PGIIIS-N 1567 B-2K12

M.Sc. Third Semester (CBCS) Degree Examination

COMPUTER SCIENCE — Paper – HC 3.2

Data Communications and Computer Networks

(New Syllabus under CBCS w.e.f. 2012-13)

Time : 3 Hours] [Max. Marks : 80

Instructions : *1) Q. No. **1** in Section **A** is **compulsory**.*

*2) Answer any **five** from Section **B**.*

SECTION – A

1. Answer the following : **(10 × 2 = 20)**

   (a) Define Data communication.

   (b) What are the various forms of data?

   (c) With the example define half duplex communication.

   (d) What is redundancy?

   (e) What are CRC generator and checker?

   (f) What is protocol data unit?

   (g) How can the routing be classified?

   (h) What is function of transport layer?

   (i) What are the two possible transport services?

   (j) What is the function of SMTP?

SECTION – B

2. (a) Explain ISO/OSI reference model with neat diagram.

   (b) Discuss in detail the RS232 interfacing sequences. **(6 + 6)**

3. (a) Explain physical and transmission characteristics of the following transmission media :

   (i) Optical fiber (ii) Coaxial cable

   (b) Explain error control mechanism. **(6 + 6)**

4. (a) Explain the timers and time registers in FDDI.

   (b) Briefly discuss the Token management using priority in IEEE 802.5. **(6 + 6)**

5. (a) Explain the two approaches of packet switching techniques.

   (b) Explain the concept of IP protocol and addresses, subnets and Internet Control Protocols for the network layer in the Internet. **(6 + 6)**

6. (a) Explain the functions of SMTP.

   (b) What advantages does TCP over UDP? What are the features for which may TCP be a reliable protocol? **(6 + 6)**

7. (a) Why do we need a DNS system, when we can directly use an IP address? What is the purpose of inverse domain?

   (b) What do you mean by network security? What are the protocols used for making network more secure? **(6 + 6)**

8. Write notes on any **two** of the following : **(6 + 6)**

   (a) RS232 interfacing sequences

   (b) Hamming code

   (c) Circuit switching and Packet switching

   (d) Quality of services
