

NTK/KW/15–7339

Third Semester B. E. (C.E.) Examination
INTRODUCTION TO COMPUTER NETWORK

Time : Three Hours]

[Max. Marks : 80

- N. B. : (1) All questions carry marks as indicated.
(2) Due credit will be given to neatness and adequate dimensions.
(3) Assume suitable data wherever necessary.
(4) Illustrate your answers wherever necessary with the help of neat sketches.

1. (a) Explain OSI model in detail. 8
(b) What are the different types of Network topologies? Explain in detail. 6

OR

2. (a) What is need of computer network ? Explain the advantages and disadvantages of computer network. 6
(b) Write short notes on :—
(i) Protocol
(ii) Network criteria
(iii) Component of data communication. 8
3. (a) Explain different types of transmission media. 7
(b) Explain switching techniques in detail. 6

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Contd.

OR

4. (a) Draw the following data format for the bit stream 11000010.
- (i) Polar (both RZ and NRZ)
 - (ii) Polar Manchester and Differential Manchester.
 - (iii) Bipolar (both AMI and pseudo ternary)
 - (iv) Unipolar (both RZ and NRZ) 8
- (b) Explain the twisted-pair cable in detail. 5
5. (a) Explain the need of byte stuffing and bit stuffing with example. 7
- (b) Explain stop and wait protocol in detail. 6

OR

6. (a) Explain the line coding technique with proper example. 7
- (b) What is framing ? Explain the various methods of framing in detail. 6
7. (a) List different types of routing algorithms. Explain any of them in detail. 7
- (b) Draw IPv4 datagram format. Explain any four fields in detail. 7

OR

8. (a) Explain the need of Network layer. 7
- (b) Explain classfull addressing in IPv4 in detail. 7

9. (a) Explain various traffic shaping policies. 6
(b) Explain the Reliable and unreliable services in detail. 7

OR

10. (a) Explain the functions of transport layer. 6
(b) Explain the leaky bucket algorithm. 7
11. (a) Explain fundamental principle of cryptography. 7
(b) Explain Domain Name System in detail. 6

OR

12. Write short notes on :—
(i) Network Security.
(ii) Data Compression.
(iii) Browser Architecture.
(iv) Electronic Mail. 13