SECTION – III

5. (a) Explain the model of TCP/IP. 7

(b) What are the different methods of assigning a physical address to a computer ? Explain. 6

(c) What is Logical Address ? 2

6. (a) What do you mean by Passive & Active open ? Explain. 4

(b) Mention any three differences between SMTP & POP protocols. 3

(c) Explain the Interaction between Hosts & DNS Server with a diagram. 8

7. (a) Define : (i) Circuit Switching 2

(ii) Packet Switching

(b) With the help of block diagram, explain the principle of operation of STDM. 6

(c) Explain the working of Datagram approach of Packet switching. 7

SECTION – IV

8. (a) Explain Ethernet properties in detail. 6

(b) Explain FDDI frame and its self healing mechanism. 9

9. (a) List some of the characteristics of Wireless LAN. 3

(b) Explain medium access control in DQDB. 5

(c) Discuss the WLAN properties and its frame structure. 7

10. (a) What is the need of Terminal Adapter in ISDN ? 2

(b) Explain ISDN Interfaces. 6

(c) Explain UNI ATM cell format. 7

0546

Code : 9EC-43

Register Number | | | | | | | |

IV Semester Diploma Examination, November 2011

E & C BOARD

DATA COMMUNICATION AND NETWORKS

Time : 3 Hours] **[Max. Marks : 100**

Instructions : (1) Section – **I** is *compulsory*.

(2) Answer any **two** main questions from each of the remaining **three** Sections.

SECTION – I

1. (a) Fill in the blanks with suitable word/words : $5 \times 1 = 5$

   (i) In mesh topology, for 'm' nodes there would be _____ physical links.

   (ii) In _____ method of packet switching, all the pockets travel via the same route.

   (iii) _____ layer of OSI model ensures successful delivery of a packet to the destination.

   (iv) There are _____ number of B channels in PRI of ISDN.

   (v) _____ protocol is responsible for transmitting an e-mail message between sender and recipient.

   (b) Describe any five HTTP commands. **5**

SECTION – II

2. (a) With a diagram explain the components of a Telephone Network. **5**

   (b) Define Computer Network ? Explain the goals of a computer network. **5**

   (c) With a figure explain circuit switching technique. **5**

3. (a) Define Modem. List and explain any four Modem standards. **6**

   (b) With a layered diagram, explain the functions of different layer's of OSI model. **9**

4. (a) Compare TDM and FDM. 4
   (b) Define Topology. Explain star topology with figure. 5
   (c) What is a Bridge ? Explain its functions with the help of figure. 6

SECTION – III

5. (a) Explain CSMA/CD protocol. 4
   (b) Describe the main fields in a token ring frame. 5
   (c) Define MAN. Explain data transmission in DQDB. 6

6. (a) What is digital bit pipe ? 2
   (b) Explain the frame Relay frame format. 5
   (c) Explain the ISDN functional grouping with the help of figure. 8

7. (a) Discuss the three layers of ATM with figures. 7
   (b) Explain the functions of various fields of an ATM cell. 8

SECTION – IV

8. (a) What is remote login ? 2
   (b) Explain how a web server works. 5
   (c) Discuss SLIP and PPP. 8

9. (a) Differentiate ARP and RARP. 4
   (b) What do you mean by a Socket ? Explain. 4
   (c) Explain the features of TCP/IP. 7

10. (a) Write short notes on : 6
    (i) SMTP
    (ii) POP
    (b) Explain IP datagram format with a neat figure. 9

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IV Semester Diploma Examination, May 2011

ELECTRONICS & COMMUNICATION ENGG. BOARD

DATA COMMUNICATION & NETWORKS

Time : 3 Hours] **[Max. Marks : 100**

Note : (1) Section – **I** is *compulsory*.

(2) Answer any ***two*** full questions from each of the remaining sections.

SECTION – I

1. (a) Fill in the blanks : 5

(i) _____ is an analog multiplexing technique.

(ii) In _____ topology each node is connected to every other node by direct links.

(iii) The www is an _____ layer protocol.

(iv) A _____ spans the largest distance among the category of computer n/w.

(v) _____ protocol is used to retrieve emails from a remote server.

(b) How the DNS server works. 5

SECTION – II

2. (a) List the applications of computer network. 5

(b) Explain mobile communication network. 5

(c) List some V-series modem standards and give their data rates. 5

3. (a) Draw the layer diagram of OSI reference model and explain the function of each layer. 9

(b) Describe MAC protocol. 6

4. (a) Explain how user get connected to internet using Dial-up access. 5

(b) Differentiate local login and remote login. 4

(c) Discuss the following HTTP commands : 6

(i) GET

(ii) DELETE

(iii) LINK

SECTION – III

5. (a) Explain two different packet switching techniques. 8
   (b) Compare a circuit switched and a packet switched network. 4
   (c) Explain Routers. 3

6. (a) Explain the TCP segment format. 8
   (b) Explain different classes of IP address. 5
   (c) Differentiate a port and a socket. 2

7. (a) Describe the features of TCP. 6
   (b) Explain IPV4. 4
   (c) Write a note on ARP. 5

SECTION – IV

8. (a) Define Topology ? Explain Ring topology in detail. 6
   (b) Explain IEEE-802-3 frame format. 5
   (c) How does the CSMA/CD work ? 4

9. (a) Explain self healing mechanism in FDDI. 4
   (b) Mention some applications of WLAN. 4
   (c) Explain the working of DODB protocol. 7

10. (a) Define ISDN ? Explain two interfaces supported by ISDN. 5
    (b) Write the ATM cell format and explain. 6
    (c) Explain the need for frame relay. 4

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