

- Q.25 Write any 5 characteristics of LASER Diode.
- Q.26 Differentiate between Single mode and multimode optical fiber
- Q.27 Explain optical amplifier in detail.
- Q.28 Define fiber loss. Discuss alignment and joint loss in optical fiber
- Q.29 Write any 5 difference between LED and LASER.
- Q.30 Write a short note on fiber optical isolators.
- Q.31 Explain the different types of optical switches.
- Q.32 Discuss about optical frequency range.
- Q.33 Write a short note on wavelength division multiplexing.
- Q.34 Explain the working principle of PIN diode.
- Q.35 Explain the working principle of LASER Diode.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Define fiber splices. Explain different types of splices in optical fiber.
- Q.37 Explain Avalanche photo diode (APD) in detail with suitable diagram.
- Q.38 Draw the structure of optical fiber and explain its components in detail.

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**6th Sem / Elect, EI, Elect & Eltx Engg.
Subject:- Optical Fiber Communication**

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Multimode step index fiber has _____
 a) Large core diameter & large numerical aperture
 b) Large core diameter and small numerical aperture
 c) Small core diameter and large numerical aperture
 d) Small core diameter & small numerical aperture
- Q.2 Which fiber is used for long distance communication?
 a) Multimode fiber b) Single-mode fiber
 c) graded index fiber d) none of the above
- Q.3 In optical communication _____ acts as a transmission medium
 a) coaxial cable b) Optical fiber cable
 c) Waveguide d) None of the above
- Q.4 LED stand for _____
 a) Light emitting detector
 b) Light emitting display

- c) Light emitting diode
d) Low emitting diode
- Q.5 A device, which converts optical energy into electrical energy is called as
a) Photodetector b) Optical source
c) Amplifier d) None of the above
- Q.6 A permanent joint formed between two different optical fibers in the field is known as a _____.
a) Fiber splice b) Fiber connector
c) Fiber attenuator d) Fiber dispersion
- Q.7 How many types of fiber splices exist?
a) 3 b) 4
c) 2 d) None of the above
- Q.8 An optical fiber is made up of _____ material.
a) Copper b) Glass
c) Ceramic d) None
- Q.9 Optical fiber works on the principle of _____
a) Polarization
b) Total internal reflection
c) Diffraction
d) None of the above
- Q.10 What is refraction
a) Reflection of light waves
b) Diffusion of light waves
c) Scattering of light waves
d) Bending of light waves

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 LED is a coherent source of light. (T/F)
Q.12 Define light source.
Q.13 Single mode fibers support only _____ mode of propagation. (One/Two)
Q.14 Expand LED.
Q.15 Tell the formula of numerical aperture.
Q.16 The principle of LASER is _____. (Stimulated / Spontaneous emission)
Q.17 Bandwidth of optical fiber is _____.
Q.18 Give one advantage of Optical Fiber Communication
Q.19 Expand WDM.
Q.20 A single mode fiber has low intermodal dispersion than multimode fiber. (T/F)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 List any 5 advantages of fiber optic communication.
Q.22 Explain basic optical fiber communication system.
Q.23 Explain connectors in optical fiber.
Q.24 Write a short note on acceptance angle and critical angle.