Register No : _____

# THE KAVERY ENGINEERING COLLEGE

*(An Autonomous Institution)*

UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026

*Third Semester*

*Master of Computer Applications*

PMCVA106 - BASICS OF COMPUTER NETWORKS

*Regulations - 2024*

*Duration : 3 Hrs* *Maximum : 100 Marks*

*PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)*

| *Q.No* | *Questions* | *BTL* | *CO* | *Marks* |
|---|---|---|---|---|
| 1. | List any four uses of networks. | L1 | 1 | 2 |
| 2. | How do guided media differ from unguided media? | L2 | 1 | 2 |
| 3. | Outline the services provided by the Data link layer. | L2 | 2 | 2 |
| 4. | Give the access method used by wireless LAN | L1 | 2 | 2 |
| 5. | Choose the class of the following IP address: (a) 110.34.56.45 (b) 212.208.63.23 | L2 | 3 | 2 |
| 6. | Differentiate between distance vector and link state routing. | L2 | 3 | 2 |
| 7. | Differentiate between connection-oriented and connectionless services. | L2 | 4 | 2 |
| 8. | Justify that TCP is a reliable byte stream protocol. | L3 | 4 | 2 |
| 9. | What is the use of SNMP protocol in a network? | L1 | 5 | 2 |
| 10. | List any two network security threats. | L1 | 5 | 2 |

*PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)*

| *Q.No* | | | *Questions* | *BLT* | *CO* | *Marks* |
|---|---|---|---|---|---|---|
| 11. | a | | Describe the OSI model in detail with functions of each layer. | L2 | 1 | 16 |
| | | | Or | | | |
| | b | | Explain about the various types of LAN topologies with diagrams. | L2 | 1 | 16 |
| 12. | a | i | Analyze the flow and error control in DLC. | L4 | 2 | 8 |
| | | ii | Examine the various issues in the Data link layer. | L4 | 2 | 8 |
| | | | Or | | | |
| | b | | Analyse the architecture and working of Bluetooth technology. | L4 | 2 | 16 |
| 13. | a | | Explain and compare the switching techniques used in networks with examples. | L4 | 3 | 16 |
| | | | Or | | | |
| | b | i | Draw and analyse the IPv6 packet header format. | L4 | 3 | 8 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | ii | Consider the network shown in Fig 13.b. Computer the shortest path from C to all other nodes using Link-State algorithm. Also update the forwarding table of node C. | L4 | 3 | 8 |

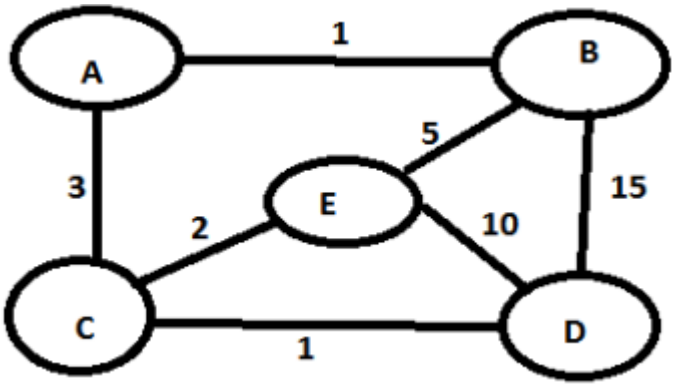


Fig 13.b

| | | | | | | |
|---|---|---|---|---|---|---|
| 14. | a | i | Draw a TCP state transition diagram for connection management. | L2 | 4 | 8 |
| | | ii | Analyze the various duties of Transport Layer. | L2 | 4 | 8 |
| | | | Or | | | |
| | b | | Discuss the mechanisms of congestion control and avoidance in transport layer. | L2 | 4 | 16 |
| 15. | a | i | Examine how SMTP transfers message from one host to another with suitable illustration. | L4 | 5 | 10 |
| | | ii | Infer the functions performed by of DNS. Give example. | L4 | 5 | 6 |
| | | | Or | | | |
| | b | | Analyze the working principles of DES and RSA algorithms with examples. | L4 | 5 | 16 |