G 1680 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2015

Eighth Semester

Branch : Electrical and Electronics Engineering

EE 010 804 L06 – OPTOELECTRONICS (Elective III) [EE]

(New Scheme – 2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*

Each question carries 3 *marks.*

1. Write short notes on Graded Index Fibre.
2. What are laser modes?
3. Give the parameters of photo transistors.
4. Which is advantageous high impedance amplifier and trans impedance amplifier? Justify.
5. Define fibre bragg grating.

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*

Each question carries 5 *marks.*

6. Write short notes on irradiative and leaky modes.
7. What is hetero junction LED? How it works? Mention its advantages.
8. With suitable diagram, explain the working of APD.
9. What is the use of eye pattern? How can you identify the interference level using eye pattern?
10. Briefly explain optical logic gates.

(5 × 5 = 25 marks)

Turn over

Part C

Answer **all** *questions.*

Each question carries 12 *marks.*

11. Draw and explain the Electromagnetic mode theory with suitable diagram.

Or

12. Give a description about the dispersion in single and multimode fibres.

13. Discuss in detail about the PN-junction characteristics.

Or

14. With the help of neat diagram, explain the LED structures

15. Write in detail about PIN Photodiode with neat diagram.

Or

16. Explain the distinction between Intrinsic and Extrinsic absorption responsivity.

17. Comment on the filter characteristics with suitable diagram.

Or

18. Illustrate fiber optic receivers with neat block diagram.

19. Briefly describe raman and erbium doped optical amplifiers with example.

Or

20. Define DWDM. Discuss the concepts of WDM with necessary block diagrams.

(5 × 12 = 60 marks)