D3BCS2302 **Reg. No.....**

Name: .....

THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2024
(Regular/Improvement/Supplementary)
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. List the applications of FDM.
2. Enlist the important features of GSM security.
3. What are the parameters of sine wave?
4. Define datagram.
5. What is noise in data communication?
6. Define periodicity.
7. Distinguish between Mobile Computing and Wireless Networking.
8. What are the components of a network?
9. Comment on rectangular waveguide.
10. Why do we prefer step index single mode fiber for long distance communication?
11. What is the function of core in optical fiber?
12. How line discipline can be achieved?
13. Define MAC.
14. What is mode coupling?
15. List out the components of telephone systems.

SECTION B: Answer the following questions. Each carries *five* marks.
(Ceiling 35 marks)

16. Describe the working of a laser diode.
17. List and explain the features of unguided medium.
18. Write a short note on message switching.
19. Elaborate on step index fiber.
20. What is meant by inter networking?
21. Give an account on cell splitting.
22. Explain CSMA and protocols with Collision detection and Avoidance.
23. What do you mean by Multiplexing? Explain.

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

24. Describe the techniques employed in Analog to Digital conversion.
25. Examine in detail about the various types of handovers in GSM. Also discuss the timeline diagram of the Intra MSC handover.
26. List and explain various bit-oriented protocols?
27. What are step index and graded index fibers? Give the expression for numerical aperture in graded index fibers. Differentiate between step index fiber and graded index fiber.

(2 x 10 = 20 Marks)