KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

(5 Pages) **Reg. No: ……**

Question Code No: 25O01416 **Course Code : 24PECA14**

PG Degree - End Semester Examinations, November 2025

First Semester

M.C.A

Advanced Computer Networks

(For those who joined in July 2024 onwards)

Time : 3Hours **Maximum : 75 Marks**

PART – A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer:

1. Which OSI layer is responsible for establishing, maintaining and terminating connections between devices?

   (a) Physical layer (b) Data link layer

   (c) Transport layer (d) Session layer

2. Coaxial cables are commonly used for

   (a) Internet communication (b) Satellite communication

   (c) Infrared communication (d) Cellular networks

3. The _____ frames are used for carrying data and control information.

(a) Control (b) Management

(c) Data (d) Addressing

4. _____ satellite have polar orbits.

(a) MEO (b) LEO

(c) CEO (d) GEO

5. _____ is the network layer protocol.

(a) SMTP (b) HTTP

(c) IP (d) TCP

6. What is the checksum of IGMP?

(a) 8 bit (b) 16 bit

(c) 32 bit (d) 64 bit

7. Which is called a connectionless, unreliable transport protocol?

(a) TCP (b) UDP

(c) SCTP (d) IP

8. Which of the policy imposed by the receiver may also affect congestion?

(a) Admission policy (b) Discarding policy

(c) Acknowledgment policy (d) Window policy

9. What is the generic domain of non-profit organizations?

(a) Pro (b) Edu

(c) Org (d) Gov

10. The _____ management is the control of user's access to network resources through charges.

(a) Security (b) Performance

(c) Accounting (d) Fault

PART – B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

11. (a) Draw a diagram of star topology and explain its working principle.

(OR)

(b) Describe the characteristics of radio waves as an unguided medium.

12. (a) Distinguish between flow control and error control.

(OR)

(b) Explain Hamming error-correcting codes with a suitable example.

13. (a) Construct a diagram of Intra and Inter-domain routing in unicast routing protocols.

(OR)

(b) What are the various classes of IPV4 addresses? Give a range and explain each class.

14. (a) Explain any two congestion detection and recovery techniques.

(OR)

(b) What is UDP and how does it differ from TCP?

15. (a) Illustrate on Domain Name Space (DNS) with examples.

(OR)

(b) Describe in detail about the File Transfer Protocol (FTP) and its applications.

PART – C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 600 words.

16. (a) Explain the TCP/IP protocol suite and their routing process with a diagram.

(OR)

(b) Explain in detail coaxial cable with suitable diagram.

17. (a) Explain the concept of virtual-circuit networks in computer networking.

(OR)

(b) What is satellite networks? Explain its main components.

18. (a) Explain the structure of an IPV6 address and its types.

(OR)

(b) List out the categorize of IGMP messages in detail.

19. (a) Summarize the techniques to improve QoS.

(OR)

(b) Describe the TCP three-way handshake process.

20. (a) Describe the structure and role of MIB in SNMP based network systems.

(OR)

(b) What are the common protocols used for remote logging?