

- Q.21 Explain EM Spectrum with suitable diagram.
- Q.22 Explain basic optical law.

#### SECTION-D

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

- Q.23 Write a note on polarization, reflection, refraction and attenuation?
- Q.24 Write a note on scattering and bending losses in optical fibers with possible diagram?
- Q.25 Write pros and cons of optical fiber and its potential role in healthcare department?

No. of Printed Pages : 4  
Roll No. ....

223244B

**4th Sem.**  
**Branch : Medical Electronics**  
**Sub. Laser & Fiber Optics in Medicine**

Time : 3 Hrs.

M.M. : 60

#### SECTION-A

**Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)**

- Q.1 Laser was invented in 1960's by :
- a) TH Maiman                      b) Maxwell's
- c) Einstein                        d) Raman
- Q.2 Laser is used to breakup kidney or gallstones in process called:
- a) Trbecularplsty                b) Lithotripsy
- c) Viscocanalostomy            d) All of these
- Q.3 What type of Laser cause if not properly used:
- a) Red Semiconductor          b) Blue Semiconductor
- c) Excimer laser                d) None of these

- Q.4 What type of laser is used in CD and DVD:
- a) Semiconductor                      b) YAG
- c) Holium                                  d) None of these
- Q.5 What is one way to describe a photon?
- a) A wave-packet                      b) Solid
- c) ND-YAG Laser                      d) None of these
- Q.6 The critical angle is :
- a) The Refraction at which the TIR occurs
- b) The Reflection at which the TIR occurs
- c) The angle of incidence at which TIR occurs
- d) None of these

### SECTION-B

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

- Q.7 The multimodal step indexed fiber has \_\_\_\_\_.
- Q.8 NA stands for.
- Q.9 Multimode step index fiber has a large core diameter of range is \_\_\_\_\_?

- Q.10 The performance characteristics of multimodal graded indexed fiber are \_\_\_\_\_.
- Q.11 Multimode graded indexed fibers use incoherent source only. (True/False)
- Q.12 O.F. stands for \_\_\_\_\_.

### SECTION-C

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

- Q.13 Explain laser for Condolomata.
- Q.14 Explain CO<sub>2</sub> laser.
- Q.15 Write a note on Holium YAG laser with its applications?
- Q.16 Which laser is suitable for suture removal, draw its diagram also?
- Q.17 Write a note on laser application in Ophthalmology department?
- Q.18 Explain LASIK.
- Q.19 Write a note on laser role in Dermatology?
- Q.20 Explain laser application in dentistry.