

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Electronics & Electrical) (2011 Onwards E-III)
B.Tech.(Electrical & Electronics)(2013 & Onwards E-III)
(Sem.-7,8)

OPTICAL FIBER COMMUNICATION

Subject Code : BTEEE-805C

M.Code : 71971

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION 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 has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A

1. Answer briefly :

- a. What is the need of optical communication?
- b. What do you mean by numerical aperture of fiber?
- c. Define the term distortion factor & mode-field diameter.
- d. What is group velocity?
- e. List all the limitation on the bit rate.
- f. Sketch VCSEL with suitable notification.
- g. What is the impact of BER on optical communication?
- h. Differentiate the pin and avalanche diode.
- i. What do you understand by chirping frequency?
- j. Define pulse broadening.

SECTION-B

2. What do you understand by dispersion? Explain different type of dispersion degrading the performance of optical communication.
3. Discuss the construction of DFB laser with suitable diagram.
4. In brief explain the design issue related to fibre communication.
5. Explain the use of optical multiplexing and discuss subscriber multiplexing.
6. Discuss Long Haul light wave system and compare it with loss limited wave systems.

SECTION-C

7. Discuss fabrication methods used for the optical fiber. Also give the standard names of the connectors used in optical fiber communications
8. Explain different types of noised affecting the fibre communication.
9. Write short notes on :
 - a. Four-wave mixing.
 - b. Receiver performance.

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.