

## **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 endoscopy in current healthcare system?

Q.24 Write applications of Solid LASER and compare it with Liquid LASER?

Q.25 Write a note on principle of optical fiber and principle of laser?

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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 Unit of frequency is:

  - a) HO
  - b) Ohm
  - c) Hz
  - d) None of these

Q.2 Layers of optical fibers are:

  - a) Core
  - b) Claddig
  - c) Both
  - d) None of these

Q.3 Led stands for

  - a) Light Emitting Diode
  - b) Law Emit Diode
  - c) Layer Emit Diode
  - d) Last Emitting Diode

**Q.4** Characteristics of laser diode are:

- a) Mono chromatic
- b) Well Directed
- c) Coherent
- d) All of these

**Q.5** Laser can be used for:

- a) Diagnostic
- b) Therapeutic
- c) Both
- d) None of these

**Q.6** Relation between time & frequency is :

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

### **SECTION-B**

**Note:** Objective/ Completion type questions. All questions are compulsory.  $(6 \times 1 = 6)$

**Q.7** Write range of visible light in EM Spectrum?

**Q.8** Define TIR.

**Q.9** Define role of buffer coating.

**Q.10** Write thickness range of core?

**Q.11** Write name of two mode of optical fiber?

**Q.12** Define Endoscope.

### **SECTION-C**

**Note:** Short answer type questions. Attempt any eight questions out of ten questions.  $(8 \times 4 = 32)$

**Q.13** Explain basic optical law.

**Q.14** Explain any four applications of optical fiber.

**Q.15** Write a note on optical fiber connectors?

**Q.16** Differentiate between Scattering and Bending losses.

**Q.17** Write a note on various type of Endoscopy?

**Q.18** Define laser and fiber optic standards.

**Q.19** Write safety regulations of laser?

**Q.20** Write any four applications of laser?

**Q.21** Write any four characteristics of laser?

**Q.22** Define laser and fiber optics standards.