

**R13****Code No: 813AR****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA III Semester Examinations, January - 2018****COMPUTER NETWORKS****Time: 3 Hours****Max. Marks: 60****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 8 marks and may have a, b, c as sub questions.

**PART - A****5 × 4 Marks = 20**

- 1.a) Why protocols and standards needed. [4]
- b) Define about random access of channel. [4]
- c) Write the functionality of network layer. [4]
- d) What is meant by Tunneling? [4]
- e) Explain about TELNET. [4]

**PART - B****5 × 8 Marks = 40**

- 2.a) What is meant by CRC codes?
- b) Compare and contrast the Go-Back-N ARQ protocol and Selective Repeat ARQ protocol. [4+4]

**OR**

- 3.a) Define Piggybacking and its usefulness.
- b) Explain the TCP/IP Protocol suite. [4+4]
- 4.a) Describe in detail about pure ALOHA.
- b) What are the uses of a router and gateway? [4+4]

**OR**

- 5.a) What is the importance of spanning tree bridges.
- b) Explain about CSMA/CA. [4+4]
- 6.a) Explain Distance vector routing with an example.
- b) Give a detailed description on store and forward packet switching. [4+4]

**OR**

- 7.a) What is meant by congestion in network? Explain any algorithm for congestion avoidance.
- b) What is meant by hierarchical routing explain? [4+4]
- 8.a) Compare and Contrast the fields in the main header of IPv4 and IPv6.
- b) Explain the addressing mechanism in transport layer. [4+4]

**OR**

- 9.a) Explain the extension headers of IPv6.
- b) Explain about connection establishment and release in Transport layer. [4+4]
10. Write short on Application layer protocols
- a) HTTP
- b) FTP [4+4]

**OR**

- 11.a) What are the services provided by the User agent of Electronic mail system explain.
- b) Explain the header fields of TCP. [4+4]

