UE-2426

BACHELOR OF COMPUTER APPLICATION

B. C. A. (Sem. II) Examination, June - 2025

Data Communication & Computer Networking

Paper - BCA - 2003T

Time Allowed : **Three Hours**

Maximum Marks : **70**

Min. Marks : 28

*This question paper contains **two** sections as under :*

Section-A ***Max. Marks-20***

*This section will have **10** questions, having **02** question from each unit with no internal choice. Answer in about **20** words. All questions will have **equal** marks. **(2×10=20)***

Section-B ***Max. Marks-50***

*This section will have **10** questions, having **02** questions from each unit, one question to be attempted from each unit. Word limit approximately **400-500** words. Question may have sub divisions. All questions will have **equal** marks. **(10×05=50)***

SECTION - A

1 (i) Define Data Communication.
(ii) Define bandwidth.
(iii) What are the components of data communication system?
(iv) What is the difference between analog and digital signal?
(v) Why is it necessary to limit the band of a signal before performing sampling?
(vi) Define FTP.
(vii) List the layers of TCP/IP reference model.
(viii) Define multiplexing.
(ix) Expand SMTP and FTP.
(x) What is Multicast routing?

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SECTION - B
UNIT - I

2 What is modulation in computer network? Explain the different types of modulation techniques.

OR

(a) What are the possible digital-to-analog modulation techniques?

(b) Why does impulse noise have more effect on digital signals rather than on analog signals?

UNIT - II

3 What are the different types of transmission media? Explain with example.

OR

(a) Explain the difference between synchronous and asynchronous transmission.

(b) Differentiate between half duplex and full duplex transmission.

UNIT - III

4 What is 'Network Topology'? What are the various types of network topologies? Discuss benefits and limitations of these topologies over one another.

OR

Differentiate between the following :

(a) Connection oriented and connectionless service.

(b) Packet switching and message switching.

UNIT - IV

5 What is OSI reference model? Illustrate the model by detailing out all important features.

OR

Write short notes on the following :

(a) Gateways

(b) Repeaters

(c) Routers

(d) Bridges

UNIT - V

6 What is the role of USB? Explain the difference between USB 2.0 and USB 3.0.

OR

Write short notes on the following :

(a) WWW

(b) HTTP

(c) E-mail

(d) DNS

(e) SNMP
