Code No: 135AE **R16**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, November/December - 2018
DATA COMMUNICATION AND COMPUTER NETWORKS
(Common to CSE, IT)

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a) List various components in a network. [2]
b) List and define different network topologies. [3]
c) Define bit stuffing and character stuffing. [2]
d) Briefly discuss about ALOHA. [3]
e) Why the class C is most commonly used Network class? [2]
f) Discuss how address mapping is performed. [3]
g) Mention Congestion Prevention Policies and how does it work. [2]
h) Flow control and Error control both are properties of Transport Layer and Data Link Layer. What you think is it duplicity of properties in both layer or is it ok? Comment. [3]
i) Define SNMP protocol. [2]
j) Discuss the properties of file transfer protocol. [3]

PART - B

(50 Marks)

2. With a neat diagram explain the OSI reference model in detail? Explain the functions performed in each layer. [10]

OR

3. What is multiplexing? Explain in detail about various types of multiplexing. [10]

4. Describe various error detection and correction technique. The generator polynomial is x^3+x+1. A sender want to send data 1001. Generate CRC code. Also describe error checking process if 3rd bit is inverted from the left. [10]

OR

5. What is high level data link control (HDLC)? Explain HDLC frame format in detail. [10]

6. What is classful addressing? Discuss class A, class B, class C, class D, class E address with its range in decimal dotted notation and example. [10]

OR

7. Give an example to explain any one of the multicasting routing algorithm. [10]

8. Discuss the transport layer service primitives. What do you understand by 3 way hand shake Technique? Also discuss the TCP connection management. [10]

OR

9. Compare and contrast between integrated services and Differential Services. [10]

10. Explain name – address and address – name resolution process. [10]

OR

11. Describe the various parts of e-mail address and show the process of sending and receiving e-mails. [10]

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