Total No. of Questions :10] [Total No. of Printed Pages :2

Roll No.....

EC - 703

B.E. VII Semester

Examination, December 2013

Optical Communication

Time : Three Hours

Maximum Marks : 70

Note : Attempt one question from each unit. All questions carry equal marks.

Unit - I

1. a) Explain transmission of light through fiber using ray theory concept.

   b) Discuss the principle of transmission in photonic crystal fibers.

OR

2. a) Discuss the transmission of light through fiber using mode theory.

   b) Explain the MCVD method of fiber fabrication.

Unit - II

3. a) What is Quantum efficiency? Determine the expression of Quantum efficiency for LED source.

   b) Discuss the different methods of fiber splicing.

OR

4. a) Explain the working of laser diode. Also describe its rate equations.

   b) Discuss the principle of optical fiber connectors.

Unit - III

5. a) With the help of circuit diagram explain the working o APD

   b) Explain the principle of inter modal dispersion. How ca we reduce it.

OR

6. a) What are the factors contributing to delay. Also explai what is meant by group delay.

   b) Explain the principle of dispersion shifted fiber.

Unit - IV

7. a) With the help of block diagram explain the working Homodyne receiver.

   b) Discuss the digital link design using Rise time budget.

OR

8. a) Explain the working of Heterodyne detector.

   b) Discuss the digital link design using power budget.

Unit - V

9. Write short notes on the following

   a) MEMS technology

   b) EDFA

OR

10. Write short notes on the following:

    a) Chromatic dispersion compensator

    b) Optical time domain reflectometer

******