

- Q.27 Draw the block diagram of basic communication system.
- Q.28 Explain the construction of optical fibre.
- Q.29 Explain the construction of multimode fibers.
- Q.30 What are different types of distortion in wave guide?
- Q.31 Explain the principle of photo detection.
- Q.32 What are advantages of graded index fibre?
- Q.33 What are different types of optical fibre cables? Explain.
- Q.34 Briefly explain Step Index fibres and graded index fibers.
- Q.35 Explain in detail about dispersion phenomenon.

Section-D

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

- Q.36 Explain numerical aperture with the help of suitable diagram. What is the importance of numerical aperture in optical fibre communication?
- Q.37 What are optical sources. Explain various types of light sources.
- Q.38 What is the principle of laser? What are different types of lasers?

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6th Sem,

Branch : Electronics Engg.

Subject : Optical Fiber communications

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Attenuation in an optical fiber is caused by
a) Absorption b) Scattering
c) Bending Losses d) All above
- Q.2 The core diameter of a single mode optical fiber is _____.
a) 50um b) 9 um
c) 12.5 um d) None
- Q.3 A device which convert electrical energy in the form of current into optical energy is called
a) Optical source b) Coupler
c) Adder b) Optical isolator
- Q.4 The PIN diode operates in
a) Reverse biased region
b) Forward biased region
c) Depletion region
d) none

- Q.5 The most common photo detector is
- a) Photocell b) APD
- c) PIN d) LED
- Q.6 The attenuation losses are measured in terms of _____
- a) Bel b) Decibel
- c) Del d) None
- Q.7 When the optical fibers bend, they suffer from the
- a) Absorption losses b) Scattering losses
- c) Bending losses d) None
- Q.8 The refractive index of the core in comparison of cladding is :
- a) Higher b) Lower
- c) Same d) None
- Q.9 In optical fibers, light propagates mainly along the _____.
- a) Core b) Cladding
- c) Buffer d) Jacket
- Q.10 Optical fiber has generally shape of a _____
- a) Rectangle b) Square
- c) Hexagon d) Circle

Section B

Note: Objective types Questions. All Questions are compulsory. (10x1=10)

- Q.11 Give one advantage of optical fiber communication.
- Q.12 Define Refractive index.
- Q.13 Define dispersion.
- Q.14 Expand LASER.
- Q.15 Name any two optical fibre components.
- Q.16 What is use of Star connector.
- Q.17 Write any two advantages of step index fibre.
- Q.18 Name any two types of LEDs..
- Q.19 Define stimulated emission.
- Q.20 Define optical isolator.

Section-C

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

- Q.21 Explain the advantages and disadvantages of optical fiber communication.
- Q.22 Explain Absorption losses in optical cable.
- Q.23 What is splicing? What are different types of splicing?
- Q.24 Explain the working of directional coupler.
- Q.25 Explain wave length division multiplexing.
- Q.26 Explain the working of APD diode.