

V Semester B.C.A. Degree Examination, March 2023

(Y2K14) (CBCS) (F + R)

COMPUTER SCIENCE

BCA – 501 : Data Communication and Networks

Time : 3 Hours

Max. Marks : 100

Instruction : Answer all Sections.

SECTION – A

I. Answer any ten questions. Each carries 2 marks. (10×2=20)

- 1) Define computer network.
- 2) What is topology ?
- 3) What is FTP ? Mention any two ftp commands.
- 4) What is nyquist signalling rate for a noiseless channel ?
- 5) Define single bit error with an example.
- 6) What do you mean by checksum ?
- 7) Define PPP.
- 8) What is Piggy backing ?
- 9) Define polling.
- 10) Define Datagram.
- 11) Expand FDMA and CDMA.
- 12) What is a repeater ?

SECTION – B

II. Answer any five questions. Each carries 5 marks. (5×5=25)

- 13) Explain mesh topology.
- 14) Describe IEEE 802.11 frame structure.
- 15) Write a note on circuit switching.



- 16) Explain the different transmission modes.
- 17) Explain SONET multiplexing in detail.
- 18) What is bridge ? Explain the various types of bridges.
- 19) Explain pulse code modulation.
- 20) Describe HDLC frame structure.

SECTION – C

III. Answer **any three** questions. **Each** carries **fifteen** marks. **(3×15=45)**

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| 21) a) Explain OSI reference model with a neat diagram. | 8 |
| b) Explain CRC method of error detection with example. | 7 |
| 22) a) Explain twisted pair and fiber optic cable. | 8 |
| b) With a neat flow diagram explain STOP and WAIT ARQ. | 7 |
| 23) a) Describe ALOHA and slotted ALOHA. | 8 |
| b) Describe sliding window protocol. | 7 |
| 24) a) Explain (a) congestion control (b) Flow control. | 8 |
| b) Describe FDDI frame structure in detail. | 7 |
| 25) a) Explain structure of packet switch. | 8 |
| b) Explain Leaky Bucket algorithm. | 7 |

SECTION – D

IV. Answer **any one** question. **Each** carries **ten** marks. **(1×10=10)**

- 26) Explain TCP/IP with a neat diagram.
 - 27) What is routing ? Explain any two routing algorithms.
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