 2**

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*Answer ALL sub questions from Part-A*

*Answer any THREE questions from Part-B*

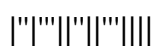
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**PART-A (22 Marks)**

1. a) Explain about LAN. [4]
- b) What are the differences between Narrowband ISDN and Broadband ISDN? [4]
- c) With an example explain the process of Error detection using VRC. [4]
- d) What are the characteristics of datagram networks? [4]
- e) What are the responsibilities of Transport layer? [3]
- f) What is meant by data encryption standard? [3]

**PART-B (3x16 = 48 Marks)**

2. a) Explain various categories of networks. [8]
- b) Explain the ISO/OSI reference model. [8]
3. a) With neat sketch explain Twisted pair cables, connectors of twisted pair cables with neat graph explain the performance of Twisted pair cables. [8]
- b) What is the significance of ISDN? Explain the basic concept of ISDN. Give the protocol architecture of ISDN? [8]
4. a) Explain the working of CSMA Protocol. [8]
- b) Explain the advantages of wireless LANs. [8]
5. a) Explain the layered architecture of ATM Network. [8]
- b) With an example explain the shortest path routing algorithms used in computer networks. [8]
6. a) Discuss about TCP and UDP Protocols [8]
- b) Explain ATM AAL Layer Protocol. [8]
7. a) Write about Electronic mail in detail. [8]
- b) Explain the working of DNS. [8]



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**PART-A (22 Marks)**

1. a) Explain about MAN. [4]
- b) What is the significance of Switching? What are the different types of Switching techniques? [4]
- c) With neat sketch explain the basic concept involved in Elementary Protocol: stop and wait [4]
- d) Explain the differences between 10 base 2 and 10 base 5 Ethernet. [4]
- e) What are the sub layers of AAL layer of ATM. [3]
- f) What is the significance of DNS? [3]

**PART-B (3x16 = 48 Marks)**

2. a) Explain the following networks [8]
  - i) ARPANET
  - ii) Internet
- b) What is the significance of layered architecture? Explain the OSI layered architecture with neat sketch. [8]
3. a) With neat graphs explain various line coding techniques (Digital to digital conversion). [8]
- b) Explain the concept of ATM and its interfaces. How addressing is achieved in ATM? [8]
4. a) Explain the following error detection techniques [8]
  - i) LRC
  - ii) CRC
- b) With an example explain the sliding window Flow control mechanism. [8]
5. a) With an example explain the distance vector routing algorithms used in computer networks [8]
- b) What are the general principles of congestion control? Explain. [8]
6. a) Explain in detail about Connection management. [8]
- b) Discuss about the header format of UDP. [8]
7. Write short notes on the following [16]
  - i) Multi Media
  - ii) SNMP

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**PART-A (22 Marks)**

1. a) What is the significance of topologies? What are the different types of topologies? [4]
- b) What are the different types of ATM interfaces. [4]
- c) Explain the differences between Pure and Slotted ALOHA Systems. [4]
- d) Define Congestion. What are the general Principles of Congestion? [4]
- e) What is Connection management? [3]
- f) Explain the WWW. [3]

**PART-B (3x16 = 48 Marks)**

2. a) Explain the differences between OSI model and TCP/IP model? [8]
- b) Explain the following networks [8]
  - i) ARPANET
  - ii) NSFNET
3. a) With neat sketch explain Coaxial cable, Standards of coaxial cable and connectors of coaxial cables. [8]
- b) Explain the significance of Switching? What are different switching techniques used in computer networks? Discuss. [8]
4. a) Explain the following error detection techniques [8]
  - i) Cheksum
  - ii) CRC
- b) What is the significance of Bridges? Explain the different types of Bridges. [8]
5. a) With an example explain the Flooding, Hierarchical routing algorithms used in computer networks [8]
- b) Explain the Network layer in the internet. [8]
6. a) Explain ATM AAL Layer Protocol [8]
- b) Explain leaky bucket and token bucket algorithms. [8]
7. Write short notes on the following [16]
  - i) DNS
  - ii) SNMP