

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (ECE) (Sem.-7)
OPTICAL FIBRE COMMUNICATION

Subject Code : EC-404

M.Code : 57554

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a. Dispersion
- b. Numerical Aperture
- c. Group velocity dispersion
- d. What are skew Rays?
- e. What do you mean by LED modulation bandwidth?
- f. Relaxation oscillations
- g. Self pulsation
- h. Mode hopping
- i. WDM
- j. Avalanche photodiode.

SECTION-B

2. Draw and explain the refractive index profile and ray transmission in a multimode graded index fiber.
3. What is the difference between a connector and a splice? When a connector used instead of a splice?
4. Explain different losses of optical fiber.
5. Explain the working of PIN photodiode with suitable diagrams.
6. Draw and explain the optical fiber based communication system.

SECTION-C

7.
 - a. Draw and explain the structure of p-n photo diode.
 - b. Compare the two simple techniques used for the measurement of numerical aperture of optical fiber.
8.
 - a. Explain with neat diagram working principle of injection LASER.
 - b. Briefly describe linear scattering losses in optical fiber with regard to:
 - i. Attenuation Coefficient
 - ii. Wave Guide imperfections
9. Write short note on following :
 - a. Optical TDM Systems
 - b. Code Division Multiplexing

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.