

Program: BE Electronics & Telecommunication Engineering

Curriculum Scheme: Revised 2012

Examination: Final Year Semester VII

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

Time: 1hour

Max. Marks: 50

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

Q1.	A type of index of an optical fiber that has no cladding and whose central core has a non-uniform refractive index.
Option A:	graded index
Option B:	Multimode
Option C:	single mode
Option D:	step-index
Q2.	Consider the statements given below. Which among them is not a drawback of double crucible method?
Option A:	Utility in mass production of fiber
Option B:	High attenuation
Option C:	High OH content in drawn fiber
Option D:	Addition of impurity while the fiber is drawn
Q3.	The heating of the two prepared fiber ends to their fusing point with the application of required axial pressure between the two optical fibers is called as _____
Option A:	Mechanical splicing
Option B:	Fusion splicing
Option C:	Melting

Option D:	Diffusion
Q4.	Which among the following is regarded as a keyed bayonet connector along with its feasibility of easiest insertion and removal from the fiber optic cable?
Option A:	FC Connectors
Option B:	LC Connectors
Option C:	MT-RJ Connectors
Option D:	ST Connectors
Q5.	A step-index fiber has a numerical aperture of 0.26, a core refractive index of 1.5 and a core diameter of 100micrometer. Calculate the acceptance angle.
Option A:	1.47°
Option B:	15.07°
Option C:	2.18°
Option D:	24.15°
Q6.	Attenuation in fiber in general
Option A:	Decreases with wavelength
Option B:	Increases with wavelength
Option C:	Remains constant with wavelength
Option D:	Doesn't depend on wavelength
Q7.	Mie Scattering occurs when the size of the scattering center becomes:
Option A:	Very Smaller than wavelengths at which Rayleigh Scattering occurs
Option B:	Larger than wavelengths at which Rayleigh Scattering occurs
Option C:	Equal to wavelengths at which Rayleigh Scattering occurs

Option D:	Doesn't depend on wavelength
Q8.	Bending loss in optical fiber depends on:
Option A:	Material of Optical fiber
Option B:	Radius of curvature of bending
Option C:	Size of Core
Option D:	Refractive index of core
Q9.	In chromatic dispersion, which parameter for the modulation of the received signal is measured with the help of a vector voltmeter?
Option A:	Amplitude
Option B:	Frequency
Option C:	Period
Option D:	Phase
Q10.	Link budget consists of calculation of
Option A:	Useful signal power
Option B:	Interfering noise power
Option C:	Useful signal & Interfering noise power
Option D:	Technical Risk
Q11.	A perfect semiconductor crystal containing no impurities or lattice defects is called as_____
Option A:	Intrinsic semiconductor
Option B:	Extrinsic semiconductor
Option C:	Excitation
Option D:	Valence electron

Q12.	It is a resonant cavity formed by two parallel reflecting mirrors separated by a medium such as air or gas is?
Option A:	Optical cavity
Option B:	Wheatstone's bridge
Option C:	Oscillator
Option D:	Fabry-perot resonator
Q13.	Effective radiated power of an isotropic radiator can be given as a product of ____
Option A:	Radiated power and received power
Option B:	Effective area and physical area
Option C:	Transmitted power and transmitting gain
Option D:	Receiving power and receiving gain
Q14.	SONET stands for _____
Option A:	synchronous optical network
Option B:	synchronous operational network
Option C:	stream optical network
Option D:	shell operational network
Q15.	The _____ sits at the top of hierarchy of the OSI layer model.
Option A:	Session layer
Option B:	Transport layer
Option C:	Application layer
Option D:	Data link layer

Q16.	The routing and wavelength assignment problem addresses the core issue of _____
Option A:	Traffic patterns in a network
Option B:	Wavelength adjustment
Option C:	Wavelength continuity constraint
Option D:	Design problem
Q17.	Solitons are pulses which propagates through the fiber without showing any variation in _____
Option A:	Amplitude
Option B:	Frequency
Option C:	Shape
Option D:	Amplitude, Velocity and Shape
Q18.	What does OTDM stand for
Option A:	Optical Time Domain Multiplexing
Option B:	Optical Transmit Domain Multiplexing
Option C:	Optical Transmit Domain Multiple Access
Option D:	Optical Time Division Multiplexing
Q19.	An Optical Node in an Optical Network acts like a
Option A:	Transmitter
Option B:	Receiver
Option C:	Transceiver
Option D:	Physical Link

Q20.	A network structure formed due to interconnectivity patterns is called _____
Option A:	Network
Option B:	Node
Option C:	Topology
Option D:	Link
Q21.	An Optical Cross Connect (OXC) is used in a network primarily for _____
Option A:	Switching the connection between interfaced points
Option B:	Amplifying the signal
Option C:	Adding a wavelength at an intermediate point
Option D:	Mixing Multiple Wavelengths
Q22.	Which strategy assumes that residual faults remain in the system and can continue in operation after some system failures have occurred?
Option A:	Fault recovery
Option B:	Fault avoidance
Option C:	Fault tolerance
Option D:	Fault detection
Q23.	Which of the following is NOT Intramodal dispersion
Option A:	Material Dispersion
Option B:	Chromatic dispersion
Option C:	Waveguide dispersion
Option D:	Mode dispersion

Q24.	Which term is not true for Raman amplifier
Option A:	It provides gain at any wavelength
Option B:	It relies on simple pumping the same silica fiber used for transmitting the data
Option C:	It can produce lumped amplifier
Option D:	It keeps the pump at varying power
Q25.	Standard single mode fiber zero dispersion is
Option A:	1310nm
Option B:	1450nm
Option C:	1550nm
Option D:	1660nm