

Total No. of Questions : 8]

SEAT No. :

PC2846

[6352]-70

[Total No. of Pages : 2

S.E. (Artificial Intelligence and Machine Learning Engg.)

COMPUTER NETWORKS

(2019 Pattern) (Semester-III) (218543)

Time : 2 ½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Neat diagram must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data if necessary.
- 5) Use of Calculator is allowed.

**Q1) a)** What is error correction and error detection? Demonstrate following Error detection methods with suitable example: [9]

- i) Parity Checks
- ii) Hamming code

b) What is frames in data link layer? Describe in detail the fixed size framing and variable size framing? [9]

OR

**Q2) a)** Demonstrate Error Detection by One's Complement Checksum with suitable example. [9]

b) Explain CSMA/CA random access technique in detail with suitable diagram/flowchart, Explain how collision is avoided in CSMA/CA. [9]

**Q3) a)** How does routing work? Describe in detail OSPF and EIGRP. [9]

b) Explain following terms: [8]

- i) NAT
- ii) Static routing and Dynamic routing

OR

P.T.O.

- Q4)** a) Explain following terms [9]
- i) Distance Vector Routing
  - ii) Link State Routing
  - iii) Path Vector Routing
- b) Explain ARP protocol with diagram. [8]

- Q5)** a) What is socket? Enlist all socket primitives & explain any three. [9]
- b) Explain the three-way handshake algorithm for TCP connection establishment. Compare and contrast between TCP and UDP. [9]

OR

- Q6)** a) Explain TCP with its header format. [9]
- b) What do you mean by flow control in transport layer? List the different methods of achieve it. Explain any one method in detail. [9]

- Q7)** a) What is the purpose of DNS? How does recursive resolution differ from iterative resolution? Explain with suitable diagram. [9]
- b) What is MIME? What is the purpose of MIME? Explain MIME header in detail. [8]

OR

- Q8)** a) Describe the functions of the two FTP connections. List difference between FTP & TFTP. [8]
- b) Write Short Note on [9]
- i) HTTP
  - ii) SMTP
  - iii) POP

