

M.Sc. - II (Electronics) (NEP Pattern) - Semester-III
**PSCELT304.1 - Elective Paper-IV : Optoelectronics and Optical Fiber
Communication**

P. Pages : 1

Time : Two Hours



GUG/W/24/15978

Max. Marks : 80

-
- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw neat & labelled diagram whenever necessary.
3. Write specific answers related to question.

Either : -

1. a) Explain an illumination system and discuss the illuminating lamp. 8
b) What is LED? Explain its construction and working. 8

OR

- c) Describe the various types of display devices. 8
d) What is LASER? Explain the working semiconductor laser. 8

Either :-

2. a) Discuss PN and PIN photodiodes. 8
b) Write note on opto-coupler and opto-interrupter. 8

OR

- c) Explain the working of Avalanche Photo Diode (APD). 8
d) Discuss extrinsic fiber optic sensor. 8

Either :-

3. a) What is optical fiber? Explain construction of optical fiber. 8
b) State the types of optical fiber. Explain single mode optical fiber. 8

OR

- c) Discuss the step index and graded index optical fiber. 8
d) What are the losses in optical fiber communication? How they are minimized? 8

Either :-

4. a) Explain the fiber optic transmitter and receiver. 8
b) What is modulation? Explain electro optics modulators. 8

OR

- c) Describe electro-absorption modulator. 8
d) What are noises in detection process? Discuss. 8

5. a) Describe distributed feedback laser. 4
b) What is remote control? State its uses. 4
c) State principle and parameters of optical fiber. 4
d) Discuss the Noise Equivalent Power (NEP). 4
