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

181054/171054/121054
/031054B

5th Sem / Eltx, Power Eltx
Subject:- Optical Fiber Communication

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 The capacity to transmit information is high over longer distance for

a) single mode fiber b) Multimode fiber
c) none d) Both

Q.2 The attenuation losses are measured in terms of

a) Hertz b) Decibel
c) Meter/ sec d) Nanometer

Q.3 The material absorption losses are caused due to

a) material composition & fabrication process
b) transfer of modes
c) Mode mixing
d) None

Q.4 Dispersion causes the light pulse to get

a) Stretched b) Broadened
c) Lengthened d) Distributed

Q.5 A LED is a

a) Coherent source of light
b) Non-coherent source of light
c) Best source of light
d) None

Q.6 What is mechanism by which a light is emitted from a LED?

a) When p-n junction is forward biased
b) When p-n junction is reverse biased
c) When no supply is connected across the LED
d) None

Q.7 An optical light detector converts

a) Electrical signal into optical signal
b) Optical signal into electrical signal
c) Optical signal to light signal
d) None

Q.8 The PIN diode operates in

a) Reverse biased region
b) Forward Biased Region
c) Depletion Region
d) None

Q.9 The optical light detector is a part of

a) Transmitter section b) Amplifier section
c) Receiver section d) None

Q.10 SOA is

a) Semi conductor optical amplifier
b) Sand Optical amplifier
c) Similar optical Amplifier
d) Semiconductor Optical Application

SECTION-B

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

Q.11 Define critical angle

Q.12 A LASER is coherent source of light (True/False)

Q.13 Write two applications of optical fiber

Q.14 Define Optical Splicing

Q.15 What are two types of bending losses?

Q.16 Give full form of ILD.

Q.17 Write two types of LED structures.

Q.18 What do you mean by optical light source

Q.19 Give full form of EDFA.

Q.20 Define total Internal Reflection.

SECTION-C

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

Q.21 Explain the block diagram of optical fiber communication system.

Q.22 Differentiate between step index and graded index fibers.

Q.23 Explain the principle of light penetration.

Q.24 Describe Multi Mode optical fiber.

Q.25 Explain principle of operation of LED diode.

Q.26 Write the applications of Optical Fiber Communication.

Q.27 Describe the basic principle of EDFA.

Q.28 Explain in brief about APD.

Q.29 What do you mean by dispersion? How many types of dispersion exist in optical fiber?

Q.30 What are macro bending losses?

Q.31 Explain Fusion Splicing in detail?

Q.32 Differentiate between SOA and EDFA

Q.33 Describe the characteristics of light sources.

Q.34 How are optical fibers advantageous in communication applications?

Q.35 Classify different types of optical fiber cable connectors

SECTION-D

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

Q.36 Explain working of OTDR with suitable diagram.

Q.37 Describe in detail about scattering losses. How many types of scattering are there? How can we reduce them?

Q.38 Discuss the principle of operation of LASER. Also explain different types of Injection LASER diodes.