No. of Printed Pages : 4
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181054/171054/
121054/031054B

5th Sem / Eltx., Power Eltx
Sub.: Optical Fiber Communication

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 An optical fiber is made up of

a) Copper b) Lead
c) Rubber d) Glass

Q.2 An OTDR is used to find

a) Cable fault position b) Numerical Aperture
c) Both (a) and (b) d) None of above

Q.3 Principle of travelling of light through optical fiber is

a) Reflection
b) Refraction
c) Total internal reflection
d) Absorption

Q.4 Optical fiber has generally a shape of

a) Rectangle b) Square
c) Triangle d) Circle

Q.5 Which parameter shows a temporary joint between optical fibers

a) Connectors b) Splice
c) Couplers d) None

Q.6 Mie scattering losses always occurs in _____ Direction.

a) Reverse b) Forward
c) Both d) None

Q.7 Stimulated RAMAN losses always occurs in _____.

a) Multimode fibers b) Single mode fibers
c) Both d) None

Q.8 Which one give better optical property

a) Homo junction b) Hetero junction
c) Both d) None

Q.9 PIN diode operates in

a) Reverse bias region b) Forward bias region
c) Depletion Region d) None of above

Q.10 SOA stands for

a) Single optical Amplifier
b) Sound Optical Amplifier
c) Semiconductor Optical Application
d) Semiconductor Optical Amplifier

SECTION-B

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

Q.11 Give one application of optical fiber communication.

Q.12 The velocity of light is $3x10^8$ m/s. (True/False)

Q.13 LASER stands for _____.

Q.14 LED is usually made from gallium arsenide. (True/False)

Q.15 Monomode fibers use _____modes of propagation.

Q.16 Write full form of SBS and SRS regarding Scattering.

Q.17 What is the significance of bit rate?

Q.18 Draw the symbol of LED.

Q.19 What is the purpose of photo detector in OTDR.

Q.20 EDFA stands for _____.

SECTION-C

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

Q.21 Explain electromagnetic spectrum used in optical fiber communication.

Q.22 What do you mean by monomode and multimode optical fiber.

Q.23 Write a short note on acceptance angle.

Q.24 Explain fusion splicing method.

Q.25 Describe Bending losses in detail.

Q.26 Explain about surface emitter LED.

Q.27 Describe semiconductor injection LASER.

Q.28 Explain about the noise in optical detectors.

Q.29 What do you mean by optical amplifiers. Briefly explain the principle and working of optical amplifier.

Q.30 Explain RAMAN Amplifier.

Q.31 Write short note on PIN diode.

Q.32 Give some advantages of optical fiber communication.

Q.33 Explain about stimulated emission.

Q.34 What do you understand by modal dispersion?

Q.35 Write short note on Scatting losses in optical fibers.

SECTION-D

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

Q.36 Describe different splicing techniques used in optical fiber communication.

Q.37 Explain the working of Avalanche Photodiode in details.

Q.38 Write a note on

a) OTDR b) EDFA