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BICSE-006

DIPLOMA – VIEP – COMPUTER SCIENCE AND ENGINEERING (DCSVI)

Term-End Examination

December, 2015

BICSE-006 : ELECTIVE-COMPUTER NETWORKS

Time : 2 hours *Maximum Marks : 70*

Note : *Answer* ***five*** *questions in all. Question no.* ***1*** *is* ***compulsory****. All questions carry equal marks.*

1. Choose the correct answer from the given four alternatives : *7×2=14*

(a) Which of the following is a networking hardware ?

(i) Flash Drive

(ii) Switch

(iii) RAM

(iv) Monitor

(b) MAN refers to

(i) Main Area Network

(ii) Major Area Network

(iii) Metropolitan Area Network

(iv) Minor Area Network

(c) One-to-one communication is often called
   (i) Unicast
   (ii) Broadcast
   (iii) Multicast
   (iv) None of the above

(d) ICMP is a _____ layer protocol.
   (i) Transport
   (ii) Application
   (iii) Data Link
   (iv) Network

(e) Address size in IPv6 is of
   (i) 32 bits
   (ii) 14 bytes
   (iii) 64 bits
   (iv) 16 bytes

(f) TCP stands for
   (i) Transfer Control Protocol
   (ii) Timer Control Protocol
   (iii) Transmission Control Protocol
   (iv) Time Control Parameters

(g) DNS stands for
   (i) Data Network Service
   (ii) Dynamic Name Service
   (iii) Domain Name Sponsor
   (iv) Domain Name Service

2. (a) Briefly explain the OSI reference model describing each of its layers. Also draw its comparison with TCP/IP. *7*

(b) Using suitable diagrams, explain the various network topologies in detail along with their merits and demerits. *7*

3. (a) Explain the Selective Repeat ARQ protocol in detail using suitable examples. *7*

(b) Differentiate between Hub, Switch and Router in detail mentioning the layer at which each device works. *7*

4. (a) What do you understand by line encoding ? Explain the various line coding techniques using examples. *7*

(b) Differentiate between Frame Relay and ATM in detail. *7*

5. Explain the ARP and the RARP routing protocols. Also explain the concept of Mobile IP. *14*

6. (a) What are sockets ? Why do we need them in transport layer ? Also explain the Simple Transport Protocol. *7*

(b) What are Timers and their uses in transport layer ? Explain the concept of Timer management using suitable examples. *7*

7. (a) Explain the File Transfer Protocol in detail. 7

(b) What are web pages ? Differentiate between dynamic and static web pages using examples. 7

8. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(a) X.25

(b) Stop and Wait Protocol

(c) Bluetooth

(d) IGMP

(e) SMTP