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(FOR THE CANDIDATES ADMITTED

24PCS2E1

DURING THE ACADEMIC YEAR 2024 - 2026 ONLY)

REG.NO

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

END-OF-SEMESTER EXAMINATIONS : May 2025

M.Sc. Computer Science(SF)

MAXIMUM MARKS: 75

SEMESTER: II

TIME : 3 HOURS

24PCS2E1-ADVANCED NETWORKS

Section - A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

- 1) Length of Port address in TCP/IP is _____(K1)
a) 4bit long b) 16bit long c) 32bit long d) 8 bit long
- 2) TCP/IP layer is equivalent to combined Session, Presentation and _____(K1)
a) Network layer b) Application layer c) Transport layer d) Physical layer
- 3) A device operating at Network layer is called _____(K1)
a) Router b) Equalizer c) Bridge d) Repeater
- 4) Which of the following protocols uses both TCP and UDP? (K1)
a) FTP b) SMTP c) Telnet d) DNS
- 5) Connection authentication is offered for ensuring that the remote host has the likely Internet Protocol (IP) _____ & _____(K1)
a) address, name b) address, location c) network, name d) network, location

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

- 6) What is TCP/IP in internet? (K2)
- 7) Define: "ARP Protocol".(K2)
- 8) What the use of IP routing algorithm? (K2)
- 9) Relate the need of TCP checksum computation. (K2)
- 10) What is the function of the DHCP? (K2)

SECTION – B

(5 X 5 = 25 MARKS)

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

- 11) a) Discover the different types of Internet Services. (K3)

(OR)

- b) Examine the two approaches to Network Communication. (K3)

- 12) a) Determine the weakness in Internet Addressing. **(K3)**
(OR)
b) Evaluate the ARP encapsulation and identification. **(K3)**
- 13) a) Summarize the process of routing with IP addresses. **(K3)**
(OR)
b) Estimate the Error reporting and Error correction in ICMP. **(K3)**
- 14) a) Show the properties of the Reliable Delivery Service. **(K3)**
(OR)
b) Outline the characteristics of BGP. **(K3)**
- 15) a) Illustrate the Alias expansion and mail forwarding. **(K3)**
(OR)
b) Describe the purpose of mailbox names and Aliases. **(K3)**

Section-C (5 X 8 = 40 MARKS)

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

(K4 (Or) K5)

- 16) a) Elaborate the general architecture of IEEE 802.3 Ethernet. **(K4)**
(OR)
b) Compare and contrast the Wide Area and Local Area Networks. **(K5)**
- 17) a) Demonstrate the connectionless Datagram Delivery in IPv4. **(K4)**
(OR)
b) Assess the implementation of ARP protocol with diagram. **(K5)**
- 18) a) Draw and explain the ICMP message format. **(K5)**
(OR)
b) Elucidate the UDP encapsulation and protocol layering. **(K4)**
- 19) a) Analyze the requirements of TCP segment format with diagram. **(K5)**
(OR)
b) Enumerate the acknowledgement and retransmission in TCP protocol. **(K4)**
- 20) a) Integrate the general architecture of Simple Mail Transfer Protocol (SMTP). **(K4)**
(OR)
b) Evaluate the Mail retrieval and Mailbox manipulation protocols. **(K5)**
