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Total No. of Pages : 02

Total No. of Questions : 18

**M.Sc IT / PGDCA (Sem-2)**  
**COMPUTER NETWORKS**  
Subject Code : PGCA-1910  
Paper ID : 77839  
Date of Examination : 02-06-2023

Time : 3 Hrs.

Max. Marks : 70

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C. have FOUR questions each.
3. Attempt any FIVE questions from SECTION B & C carrying TEN marks each.
4. Select atleast TWO questions from SECTION - B & C.

**SECTION-A**

**Write Briefly :**

1. What is a computer network?
2. What is a router and how does it work?
3. What is the difference between a LAN and a WAN?
4. What is a IPv6 and how does it protect a network?
5. What is protocol in computer networking?
6. What is DNS and what is its role in computer networking?
7. What is a MAC address and how is it used in networking?
8. What is a subnet mask and how is it used in IP addressing?
9. What is packet loss in computer networks?
10. What is bandwidth and how is it measured in computer networks?

## **SECTION-B**

11. What is the purpose of ARP (Address Resolution Protocol) in computer networks, and how does it work?
12. What is the difference between client-server network architecture and a peer-to-peer network architecture, and what are the advantages and disadvantages of each approach in computer networking?
13. What are the limitations of CSMA/CD in high-speed Ethernet networks, and how have these limitations been addressed with the introduction of new Ethernet standards?
14. What are the main differences between the TCP/IP model and the OSI model, and how does the TCP/IP model address the shortcomings of the OSI model?

## **SECTION-C**

15. What is FDDI in computer networks, and what are its main advantages over other network technologies? How does FDDI work, and what are some practical applications of this technology?
16. What is the difference between static and dynamic routing in computer networks, and what are the advantages and disadvantages of each approach? How does a router determine the best path for data transmission in a dynamic routing environment, and what factors does it take into account when making routing decisions?
17. What are some common network security attacks and how can they be prevented or mitigated? How do firewalls, intrusion detection systems, and other security technologies work to protect computer networks from external threats, and what are some best practices for ensuring network security?
18. What are the main differences between IPv4 and IPv6, and why is IPv6 necessary for the future of the internet? How does IPv6 address the limitations of IPv4, and what challenges need to be overcome for the widespread adoption of IPv6?

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student**