

JNTU ONLINE EXAMINATIONS [Mid 1 - oc]

1. Unlike wires ,optical fibers are immune to _____

[01D01] ©

- a. Electromagnetic interference
- b. High frequency transmission
- c. Signal losses
- d. Communication

2. _____ is the wave length range for optical fiber communications [01M01]

- a. $1.7\mu\text{m} - 0.8\mu\text{m}$
- b. $2.0\mu\text{m} - 1.0\mu\text{m}$
- c. $0\mu\text{m} - 0.5\mu\text{m}$
- d. $3\mu\text{m}-10\mu\text{m}$

3. Essential components of any fiber optic communication system are [01M02]

- a. Light source, fiber and receiver
- b. Light source and cable
- c. Fiber and receiver
- d. Fiber only

4. The small size of optical fibers makes what necessary in any device connecting them? [01M03]

- a. Special glue
- b. Tight mechanical tolerances
- c. Low optical absorption
- d. Small overall size

5. _____ may be broadly defined as the transfer of information from one point to another [01S01]

- a. Communication
- b. Sending
- c. Receiving
- d. InfoTech

6. In communication system the information transfer is achieved by _____ the information on to an electromagnetic wave which acts as a carrier for the information signal [01S02]

- a. Modifying
- b. Modulated
- c. De-modulated
- d. Quantized

7. The modulated carrier information after transmitted to receiver, the original information signal is obtained by _____

[01S03]

- a. Modulation
- b. De-modulation
- c. Quantizing
- d. Bit mapping

8. Depending on _____ of the electromagnetic carriers can be transmitted over considerable distances [01S04]

- a. High pitch
- b. Low pitch
- c. Wave lengths
- d. Information

9. For the propagation of electromagnetic waves in free space ,the wavelength equals [01S05]

- a. C/f
- b. $1/f$
- c. C ©
- d. Cf

10. _____ is the frequency range for optical fiber communications [01S06]

- a. 10 to 15 Hz
- b. 102 to 105 Hz
- c. **1014 to 1015 Hz**
- d. 1099 Hz

11. The avalanche photo diode detector is used to provide equalizer and _____ [02D01]

- a. Noise
- b. Speech
- c. Less gain
- d. **High gain**

12. A general communication system comprises of [02M01]

- a. Detector, Source, Driver
- b. **Transmitter, Transmission medium, Receiver**
- c. Medium, TV, Cable
- d. Signal, Detector, Medium

13. The optical source which provides the electrical-optical conversion may be either a ___ or ____ [02M02]

- a. Conductor material, diode
- b. Battery, light diode
- c. **Semiconductor laser, light emitting diode**
- d. X-ray, diode

14. A general communication system is, the function of which is convey the signal from the information source over the _____ to the destination [02S01]

- a. **Transmission system**
- b. Electrical line
- c. TV wires
- d. Signal systems

15. The transmission medium consists of an optical fiber cable and the receiver consists of a _____ [02S02]

- a. Phone ©
- b. **Optical detector**
- c. Carrier
- d. Medium

16. _____ are utilized for the detection of the optical signal [02S03]

- a. **Photo diodes**
- b. Counters
- c. Receivers
- d. Carrier signals

17. _____ modulation involves the variation of the light emitted from the optical source in a continuous manner [02S04]

- a. **Analog**
- b. Digital
- c. Carrier
- d. Light

18. _____ modulation involves the discrete changes in the light intensity [02S05]

- a. Analog
- b. **Digital**
- c. Carrier
- d. Light

19. Analog optical fiber communication links are generally limited to shorter distances and band widths than digital links [02S06]

- a. Higher

b. Lower

- c. Emitter
- d. Receiver

20. The _____ drive circuit directly modulates the intensity of the semi conductor laser with the encoded digital signal [02S07]

- a. Laser**
- b. Motor
- c. Transmitter
- d. Receiver

21. Optical fibers are fabricated with losses as low as _____ [03D01]

- a. 10 dB Km-1
- b. 0.2 dB Km-1**
- c. 100 dB Km-1
- d. 0 dB Km-1

22. The optical carrier frequency range is normally of _____ range [03S01]

- a. 106 to 1013 Hz
- b. 1013 to 1016 Hz**
- c. 0 to 103 Hz
- d. 103 to 106 Hz

23. _____ yields a greater potential transmission band width than metallic cable systems. [03S02]

