

Code No: 823AE

**R15****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA III Semester Examinations, December - 2019****COMPUTER NETWORKS****Time: 3hrs****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****5 × 5 Marks = 25**

- 1.a) What are the design issues of Data link layer? [5]
- b) Write the uses of bridges. [5]
- c) Define Flooding. [5]
- d) What is Packet Fragmentation? [5]
- e) List the applications of application layer. [5]

**PART - B****5 × 10 Marks = 50**

- 2.a) Explain about Sliding Window Protocols.
- b) Explain about the INTERNET history. [5+5]

**OR**

3. What is TCP/IP Model? Explain the functions and protocols and services of each layer. Compare it with OSI Model. [10]

4. Write a short note on
  - a) 1-persistent CSMA
  - b) Non-persistent CSMA
  - c) P-persistent CSMA [10]

**OR**

- 5.a) Explain about the Standard Ethernet.
- b) Write about learning bridges and spanning tree bridges. [5+5]

- 6.a) Explain the count-to-infinity problem.
- b) Describe about the optimality principle. [5+5]

**OR**

- 7.a) Explain about shortest path algorithm.
- b) What are the network layer design issues? [5+5]

- 8.a) What is Tunneling? Explain in detail.
- b) Explain about the IP Version 6 Protocol. [5+5]

**OR**

9. Explain in detailed about the Transport Layer. [10]

- 10.a) Differentiate between FTP and HTTP.
- b) Explain about UDP protocols. [5+5]

**OR**

- 11.a) Discuss in detail TCP segment header.
- b) Explain about TELNET and SSH. [5+5]

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