

Subject: Computer Network

Total Marks: 80

Instructions: Answer all 16 questions. Each question carries 5 marks.

1. What is a computer network? Explain its types.
2. Explain the OSI model and its layers.
3. Differentiate between TCP and UDP.
4. What is IP addressing? Explain IPv4 and IPv6.
5. Define MAC address and its significance.
6. Explain the concept of subnetting.
7. What is DNS and how does it work?
8. Explain HTTP and HTTPS protocols.
9. What is the role of routers and switches in networking?
10. Describe client-server and peer-to-peer networks.
11. What are firewalls? Explain their types.
12. Explain the working of email protocols: SMTP, POP3, IMAP.
13. Define bandwidth, latency, and throughput.
14. What is packet switching and circuit switching?
15. Explain network topologies with diagrams.
16. What are network security threats and how can they be mitigated?