67114

MCA 3rd Semester (Old for Re-appear only with old notes) Examination–December, 2013

DATA COMMUNICATION AND COMPUTER NETWORKS

Paper MCA-304 (with old notes)

Time : 3 hours   **Max. Marks : 80**

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt **five** questions in all, selecting at least **one** question from each unit.

UNIT - I

1. (a) What do you mean by multiplexing ? List the different types of multiplexing techniques possible for signals and outline the working of each.   6

(b) What is data transmission ? What are its different types ? Illustrate their importance. 5

(c) Differentiate between analog and digital signals. 5

2. Explain the following :

(a) Error-correcting codes 6

(b) Data encoding 5

(c) Pulse code modulation 5

UNIT - II

3. (a) What are IEEE standards for LAN ? Discuss their significance and illustrate their usefulness in detail. 8

(b) What is OSI reference model ? Illustrate the model by detailing out all-important features. 8

4. (a) What is TCP/IP Reference Model ? Illustrate its working through diagram. 8

(b) What is an IP packet ? What is the minimum overhead in sending an IP packet using PPP ? Count only the overhead introduced by PPP itself, not the IP header overhead. 8

UNIT - III

5. (a) What is HDLC ? Explain HDLC with flow-control and error-control. 6

(b) What are sliding window protocols ? What are the advantages and disadvantages of credits versus sliding window protocols ? Explain. 5

(c) What do you understand by FDDI ? Discuss its objectives, relevance and usefulness. 5

6. Explain the following :

(a) CSMA/CD protocol 6

(b) Satellite networks 5

(c) Token Ring 5

UNIT - IV

7. (a) What is switching ? Does time division switching necessarily introduce a minimum delay at each switching stage ? If so, what is it ?   6

   (b) What is routing ? Discuss one important algorithm of your choice.   5

   (c) Differentiate between circuit switching and packet switching.   5

8. Explain the following :

   (a) Congestion control mechanisms   6

   (b) FTP   5

   (c) E-mail system   5

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