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BCA-MCA Dual Degree (Semester – 2nd)

COMPUTER NETWORK

Subject Code: BMCAS1202

Paper ID: [19340107]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a. Describe the fundamental components of a computer network.
- b. What is network architecture, and what are its key principles?
- c. What are the different types of network topologies?
- d. What is a modem and what is its role in data communication?
- e. What is Integrated Services Digital Network (ISDN)?
- f. What is primary function of CSMA in network communication?
- g. What is the difference between the internet and the World Wide Web?
- h. Define routing and its significance in computer networking.
- i. What are the three primary goals of cryptography?
- j. What is remote login, and why is it used in computing?

Section – B

(5 marks each)

- Q2. Describe the characteristics and applications of coaxial cable in networking.
- Q3. Explain the process of analog-to-digital conversion in PCM.
- Q4. Write a note on design issues of data link layer.
- Q5. What services does the network layer provide to the transport layer?
- Q6. Describe the basic components of an email system.

Section – C

(10 marks each)

- Q7. Compare the OSI and TCP/IP reference models in terms of structure and functionality.
- Q8. Define switching technologies and its types in data networks? Differentiate between circuit switching and packet switching.
- Q9. Define access control and management in the context of computer networks. How do access control mechanisms enforce security policies?