R15/R13

## **Code No: 125DT/115DT**

## 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 sharing 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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