

Register No:

B.E DEGREE EXAMINATIONS: APRIL/MAY 2011

Sixth Semester

ELECTRONICS AND COMMUNICATION ENGINEERING

U07EC602: Computer Networks

Time: Three Hours

Maximum Marks: 100

Answer ALL Questions:-

PART A (10 x 1 = 10 Marks)

1. The layer which is responsible for providing service to the user is
a) Data link layer b) Network layer c) Transport layer d) Application layer
2. A router
a) forwards a packet to all outgoing links
b) forwards a packet to the next free outgoing link
c) forwards a packet to all outgoing links, except the link upon which the packet originated
d) determines on which outgoing link a packet is to be forwarded
3. Propagation time is-----proportional to distance and-----proportional to propagation speed.
a) Inversely, Directly b) Directly, Inversely c) Directly, Directly d) Inversely, Inversely
4. Given the network address 132.6.17.85, Find the class.
a) A b) B c) C d) D
5. Which is the dynamic routing protocol in which a physical address is found for the given IP address?
a) ARP b) RARP c) ICMP d) MAC
6. In TCP segment format-----field is used for error correction,
a) Urgent pointer b) checksum c) Sequence number d) Acknowledge number
7. A ----- socket is used with connection oriented protocol such as TCP.
a) Stream b) Datagram c) Raw d) Remote
8. The protocol that supports email on the internet is called -----
a) POP b) FTP c) EMTP d) SMTP
9. HTTP uses the services of TCP on well known port
a) 70 b) 86 c) 80 d) 60

10. If 20 people need to communicate using symmetric key cryptography,-----symmetric keys are used.
- a) 19 b) 190 c) 20 d) 200

PART B (10 x 2 = 20 Marks)

11. Mention five important components of data communication system.
12. Why are protocols needed? What are the key elements of protocol?
13. What is the hamming distance? What is the minimum hamming distance?
14. List the fields of the IEEE 802.3 MAC frame.
15. Find the errors in the following IPV4 addresses. (i) 221.34.7.8.20 (ii) 75.45.301.14
16. What are the actions performed by link state routing?
17. Mention any two uses of UDP protocol.
18. Draw the TCP header.
19. How is HTTP related to WWW?
20. Compare symmetric and asymmetric cryptography?

PART C (5 x 14 = 70 Marks)

21. a) (i) Explain the merits and demerits of transmission media used in data communication networks.
- (ii) Discuss the various layers and their function in ISO/OSI model.
- (OR)
- b) (i) Explain the line coding formats used in data Communication networks.
- (ii) Discuss about RS232 interfacing and Modems.
22. a) (i) What are the major disadvantages of asynchronous transmission? How is synchronization provided for synchronous transmission? Explain.
- (ii) For $M=1010001101$ (10 bits) message, P (pattern)= 110101 (6 bits). Find CRC.
- (OR)
- b) (i) Explain the concept of sliding window technique with example.
- (ii) Discuss the medium access method of IEEE 802.3.
23. a) (i) What are IP addressing methods? Explain.
- (ii) Compare and contrast the fields in the main header of IPV4 and IPV6.

(OR)

b) Explain any two popular routing techniques and discuss its merits and demerits.

24. a) Discuss the principles of open loop and closed loop congestion control techniques

(OR)

b) What is meant by quality of service? What are the techniques used to improve QOS in computer networks? Explain.

25. a) Write brief note on

(i) Domain Name Space (DNS)

(ii) SMTP

(OR)

b) What is meant by cryptography? Explain the structure of any one Symmetric key Encryption technique.