- a. Optical fiber cable**
- b. Non metallic cable
- c. Transmission line
- d. Plastic cable

24. The information carrying capacity of _____ systems has proved far superior to the best cable systems. [03S03]

- a. Metallic cable
- b. Non-metallic
- c. Line
- d. Optical fiber cable**

25. optical fibers have _____ diameters which are often no greater than the diameter of a human hair. [03S04]

- a. Very small**
- b. Large
- c. Medium
- d. Zero

26. _____ has smaller diameter and much lighter weight than the corresponding copper cables. [03S05]

- a. Optical fiber**
- b. Metallic cables
- c. Transmission line
- d. Plastic

27. _____ is fabricated from glass or some times a plastic polymer, acts as electrical insulators. [03S06]

- a. Optical fibers**
- b. Transmission line
- c. Transistor
- d. Diode

28. Optical fibers from a dielectric wave guide and are there fore free from _____ [03S07]

- a. Steady state
- b. Hysteresis
- c. Losses
- d. Electro magnetic interference**

29. The fiber cable is not susceptible to _____ if used over head rather than underground [03S08]

- a. Rain
- b. Sunlight
- c. Lightning strikes**
- d. Air twisters

30. Unlike communication using electrical conductors, _____ is negligible, even when many fibers are cabled together [03S09]

- a. Cross-talk**
- b. Loss
- c. Heat loss
- d. Gain

31. Light always travels more slowly in a material than in a vacuum, so the refractive index is always _____ in the optical part of the spectrum [04D01]

- a. Less than 1
- b. Greater than 1**
- c. Zero
- d. Infinite

32. Optical sources fabricated from gallium aluminum arsenide alloys operate in _____ wave length band [04M01]

- a. 0.6 to 2.5 μm
- b. 0.8 to 0.9 μm**
- c. 1 to 2 μm
- d. 10 to 20 μm

33. Fiber optic communication systems transmit near _____ light invisible to the human eye [04M02]

- a. Normal
- b. Infrared**
- c. Alpha - Ray
- d. Beta - Ray

34. To consider the propagation of light with in a optical fiber utilizing the ray theory model it is necessary to take account of the _____ of the electric medium [04S01]

- a. Refractive index**
- b. Reflection
- c. Strength
- d. Type

35. The refractive index of a medium is defined as the ratio of the velocity of light in a _____ to the velocity of light in the medium [04S02]

- a. Air
- b. Vacuum**
- c. Liquid
- d. Conductor

36. When a ray is incident on the interface between two dielectrics of differing refractive indices _____ occurs [04S03]

- a. Refraction**
- b. Glow
- c. Light
- d. Propagation

37. _____ law of refraction states that $n_1 \sin \theta = n_2 \sin \theta'$ [04S04]

- a. Snell's**
- b. Gangetz
- c. Mill man
- d. Fredrick

38. The value of critical angle is given by _____ [04S05]

39. Refraction occurs when light passes through a surface where the _____ changes [04S06]

- a. Reflection
- b. Incidence
- c. Reflected
- d. Refractive index**

40. If the light passes from air to glass, it is _____ [04S07]

- a. Reflected
- b. Refracted**
- c. Absorbed
- d. Scattered

41. In order to calculate the acceptance angle for a skew ray it is necessary to define the direction of the ray in _____ planes [05D01]

- a. Two perpendicular**
- b. Similar
- c. Non-planar
- d. Two parallel

42. The skew rays follow _____ path through the fiber [05M01]

- a. Circular
- b. Straight
- c. Diagonal
- d. Helical**

43. Skew rays normally tend to have a smoothing effect on the distribution of the light so as to give _____ [05M02]

- a. Poor output
- b. Uniform output**
- c. Less reflections
- d. Less light

44. The number of modes a fiber can transmit depends on its numerical aperture, _____ and wavelength [05M03]

- a. Core radius
- b. Core
- c. Type of material
- d. Core diameter**

45. _____ category of rays are transmitted with out passing through the fiber axis [05S01]

