

**R15****Code No: 823AE****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA III Semester Examinations, June/July - 2018****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) Compare OSI Reference Model with TCP/IP Reference Model. [5]
- b) Describe P-persistent CSMA Protocol. [5]
- c) Explain Optimality principle. [5]
- d) List the major goals of IPv6. [5]
- e) What resource records are associated with DNS? Explain. [5]

**PART - B****5 × 10 Marks = 50**

2. What is the need of Framing? Explain Character Stuffing and bit stuffing methods for framing. [10]

**OR**

3. Illustrate OSI reference model and functionality of each layer in detail. [10]

- 4.a) Explain the basic idea of ALOHA system? Describe the efficiency of ALOHA channel.
- b) Discuss in detail about the Learning Bridges. [5+5]

**OR**

- 5.a) Discuss in detail about CSMA with Collision Detection Protocol.
- b) Describe the use of repeaters and gateways in network, transport and application layers. [5+5]

- 6.a) Explain the implementation of connection less service in network layer.
- b) Describe in detail about the Hierarchical routing. [5+5]

**OR**

- 7.a) Describe shortest path routing algorithm with suitable example.
- b) Explain Traffic-Aware Routing for Congestion Control. [5+5]

- 8.a) Explain in detail about The Dynamic Host Configuration Protocol.
- b) Describe the Services provided by Transport Layer to the Upper Layers. [5+5]

**OR**

9. Draw IPv6 Header format and explain each field in the IPv6 header. [10]

- 10.a) Explain briefly about the Remote Procedure call.
- b) Describe in detail about the Name Servers in DNS. [5+5]

**OR**

- 11.a) Draw and explain various fields in UDP Header.
- b) Explain in detail about the File Transfer Protocol. [5+5]