

**NGM COLLEGE (AUTONOMOUS) POLLACHI**

**END-OF-SEMESTER EXAMINATIONS: DECEMBER- 2022**

**M. Sc - Computer Science**

**MAXIMUM MARKS: 50**

**I SEMESTER**

**TIME: 3 HOURS**

**ADVANCED NETWORKS**

**SECTION – A (10 X 1 = 10 MARKS)**

**ANSWER THE FOLLOWING QUESTIONS.**

**(K1)**

1. TCP/IP is associated with \_\_\_\_\_ technology.  
a) ARPANET      b) OSI      c) ALOHA      d) DECNET
2. IPv6 address size is \_\_\_\_\_.  
a) 16 bits      b) 32 bits      c) 64 bits      d) 128 bits
3. ICMP always reports error messages to \_\_\_\_\_ during error reporting.  
a) Source      b) Destination      c) Router      d) Previous node
4. Which one of the following data format is used by TCP?  
a) Bit      b) Packet      c) Segment      d) Information
5. DHCP server leases an IP address to a client is \_\_\_\_\_.  
a) Finite period of time      b) Unlimited period of time  
c) Not Time dependent      d) Unrestricted

**ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES**

**(K2)**

6. Define the term Router.
7. What is meant by Loopback address?
8. Write the uses of 'Ping' command?
9. What is Autonomous system?
10. List the three basic services offered by TELNET.

**SECTION – B (5 X 3 = 15 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.  
(Qn. No. 11 to 15 Questions for Short Answers with internal choices) (K3)**

11. a) Distinguish between connection oriented and connectionless network communication.  
**(OR)**  
b) Write about the most popular application level internet services.

**(CONTD .... 2)**

12. a) Comment on Address Resolution Problem (ARP).  
**(OR)**  
 b) Demonstrate Routing table with example network.

13. a) Define congestion. What are the reasons for occurring congestion?  
**(OR)**  
 b) Write short notes on UDP.

14. a) Brief the characteristics of TCP Reliable Delivery Service.  
**(OR)**  
 b) What is EGP? What are the features of EGP?

15. a) Differentiate BOOTP and DHCP.  
**(OR)**  
 b) Explain the conceptual components of an electronic mailing system.

**SECTION – C (5 X 5 = 25 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.**

**(Qn. No. 16 to 20 Questions for Long Answers with internal choices (K4 (Or) K5)**

16. a) Discuss the evolution of Ethernet technology.  
**(OR)**  
 b) Explain the TCP/IP layering model with diagram.

17. a) What are the classes of IP Addresses? Explain.  
**(OR)**  
 b) Illustrate the arrangement of fields in IP datagram.

18. a) Illustrate the ICMP message format and different message types.  
**(OR)**  
 b) Describe the features of UDP and format of UDP messages.

19. a) Demonstrate the purpose of sliding window protocol with diagram.  
**(OR)**  
 b) Explain the role of following messages in Autonomous system.  
 i) EGP Poll Request messages ii) EGP Routing Update messages

20. a) Elucidate the main states of DHCP client & transition among clients with neat diagram.  
**(OR)**  
 b) Explain the following : i) SMTP ii) POP