



BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Sc.(ANCS)-Hons-2024
Course Name – Computer Networks
Course Code - BNC17101 (T)
(Semester I)

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700125

Full Marks : 40

Time : 2:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 10=10

1. Choose the correct alternative from the following :

- (i) Identify the basic purpose of a local area network (LAN).
 - a) To interconnect networks in several different buildings.
 - b) To connect one or more computers together so they can share resources.
 - c) To interconnect 2 to 10 routers.
 - d) To make routers unnecessary.
- (ii) Select the layer of the OSI model at which IP resides.
 - a) Application
 - b) Data Link
 - c) Network
 - d) Physical
- (iii) Recognize the RG rating of coax which is used for cable modems.
 - a) RG-59
 - b) RG-58
 - c) RG-6
 - d) RG-8
- (iv) You need to connect a hub to a switch. You don't like this idea because you know that it will create congestion. Choose the proper type of cable which you need to use to connect the hub to the switch.
 - a) EtherIP
 - b) Crossover
 - c) Straight-through
 - d) Cable Sense, Multiple Access
- (v) Choose at which layer of the OSI model HTTP, FTP, and Telnet work.
 - a) Application
 - b) Presentation
 - c) Session
 - d) Transport
- (vi) IPv6 uses multiple types of addresses. Recognize which of the followings would describe an anycast address used by an IPv6 host.
 - a) Communications are routed to the most distant host that shares the same address.
 - b) Packets are delivered to all interfaces identified by the address. This is also called one- to-many addressing.
 - c) This address identifies multiple interfaces, and the anycast packet is only delivered to
 - d) Anycast is a type of broadcast.

one address. This address can also be called one-to-one-of-many.

(vii) Indicate the correct subnetwork address for a host with the IP address 200.10.5.168/28.

- a) 200.10.5.156
- b) 200.10.5.132
- c) 200.10.5.160
- d) 200.10.5.0

(viii) You need a network that provides centralized authentication for your users. Choose which one of the following logical topologies you should use.

- a) VLANs
- b) Peer-to-peer
- c) Client/Server
- d) Mesh

(ix) Relate the correct option from the following physical topologies which has the least likelihood of having a collision.

- a) Bus
- b) Star
- c) Ring
- d) Mesh

(x) Recognize the option that is not a network edge device.

- a) Switch
- b) PC
- c) Smartphone
- d) Server

Group-B

(Short Answer Type Questions)

3 x 5=15

- 2. Define the importance of network in modern communication. (3)
- 3. Sketch the pin out diagram of EIA/TIA 568A rule. (3)
- 4. State the main responsibility of the Network Layer in the OSI model. (3)
- 5. Determine the purpose of the loopback address in IPv4, and its typical address. (3)
- 6. Assess the advantages of using MIMO technology in wireless communication. (3)

OR

Summarize the applications of wireless networks in enterprise environments. (3)

Group-C

(Long Answer Type Questions)

5 x 3=15

- 7. Examine the benefits of Wireless networking. (5)
- 8. Explain the functions of seven layers of OSI model in details. (5)
- 9. Distinguish between the IEEE 802.3, IEEE 802.4, and IEEE 802.5 standards used in LAN architectures. Include details about their respective topologies, frame formats, and suitability for different network environments. (5)

OR

Predict the characteristics and operational principles of various Ethernet types, such as 10Base5, 10Base2, 10Base-T, and 10Base-F. (5)

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