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BICSE-006

DIPLOMA IN COMPUTER SCIENCE ENGINEERING

00575

Term-End Examination

June, 2012

BICSE-006 : ELECTIVE-COMPUTER NETWORKS

Time : 2 hours *Maximum Marks : 70*

Note : *Attempt **any five** questions. Question No.1 is **compulsory** which is multiple choice questions.*

1. Choose the correct answer : **7x2=14**

(a) Which of these protocols adjust its block size based on the line error rate ?

(i) XMODEM (ii) YMODEM

(iii) ZMODEM (iv) WXMODEM

(b) Which of the following options is a characteristic of a LAN ?

(i) Parallel transmission

(ii) Unlimited expansion

(iii) Low cost access for low band width channels.

(iv) Application-independent interfaces

(c) What is the minimum length of an Ethernet frame ?

(i) 64 bytes (ii) 72 bytes

(iii) 1500 bytes (iv) 1526 bytes

(d) A 10 BASE-2 Network is limited to :

(i) 20 bytes per data field

(ii) 30 Stations per segment

(iii) 40 segments

(iv) 500 feet of cable

(e) An Ethernet hub :

(i) functions as a repeater

(ii) connects to a digital PBX

(iii) connects to a token-ring network

(iv) functions as a gate way

(f) The Network 198.78.41.0 is a :

(i) class A network

(ii) class B network

(iii) class C network

(iv) class D network

(g) Which topology requires a central controller or hub :

(i) Mesh (ii) Star

(iii) Bus (iv) Ring

2. (a) What are the X.25 layers ? How does each relate to the OSI model ? 7

(b) What is the difference between connection less and connection oriented communication. Consider the delay of pure ALOHA versus slotted ALOHA at low load which one is less ? Explain your answer. 7

3. (a) Why is the data link layer in a LAN subdivided into Logical Link Control (LLC) and Medium Access Control (MAC) sublayers ? Explain functioning of MAC sublayer also. 7

(b) What are sliding window protocols ? Explain one bit sliding window protocol with an appropriate diagram. 7

4. (a) Differentiate between TDMA and FDMA and explain how ALOHA is useful to overcome the deficiencies of TDMA and FDMA ? 7

(b) Explain the advantage of using UDP over TCP and describe the layout of a TCP segment. How flow control is handeled in TCP ? 7

5. (a) What is the difference between a physical address, a network address and a domain name ? Also discuss upward and downward multiplexing in transport layer. 7

(b) Compare the header fields of 1PV4 and 1PV6 with respect to functionality of each field. Also describe the reassembly of IP fragments at the destination. 7

6. (a) Explain TCP/ IP model and compare it with OSI model. 7

(b) Distinguish between packet switching and circuit switching and also explain Virtual Circuit Switching. 7

7. (a) Which of the translation method recommended by the OSI model ? What is the role of ASN .1 ? 7

(b) Discuss the services provided by session and application layer in OSI model ? 7

8. Attempt ***any four*** parts from the following : **4x3½=14**

(a) FDDI

(b) ALOHA and Slotted ALOHA

(c) HDLC

(d) ARP and RARP

(e) Mobile IP

(f) Go back - N and selective repeat ARQ.