ADIT/BIT PROGRAMME

Term-End Examination

December, 2010

00485

CST-202 : DATA COMMUNICATION AND COMPUTER NETWORKING

Time : 3 hours   *Maximum Marks : 75*

Note : *There are two sections in this paper. All questions from Section-A are compulsory. Answer any three questions from Section-B. All multiple choice questions carry one mark each.*

SECTION-A

1. _____ is referred as angle modulation.
   (a) Amplitude Modulation
   (b) Frequency modulation
   (c) Combined Amplitude and frequency modulation
   (d) Combined Amplitude and phase modulation

2. The physical level standard of X.25 is known as :
   (a) FOD1   (b) IEEE 802.1
   (c) X.21   (d) X.12

3. Digitization of signals referes to :
   (a) Sampling
   (b) Quantization
   (c) Sampling and quantization
   (d) Either sampling or quantization

4. The bandwidth of a standard analog telephone channel is :
   (a) 20 kHz   (b) 12 kHz
   (c) 4 kHz   (d) 1 kHz

5. Quadrature Amplitude Modulation is _____.
   (a) Phase Modulation
   (b) Frequency modulation
   (c) Amplitude modulation
   (d) None of the above

6. Double bit errors can be detected through _____.
   (a) VRC   (b) CRC
   (c) LRC   (d) VRC and CRC both

7. Optical fiber communication is advantageous because of _____.
   (a) High Bandwidth
   (b) Low interference
   (c) Low Attenuation
   (d) All of the above

8. Which of the following transmission cannot occur with twisted wire ?

(a) Analog voice

(b) Digitized voice

(c) Analog video

(d) E-mail

9. Which UDP is a protocol of ?

(a) Session layer   (b) Transport layer

(c) Network layer   (d) Data-link layer

10. Media Access Control in FDDI is based on _____ passing.

(a) ACK Frame   (b) Data Frame

(c) Token Frame   (d) None of the above

11. (a) Write *any three* difference between each of   **15** the following :

(i) MAC layer and LLC layer

(ii) STDM and TDM

(iii) Hubs and switches

(iv) Microwave and Infrared transmission.

(v) Star and Mesh topology

(b) How are the flow control and error control   **5** implemented in X.25 networks ? Does it result in substantial overheads in the network ? If yes, why ?

SECTION-B

Answer any three questions from this section.

12. (a) Why is CSMA/CD called non-deterministic   9
protocol ? How is a collision possible in a
CSMA/CD network ? Also, write how are
the collisions handled.

    (b) What is flow control ? How is it provided   6
by sliding window protocol ? Give an
example.

13. (a) List any five differences between virtual   5
circuit subnet and datagram subnet.

    (b) How does a token bus network work ? In   6
what way is it different from ethernet ?
And, how is it similar to ethernet ?

    (c) Draw and explain the process of connection   4
establishment in TCP.

14. (a) What are the functions of repeaters, bridges,   9
routers and gateways in achieving
internetworking ? Also, Identify the layers
in OSI model in which they operate.

    (b) Show the differences between Differential -   6
Manchester and Manchester encoding using
the bit stream "11001101010110".

15. (a) How are ARP and RARP similar and different with each other ? Use an example to explain the differences among each other. **5**

(b) Why is TCP called reliable protocol and UDP an unreliable protocol ? **4**

(c) Justify the statement "efficiency of slotted ALOHA is double that of pure ALOHA". **6**

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