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(FOR THE CANDIDATES ADMITTED

25PCS2E1

DURING THE ACADEMIC YEAR 2025-2027 Only)

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS: MAY- 2026

M.Sc. Computer Science

MAXIMUM MARKS: 75

SEMESTER: II

TIME : 3 HOURS

## 25PCS2E1 ADVANCED NETWORKS

### Section - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

MULTIPLE CHOICE QUESTIONS.

- 1) A \_\_\_\_\_ is the physical path over which a message travels.  
a) Path                      b) Medium                      c) Protocol                      d) Route
- 2) Which of the following is not a application layer protocol?  
a) HTTP                      b) SMTP                      c) FTP                      d) TCP
- 3) The physical connection between an end point and a switch, or between two switches, is \_\_\_\_  
a) Transmission path    b) Virtual path                      c) Virtual circuit                      d) Transmission circuit
- 4) Which of the following are transport layer protocols used in networking?  
a) TCP and FTP                      b) UDP and HTTP                      c) TCP and UDP                      d) HTTP and FTP
- 5) In TCP, sending and receiving data is done as \_\_\_\_\_.  
a) Stream of bytes                      b) Sequence of characters                      c) Lines of data                      d) Packets

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES(K2)

- 6) Comment on ZigBee protocol.
- 7) Define "IPv6 Protocol".
- 8) Give the abbreviation of UDP.
- 9) What is network reliability?
- 10) What is an Electronic Mail.

### SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

- 11) a) Explain the application level internet services.  
(OR)  
b) Examine the two approaches to network communication.
- 12) a) Determine the relationship of ARP to other protocols.  
(OR)  
b) Evaluate the connectionless datagram delivery in the IPv4 protocol.

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(CONT...2)

- 13) a) Summarize the direct and indirect delivery in IP datagram.  
(OR)  
b) Explain the clock synchronization using in ICMP protocol.
- 14) a) Discuss the properties of the reliable delivery service in the TCP protocol.  
(OR)  
b) Outline the need for the TCP segment format with diagram.
- 15) a) Illustrate the mail retrieval and mailbox manipulation protocols.  
(OR)  
b) Describe the TCP/IP standards for electronic mail service.

**Section-C (5 X 8 = 40 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K4 (Or) K5)**

- 16) a) Compare and contrast the Wide Area and Local Area Networks. (K4)  
(OR)  
b) Draw and explain the general architecture of WiFi IEEE802.11 protocol. (K4)
- 17) a) Demonstrate the implementation of ARP with a diagram. (K5)  
(OR)  
b) Assess connectionless datagram delivery in IPv6 protocol. (K5)
- 18) a) Identify and explain the ICMP message format and delivery with a diagram. (K4)  
(OR)  
b) Elucidate the UDP encapsulation and protocol layering. (K4)
- 19) a) Analyze the ports, connections and endpoints in TCP protocol. (K5)  
(OR)  
b) Elaborate the characteristics of the BGP protocol. (K5)
- 20) a) Illustrate the alias expansion and mail forwarding with an example. (K5)  
(OR)  
b) Describe the general architecture of Simple Mail Transfer Protocol (SMTP). (K5)

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