

B.Tech III Year I Semester (R13) Supplementary Examinations June 2017

**COMPUTER NETWORKS**

(Information Technology)

Time: 3 hours

Max. Marks: 70

**PART – A**

(Compulsory Question)

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- 1 Answer the following: (10 X 02 = 20 Marks)
- What are the advantages of a layered approach?
  - What are the parameters of a signal? Define them.
  - What are the differences between MAC and IP addresses?
  - Why star topology is preferred for LANs.
  - What are the criteria that can be used for evaluation of routing algorithms?
  - What are the strategies for Flooding in a computer network?
  - Why transport layer is called as source to destination layer.
  - For video transmission, which protocol among TCP and UDP is preferred? Why?
  - What is the format of a typical email in any email system which you are using?
  - On what basis client and server are differentiated in a client server model?

**PART – B**

(Answer all five units, 5 X 10 = 50 Marks)

**UNIT – I**

- 2 (a) Compare OSI and TCP/IP reference models.  
(b) Compare Packet switching and Circuit switching.

**OR**

- 3 (a) What are the advantages of Fiber over other transmission media?  
(b) What are the differences between single mode and multimode fiber?  
(c) What are the problems with unguided media?

**UNIT – II**

- 4 (a) How hamming distance is related to error detection and error correction?  
(b) Given a bit stream 1001101. Add hamming bits to the bit stream to enable single bit error correction. Assume even parity.  
(c) How hamming distance can be used to correct burst error?

**OR**

- 5 (a) Write an algorithm for computing CRC based checksum. Explain with an example.  
(b) Explain the bit map based channel access method.

**UNIT – III**

- 6 (a) Define congestion. How congestion can be detected. How the solution based on choke packets works. What are the limitations of it?  
(b) What are the different types of control messages supported by ICMP?

**OR.**

- 7 (a) What is the need for fragmentation? How it works?  
(b) What are the classes of addresses supported by IPv4? What is the range?  
(c) What is three bears problem? What is the need for classless addressing?

**UNIT – IV**

- 8 (a) What are the performance problems in computer networks?  
(b) What is the format of UDP header? What are the applications which prefer UDP over TCP?

**OR**

- 9 What is the format of TCP segment? With a diagram, explain the connection establishment and release phases of TCP. Discuss the issues associated with them.

**UNIT – V**

- 10 (a) What are the most commonly used tags of HTML?  
(b) How FTP works?  
(c) What are the limitations of TELNET?

**OR**

- 11 Explain how the e-mail system works.

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