[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2124)

1781

MCA 2nd Semester Examination

Computer Networks (NS)

MCA-205

Time : 3 Hours **Max. Marks : 60**

candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt FIVE questions in all, select ONE question from each section A, B, C and D, section E is compulsory. All question carry equal marks.

SECTION - A

1. What is ISO-OSI reference model? Compare it with TCP/IP reference model. Why TCP/IP reference model is more popular than OSI model. (12)

2. Why we need network security? What are its principles? Discuss symmetric key algorithms (DES) in details. (12)

SECTION - B

3. What are various design issues in data link layer? Explain the Go-back-n ARQ and selective -Repeat ARQ protocol for noisy channel. (12)

4. Explain the working of public switched telephone networks and mobile telephone system in details. (12)

SECTION - C

5. What are the design issues of network layer? Explain the shortest path, distance vector and link state routing with example. (12)

[P.T.O.]

6. What are the duties of transport layer protocol? What are its elements? Explain the RPC in detail. (12)

SECTION - D

7. Explain the working of following application layer protocols:

   (a) HTTP

   (b) SMTP

   (c) DNS

   (d) FTP (12)

8. Write short notes on the following:

   (a) TCP and UDP

   (b) POP3/iMAP

   (c) Network trouble shooting and performance monitoring. (12)

SECTION - E
(Compulsory)

9. Write short answer of the following :

   (a) What are the fundamental measures of interest for a communication system?

   (b) Precisely define protocol and interface

   (c) What are the four causes of packet delay?

   (d) What are the possible mechanisms of packet loss?

   (e) How is it that sender addresses can be spoofed in an email?

   (f) Name the factors that affect the security of the network?

   (g) In what situations contention based MAC protocols are suitable?

   (h) What are the key elements of protocols? (8×1½=12)