

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Write a note on applications of optical fiber in field of Biomedical Engineering?

Q.24 Write a note on laser diode and its comparison with photodetector?

Q.25 Differentiate between solid, gas, liquid and semiconductor laser.

No. of Printed Pages : 4
Roll No.

223244B

4th Sem./ Medical Electronics

Subject : Laser and Fiber Optics in Medicine

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Relation between angle and refractive indexed is:

- a) Direct
- b) Indirect
- c) Equal
- d) None of these

Q.2 Types of LASER are:

- a) Solid
- b) Liquid
- c) Gas
- d) All of these

Q.3 LASER stands for:

- a) Light Amplification by Spontaneous Emission of Radiation
- b) Last Amplification by Stimulated Emission of Radiation
- c) Light Amplification by Stimulated Emission of Radiation
- d) None of these

Q.4 Endoscopy is application of:

- a) Statistics b) Liquid
- c) Optical Fiber d) None of these

Q.5 Example of Solid LASER is:

- a) CO₂ LASER b) Argon LASER
- c) ND-YAG Laser d) None of these

Q.6 The incidence angle should be _____ than critical angle for TIR inside optical fiber is:

- a) Less b) Greater
- c) Equal d) None of these

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Explain Optical fiber layers.

Q.14 Explain Optical fiber modes.

Q.15 Write any four properties of optical fiber.

Q.16 Write a note on fiber material.

Q.17 Differentiate between Attenuation and Absorption.

Q.18 Differentiate between core and cladding losses inside optical fiber.

Q.19 Write a note on principle of Endoscopy?

Q.20 Write Endoscopic diagnostic and therapeutic techniques?

Q.21 Write four Precautions while applying laser on body?

Q.22 Write four properties of LASER?

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define critical Angle.

Q.8 Define Cladding.

Q.9 Write thickness range of cladding?

Q.10 Write two name of optical fiber connectors?

Q.11 Write two examples of solid laser?

Q.12 Define gastroscopy.

(2)

223244B

(3)

223244B