

University of Mumbai Online Examination 2020

Program: BE Electronics and Telecommunication Engineering

Curriculum Scheme: Revised 2012

Examination: Final Year Semester VII

Course Code: ETC703 and Course Name: Optical Communication and Networks

Time: 1-hour

Max. Marks: 50

=====

Note to the students: - All the Questions are compulsory and carry equal marks.

Q1.	Which of the following terms describes the reason that light is refracted at different angles?
Option A:	Photon energy changes with wavelength
Option B:	Light is refracted as a function of surface smoothness
Option C:	The angle is determined partly by a and b
Option D:	The angle is determined by the index of the materials
Q2.	Stimulated Raman scattering is ----- type of scattering
Option A:	Linear
Option B:	Nonlinear
Option C:	in built
Option D:	linear or nonlinear
Q3.	Which of the following is used as an optical receiver in fiber optics communications
Option A:	PIN diode
Option B:	LED
Option C:	Tunnel Diode
Option D:	APD
Q4.	WDM is an analog multiplexing technique to combine
Option A:	magnetic signals
Option B:	electromagnetic signals
Option C:	digital signals
Option D:	optical signals
Q5.	which one of the following networks allows all users to share a common bandwidth
Option A:	Telephone network

University of Mumbai
Online Examination 2020

Option B:	Cable television network
Option C:	Both telephone and cable network
Option D:	Computer network
Q6.	Light incident on fibers of angles _____ the acceptance angle do not propagate into the fiber
Option A:	Less than
Option B:	Greater than
Option C:	Equal to
Option D:	Less than and equal to
Q7.	In Single mode step index fibers, Intermodal dispersion is -----
Option A:	Minimum
Option B:	Maximum
Option C:	decreases as ray propagate
Option D:	increases as ray propagate
Q8.	What is the unit of responsivity?
Option A:	Ampere/Watt
Option B:	Ampere/Volt
Option C:	Watt/Ampere
Option D:	Volt/Ampere
Q9.	What is the main requirement with the fibers that are intended for splicing?
Option A:	Smooth and oval end faces
Option B:	Smooth and square end faces
Option C:	Rough edge faces
Option D:	Large core diameter
Q10.	For used in single-mode fiber _____ are used preferably
Option A:	Semiconductor optical amplifier
Option B:	Erbium-doped fiber amplifier
Option C:	Raman fiber amplifier
Option D:	Brillouin fiber amplifier
Q11.	Meridional rays in graded index fibers follow _____
Option A:	Straight path along the axis
Option B:	Curved path along the axis
Option C:	Path where rays changes angles at core-cladding interface
Option D:	Helical path

University of Mumbai
Online Examination 2020

Q12.	A commonly used technique for determining the total fiber attenuation per unit length is, the -----
Option A:	cut-off method
Option B:	cut back or differential method
Option C:	cut-through method
Option D:	none of the above
Q13.	What is responsivity of a light detector
Option A:	the time required for the signal to go from 10 to 90 percent of maximum amplitude
Option B:	the ratio of the diode output current to optical input power
Option C:	the ratio of output current to output power
Option D:	the ratio of output current to input current
Q14.	_____ is a technique that combines two or more network resources for redundancy or higher throughput
Option A:	Signal bonding
Option B:	Attenuation
Option C:	Re-signaling
Option D:	Channel bonding
Q15.	Which of the following statement is not applicable for cable internet access?
Option A:	It is a shared broadcast medium
Option B:	It includes HFC
Option C:	CABLE modem connects home PC to ETHERNET port
Option D:	Analog signal converted into digital signal
Q16.	Losses caused by factors such as core-cladding diameter, numerical aperture, relative refractive index differences, different refractive index profiles, fiber faults are known as _____
Option A:	Intrinsic joint losses
Option B:	Extrinsic losses
Option C:	Insertion losses
Option D:	Coupling losses
Q17.	OTDR is the technique used for measurement of the ----- on an optical link
Option A:	acceptance angle
Option B:	critical angle
Option C:	Wavelength
Option D:	attenuation loss

University of Mumbai
Online Examination 2020

Q18.	A device which converts electrical energy in the form of a current into optical energy is called as -----
Option A:	optical detector
Option B:	optical circulator
Option C:	optical source
Option D:	optical coupler
Q19.	How many amplifier configurations are frequently used in optional fiber communication receivers?
Option A:	One
Option B:	Two
Option C:	Three
Option D:	Four
Q20.	The rounding of the fiber ends with a low energy discharge before pressing the fibers together and fusing with a stronger arc is called as _____
Option A:	Pre-fusion
Option B:	Diffusion
Option C:	Crystallization
Option D:	Alignment
Q21.	In OTDR, light pulse is launched into the fiber in the ----- direction
Option A:	Forward
Option B:	Backward
Option C:	Bidirectional
Option D:	either forward or backward
Q22.	_____ is a common example of broadcast networking
Option A:	Telephone network
Option B:	Cable television network
Option C:	Both telephone and cable network
Option D:	Computer network
Q23.	A Soliton is a:
Option A:	defect in the glass
Option B:	type of particle
Option C:	type of pulse
Option D:	type of optical network
Q24.	Sun light spreads on earth due to the effect of -----
Option A:	transmission of light

These are sample MCQs to indicate pattern, may or may not appear in examination

University of Mumbai
Online Examination 2020

Option B:	absorption of light
Option C:	Dispersion
Option D:	Scattering
Q25.	Rise-time budget analysis is useful to determine -----
Option A:	Dispersion
Option B:	Absorption
Option C:	Attenuation
Option D:	bending loss