

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2019-2020 and thereafter)

B.C.A. DEGREE EXAMINATION – NOVEMBER 2024
FIFTH SEMESTER

COURSE : MAJOR CORE
PAPER : COMPUTER NETWORKS
SUBJECT CODE : 19CS/MC/CN55
TIME : 3 HOURS

MAX. MARKS: 100

SECTION - A

ANSWER ALL THE QUESTIONS: (20x1=20)

Choose the correct answer:

1. Walkie-talkies is an example of _____ transmission mode.
a) Simplex b) Half-duplex c) Duplex d) Full-duplex
2. TCP stands for _____.
a) Transfer Control Protocol b) Transmission Control Protocol
c) Transfer Constant Protocol d) Transmission Constant Protocol
3. _____ is designed to use the high-data-rate capability of fiber-optic cable.
a) FDM b) TDM c) WDM d) all of the mentioned
4. A switch in a datagram network uses a _____ table that is based on the destination address.
a) Lookup b) Network c) Switching d) Routing
5. Datalink layer takes a datagram and encapsulates it in a packet called _____.
a) Signal b) Frame c) Packet d) Datagram
6. A 4 byte IP address consists of _____.
a) only network address b) only host address
c) network address & host address d) network address & MAC address
7. An endpoint of an inter-process communication flow across a computer network is called _____.
a) socket b) pipe c) port d) machine
8. TELNET is an abbreviation for _____.
a) Terminal network b) Telephone network c) Telecommunication network d) None
9. _____ is called as wireless communication.
a) Sending data from one location to with the use of physical medium
b) Sending data from one location to another without the use of physical medium
c) Sending data from one location to another without the use of virtual medium
d) None of the mentioned
10. If one site fails in distributed system then _____.
a) the remaining sites can continue operating b) all the sites will stop working
c) directly connected sites will stop working d) none of the mentioned

Fill in the blanks:

11. A _____ is a set of rules that govern data communications.
12. In the OSI model, encryption and decryption are functions of the _____ layer.
13. A _____ signal can have only a limited number of defined values.
14. _____ waves use omnidirectional antennas that send out signals in all directions.

15. The link-layer address is also called as _____.
16. In _____ addressing, variable-length blocks are used that belong to no classes.
17. The _____ is a connectionless, unreliable transport protocol.
18. A full domain name is a sequence of labels separated by _____.
19. An interconnected collection of piconet is called _____.
20. A _____ system is a collection of independent computers that appears to its users as a single coherent system.

SECTION B**ANSWER ALL THE QUESTIONS:****(5 × 2 = 10)**

21. What are the components of data communication?
22. Differentiate periodic and non-periodic signals.
23. Define CSMA.
24. What is congestion control?
25. Write a brief note on grid computing.

SECTION C**ANSWER ANY EIGHT OF THE FOLLOWING QUESTIONS:****(8 × 5 = 40)**

26. Explain the maturity levels of an RFC.
27. Explain all the layers in the TCP/IP protocol suite with suitable illustrations.
28. Draw and explain the different types of multiplexing.
29. Draw and explain the structure of a packet switch.
30. Explain the CSMA persistence methods with suitable flow diagrams.
31. Discuss on network address translation.
32. Describe the services of transport layer.
33. Write in detail about SMTP.
34. What is Bluetooth technology? What are other wireless technologies?
35. What is the role of middleware in a distributed system?

SECTION D**ANSWER ANY THREE OF THE FOLLOWING QUESTIONS:****(3 × 10 = 30)**

36. Illustrate and explain the different physical topologies.
37. What are guided transmission media? Explain them.
38. Write in detail about Channelization.
39. Describe how flow control and error control is implemented in the transport layer.
40. Elucidate different types of architectural styles in distributed systems.
