S. B. Roll. No.....

OPTICAL FIBER COMMUNICATION 5th Exam/ECE/2617/Dec'22 (For 2018 Batch Onwards)

Duration: 3Hrs.

SECTION-A

M.Marks:75

15x1=15

Q1. Do as directed.

- a. IOT stands for_____
- b. APD stands for____
- c. LASER stands for____
- d. Define Attenuation.
- e. The core is the _____part of fiber, which guides light.
- f. Multi mode fiber consists of _____fibers cable.
- g. The unit of attenuation is____
- h. LED stands for____
- i. EDFA stands for_____
- j. SOA stands for_____
- k. SOA is similar to laser cavity (T/F).
- I. Semiconductor LED's emit cohrent light. (T/F).
- m. The waveguide dispersion is due to variation in group velocity of material (T/F).
- n. The refractive index of core is less than cladding (T/F).
- o. An optical detector converts ______signal to ______signal.

SECTION-B

Q2. Attempt any six questions.

- i. Differentiate single mode and multi mode optical fiber cable.
- ii. Define the photodetector noise.
- iii. What are the applications of optical amplifiers?
- iv. Explain Snell's Law.
- v. List the advantages and disadvantages of optical fiber communication.
- vi. Write characteristics of optical detectors.
- vii. Explain IOT in detail.
- viii. Write short note on Stimulated emission.

SECTION-C

3x10=30

6x5=30

- Q3. Attempt any three questions.a. Discuss the elements of optical fiber communication in detail.
 - b. Explain the construction and working of SOA in detail.
 - c. Explain dispersion and its type in detail.
 - d. Explain the working of LED with diagram. Differentiate LED wrt. LASER.
 - e. Explain two principal types of splices used in optical fiber communication.