

Reg. No. :

Name :

**Eighth Semester B.Tech. Degree (Supplementary – Including Part Time)
Examination, October 2014
(2006 and Earlier Admn.)**

PTEC/EC 2K 802 : OPTICAL COMMUNICATION

Time : 3 Hours

Max. Marks : 100

PART – A

(8×5=40)

- I. a) What is the significance of V in step index fibers ?
- b) With the help of block diagram, explain fiber optic communication system.
- c) Explain the practically available optical sources.
- d) Explain P-N Photodiode.
- e) Discuss the operations of multichannel coherent system.
- f) Write short notes on homodyne system.
- g) Explain the principle of operation of Brillouin amplifier.
- h) Write short notes on FDDI.

PART – B

- II. a) Explain in detail about the attenuation mechanism in single mode and multimode optical fibers. 15
- OR
- b) Explain in detail about the dispersion shifted fiber and dispersion flattened fiber. 15
- III. a) Explain in detail the common LED structures for optical fiber communications. Explain their merits and demerits. 15
- OR
- b) Explain the operation of laser structure with plots. 15

P.T.O.



IV. a) Write notes on the methods of modulation.

15

OR

b) Explain in detail about the performance degradation induced by non linear effects in fiber propagation.

15

V. a) Explain in detail about RAMAN amplifier and the flexibility associated with the pumping process.

15

OR

b) Compare the performance of various optical networks.

15