C 1093 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION, MARCH 2021

B.C.A.

BCA 6B 13—COMPUTER NETWORKS

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Give any one advantage of ring topology.
2. What is the use of LAN network ?
3. The data unit of data link layer is called as ———— ?
4. What is backward error correction ?
5. What is the key function of network layer ?
6. What is the use of repeaters in networks ?
7. Expand the term SCTP.
8. In which layer of the TCP/IP protocol suite UDP is located ?
9. What is public-key cryptosystem ?
10. What is the key size of DES algorithm ?

(10 × 1 = 10 marks)

Section B

Answer at least **five** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 15.

11. Draw a diagram for circuit switched network.
12. What is the difference between error detection and correction ?
13. What is Avalanche effect ?
14. What is multiple access ?
15. Briefly explain the term LRC.
16. Write any two difference between classful and classless addressing.

Turn over

17. What is DNS ?

18. Name any one network management protocol and briefly explain the same.

(5 × 3 = 15 marks)

Section C

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

19. Explain message switching.

20. What is hamming code explain with example ?

21. Explain the medium access technique pure ALOHA.

22. Group the OSI layers by function ?

23. Explain the different transition strategies used for the transition of IPV4 to IPV6 addresses.

24. What are the steps involved in the address mapping using ARP protocol ? Explain all the seven steps.

25. How communication using TCP happens at the application layer ? Explain with appropriate figure.

26. Write a note on modern symmetric key encryption.

27. How does RSA digital signature work ? Explain.

(5 × 5 = 25 marks)

Section D

Answer any **three** *questions.*
Each question carries 10 *marks.*

28. What is network topology ? Explain the different types of network topologies.

29. What is Huffman coding ? Find the Huffman code for the following word "SECRET". The frequency of occurrence of each alphabet is given below :

S	E	C	R	E	T
5	9	12	13	16	45

30. Explain Link state routing with suitable example.

31. Explain three way handshaking connection establishment in TCP.

32. What is DES ? How does a DES encryption technique work ?

(3 × 10 = 30 marks)