



**IV Semester B.C.A. Examination, June/July 2026
(SEP 2024-25)**

**COMPUTER APPLICATION
24BCA41 : Computer Networks**

Max. Marks : 80

Time : 3 Hours

Instruction : Answer all the Sections.

SECTION – A

I. Answer any eight questions. Each question carries two marks. (8×2=16)

- 1) What is Network Topology ? Mention any two topologies.
- 2) Classify transmission modes with respect to data flows between devices.
- 3) Define Bandwidth and Latency.
- 4) What is the use of CIDR notation ?
- 5) What is check sum in networking ?
- 6) Why Network Address Translation is important ?
- 7) State the process of TCP Handshake.
- 8) What is OSPF ?
- 9) Define VoIP.
- 10) What is IoT ?

SECTION – B

II. Answer any four questions. Each question carries six marks. (4×6=24)

- 11) Compare Physical vs Logical Topology.
- 12) Illustrate the working of Routers and Switches.

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- 13) Discuss the functions of Data Link Layer.
- 14) Explain the fields of Ethernet Frame Structure.
- 15) Explain flow control and error control mechanisms on the Data Link Layer.
- 16) Discuss congestion control in TCP.

SECTION – C

(5×8=40)

III. Answer any five questions. Each question carries eight marks.

- 17) Discuss OSI Model and its layers and functions.
- 18) How Data Link Layer ensures efficiency and reliability of data transmission ?
- 19) Explain ARP in detail.
- 20) Briefly discuss the following Routing Protocols.
i) RIP
ii) OSPF.
- 21) Explain SDN, NFV, IoT with its application and advantages.
- 22) Explain firewall and describe its types, working and advantages.
- 23) Explain the features and working of HTTP and HTTPS.