Roll No. .....

3547

B. Tech. 7th Semester (ECE) Examination – February, 2022

FIBER OPTICAL COMMUNICATION

Paper : PCC-ECE-401-G

Time : Three Hours] *[Maximum Marks : 75*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt ***five*** questions in all, selecting ***one*** question from each Unit. Question Number **1** is ***compulsory***. All questions carry equal marks.

1. Write short notes on the following : $2.5 \times 6 = 15$

(a) Bend Loss

(b) Optical Fiber

(c) Detector

(d) LASER

(e) Kerr effect

(f) WDM

UNIT – I

2. (a) Explain Ray theory of optical propagation. 8

(b) Describe dispersion effect in optical communication. 7

3. Explain various types of losses in optical communication. 15

UNIT – II

4. (a) Explain how the light will be generated in optical source. 8

(b) Explain the characteristics of LED. 7

5. (a) Compare LED and LASER in detail. 8

(b) Explain the working principle of Detectors. 7

UNIT – III

6. (a) Explain the working of optical amplifier. 8

(b) Describe the concept of WDM in detail. 7

7. Describe link budgeting, link design and path loss calculations. 15

UNIT – IV

8. (a) Explain the concept of Kerr effect. 8

   (b) Explain self phase modulation in detail. 7

9. Describe various linear and non-linear effects in optical communication. 15
