No. of Printed Pages—2

12 (FNT/FNWT)

[17–HDGKACRM–M1]

PGDCA/MScIT 1st Semester Exam., 2017

FUNDAMENTALS OF NETWORKING AND INTERNET

(PGDCA/MScIT 04)

Full Marks : 80

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Answer any *five* from the following questions : 2×5=10

(a) Give two advantages of ring topology.

(b) Define piconet and scatternet.

(c) Why is twisting done in twisted pair cable? Give two applications of twisted pair cable.

(d) How is a repeater different from an amplifier?

(e) Give two names of application layer protocol along with their uses.

(f) Define connection-oriented service. Give one example where such type of service is implemented.

2. Answer any *three* from the following questions : 4×3=12

(a) Discuss briefly the three types of LAN transmission method.

(b) Define peer entity. Outline the functions of data link layer.

(c) List out the advantages and disadvantages of coaxial cable.

(d) What is domain name system? Give the functions of TELNET and FTP protocol.

3. Answer any *three* from the following questions : 6×3=18

(a) Discuss simplex, half-duplex and full-duplex modes of communication with appropriate examples. 6

(b) How many layers are there in TCP/IP reference model? Mention their names and write the functions for any two layers. 6

(c) Why is switching required? Differentiate between circuit switching and packet switching. 2+4=6

(d) Why do we use proxy server? Briefly discuss the working principle of firewall. 2+4=6

4. Answer any *four* from the following questions : 10×4=40

(a) Discuss briefly the working principle of fiber optic cable. Define critical angle and total internal reflection in terms of fiber optic cables. 6+2+2=10

(b) Describe the functions of various layers of ISO-OSI model. 10

(c) Write short notes on any *two* of the following : 5×2=10

(i) Functions of switch

(ii) Ethernet

(iii) Network Interface Card : Components and functions

(d) What is uniform resource locator (URL)? Using an example, identify the components of a URL. Also define the terms 'intranet' and 'extranet'. 3+3+4=10

(e) Define network topology. Compare and contrast different network topologies. 10

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