

A-1270

Total Pages : 3

Roll No.

BCA-14

Bachelor of Computer Application (BCA)

**Data Communication and Computer
Networks**

Examination February, 2026

Time : 2:00 Hrs.

Max. Marks : 70

Note :- This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

Section-A

Long Answer Type Questions (2×19=38)

Note :- Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

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(1)

P.T.O.

1. Explain the structure and goals of a computer network. Discuss the advantages and disadvantages of broadcast and point-to-point networks with suitable diagrams.
2. Explain the OSI Reference Model in detail. Discuss the functions and protocols used at each layer.
3. Compare guided and unguided transmission media. Explain the construction and working of coaxial and twisted pair cables with diagrams.
4. Differentiate between bridges, switches, routers, and gateways based on OSI layer operation and functionality.
5. What is a Network Interface Card (NIC) ? Explain its components, functions, and types with diagrams.

Section–B

Short Answer Type Questions (4×8=32)

Note :- Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Define protocols and standards. Why are they important in computer networks ?
2. What are connection-oriented and connectionless services ? Explain with suitable example.
3. Explain any *two* advantages and disadvantages of fiber optic cables.
4. Explain the architecture of Wireless LANs (IEEE 802.11) with its basic components.
5. Define gateway. Explain its importance in internetworking.
6. Explain the difference between IEEE 802.3 and IEEE 802.5 frame formats.
7. Define ISP and explain its function.
8. Write short notes on the following :
 - (a) DNS
 - (b) URL
