Reg. No. : | | | | | | | | | | |

Question Paper Code: 31566

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Elective

Electronics and Instrumentation Engineering

01UEI906 - LASER AND FIBRE OPTICS INSTRUMENTATION

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Enlist the properties of laser.
2. Mention the applications of Q switching.
3. Identify the applications of laser in industry?
4. Name the types of lasers used for laser heating.
5. Differentiate Holography and conventional Photography.
6. Which type of laser is commonly used in medical application and why it is used?
7. List the important parameters of optical detectors.
8. What are the different types of fibers?
9. Give the basic principle of fiber optic gyroscope.
10. In what ways the optical fibers are used in instrumentation?

PART - B (5 x 16 = 80 Marks)

11. (a) Write technical notes on (i) mode-locking (ii) Q-Switching. (16)

Or

(b) Describe the construction and working of the semi conductor lasers with neat diagram. (16)

12. (a) Describe about the principle of Laser heating, welding and trimming of materials. (16)

Or

(b) Enlighten the industrial applications of laser in material processing. (16)

13. (a) Elaborate the concept of oncology with neat diagram in detail. (16)

Or

(b) Write technical notes on (i) Plastic surgery (ii) Removal of tumors in vocal chords. (16)

14. (a) Discuss about various types of fibre optic losses in detail. (16)

Or

(b) Classify and explain the different types of optical fiber and its properties with neat diagram. (16)

15. (a) Elucidate the working principle of electro optic modulators with neat sketches. (16)

Or

(b) Describe in detail about the fiber optic gyroscopes. (16)

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