JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, March - 2021
COMPUTER NETWORKS
(R15-Common to CSE, IT; R13-Common to CSE, IT)

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

Answer any five questions
All questions carry equal marks
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1.a) Describe TCP/IP reference model with a neat diagram and compare TCP/IP with ISO-OSI reference model.
 b) What are the advantages of Fiber optic cables? Enumerate the functionalities of Fiber Optic Cables with a neat diagram. [8+7]

2.a) What is CRC? Discuss about CRC method for error detection with suitable example.
 b) Explain about Go, Back_N sliding window protocol. List out its drawbacks. [7+8]

3.a) Differentiate Pure ALOHA and Slotted ALOHA.
 b) Compare and contrast the network devices repeaters, hubs, bridges and switches. [7+8]

4. What is the functionality of Ethernet MAC sub layer? Explain each field in Ethernet Frame with a neat diagram. [15]

5.a) Explain about hierarchical routing algorithm with suitable example.
 b) Discuss about count-to-infinity problem. How to overcome it? [7+8]

6. What is Congestion? How to avoid congestion? Explain about Token bucket algorithm for traffic shaping with a neat diagram. [15]

7.a) Explain about DHCP protocol frame format in detail.
 b) What are the benefits of ICMP protocol? [8+7]

8.a) What is DNS? Explain DNS structure for Internet.
 b) What is the sliding window protocol involved in TCP connection? Discuss. [7+8]

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