D3BCS2102

Reg.No...........................

Name: ....

THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2022
(Regular/Improvement/Supplementary)

COMPUTER SCIENCE / BCA
GBCS3A02T: DATA COMMUNICATION AND OPTICAL FIBERS

Time: 2 ½ Hours   **Maximum Marks: 80**

SECTION A: Answer the following questions. Each carries *two* marks.

(Ceiling 25 Marks)

1. What is a transmission media?
2. Define LOS.
3. Explain baseband transmission using a dedicated medium.
4. List the features of internetworking.
5. Formulate a reason why Collision Detection based protocol is not suitable for wireless networks?
6. Analyze the challenges in Wireless Communication.
7. Define Mobile computing.
8. Explain the frame format of XMODEM.
9. What is select mode?
10. Identify why wireless LAN services are of lower quality than wired LAN.
11. Define Dual Attachment Connectors?
12. What are the uses of optical fibers?
13. What is tunnel effect?
14. List the applications of rectangular waveguide.
15. Draw the irregular ray at the core-cladding interface.

SECTION B: Answer the following questions. Each carries *five* marks.

(Ceiling 35 Marks)

16. What is a digital signal? Explain.
17. Write the advantages and disadvantages of asynchronous data transmission.
18. What is a Cell and how it is implemented in mobile communication?
19. Explain the concept of frequency reuse in detail.
20. Define the term carrier sense in CSMA/CD?
21. Explain various reasons for retransmission.
22. Define Numerical aperture of a step index fiber.
23. Write short notes on :
    a) Cutoff wave length   b) Mode field diameter.

SECTION C: Answer any *two* questions. Each carries *ten* marks.

24. Explain half duplex and full duplex in detail.
25. What is TDM? How is it different from FDM?
26. Write notes on: a). Packet Switching   b). Message Switching   c). Circuit Switching
27. Draw the structures of SLED and ELED and explain their principle of operation.

(2 x 10 = 20 Marks)