- a. Meridional rays
- b. Skew rays**
- c. Infrared rays
- d. Light ray

46. _____ rays from the fiber in air will depend up on the number of reflections they undergo rather than the input conditions to the fiber [05S02]

- a. Circular
- b. Straight
- c. Skew**
- d. Meridian

47. _____ fiber core has a refractive index slightly higher than the cladding material, confining the light by total internal reflection to the core [05S03]

- a. Step index multimode**
- b. Graded index
- c. Index
- d. Multimode

48. The step index multi mode fibers collect light easily but have a limited _____ [05S04]

- a. Gain
- b. Band width**
- c. Output
- d. Efficiency

49. _____ term indicates that light can travel in many modes through fibers [05S05]

- a. Single mode
- b. Multimode**
- c. No mode
- d. Double mode

50. Dispersion and _____ depend on the fibers internal characteristics and its length [05S06]

- a. Light
- b. Band width**
- c. Core
- d. Limits

51. Light is guided in multi mode graded-index fibers by [06D01]

- a. Total internal reflection
- b. Mode confinement in the cladding
- c. Refraction in the region where the core refractive index changes**
- d. The optics that couple light in to the fiber

52. How many modes would a step index fiber with a core 100m in diameter and a numerical aperture of 0.29 transmit at 850 nm? [06M01]

- a. 1
- b. 2
- c. 50
- d. 1000**

53. What diameter are the cores of multimode step-index fiber? [06M02]

- a. 10 μm
- b. 15 μm
- c. 20 μm
- d. 100 μm**

54. Which of the following is not true for plastic fibers? [06S01]

- a. They have lowest loss at visible wave lengths
- b. Both single mode and multimode forms are available**
- c. They are more flexible than glass optic fibers
- d. They have much higher attenuation than glass fibers

55. Modal dispersion is highest in which type of fiber? [06S02]

- a. Step - index multi mode**
- b. Graded - index multi mode
- c. Step - index single mode
- d. Graded - index single mode

56. Which of the following will not reduce the number of modes that an optical fiber can carry? [06S03]

- a. Reducing core diameter
- b. Reducing numerical aperture
- c. Increasing wave length
- d. Reducing attenuation**

57. If a fiber has numerical aperture of 0.1, what must its core diameter be less than for it to transmit only a single mode at 1.3 μm wave length? [06S04]

- a. 1.55 μm
- b. 6.5 μm
- c. 10 μm**
- d. 50 μm

58. What makes dispersion zero at 1300nm in step-index single-mode fibers? [06S05]

- a. Wave guide and material dispersion cancel each other out**
- b. Chromatic dispersion cancels out modal dispersion
- c. Waveguide dispersion equals the sum of material and modal dispersion
- d. Dispersion is zero in all single-mode fibers

59. Which of the following is needed for high-speed transmission at 1550nm? [06S06]

- a. Special fibers with zero dispersion at that wave length**
- b. New technology to produce fibers with lower attenuation at 1550nm
- c. Length of the fiber should be high
- d. Data should be big

60. Band widths of multimode graded-index fibers are [06S07]

- a. 20-100 MHz-Km
- b. 100-1000 MHz-Km**
- c. 1-10 GHz-Km
- d. Over10 GHz-Km

61. The light from optical fibers does not radiate significantly and there fore they provide a high degree of _____ [07D01]

- a. Losses
- b. Signal security**
- c. Direction
- d. Magnitude

62. The most common step-index multimode fiber has _____ core and a _____ cladding [07D02]

- a. 100 μm ; 140 μm**
- b. 60 μm ; 6 μm
- c. 100 μm ; 10 μm
- d. 600 μm ; 60 μm

63. In practical designs of single mode fibers ,the core cladding index difference varies between _____ and _____ percent [07M01]

- a. 0.2, 1.0**
- b. 0.8, 3.0
- c. 0.6, 1.8
- d. 0.2, 10

64. The fundamental parameter of a single mode fiber is _____ [07M02]

- a. Mode length
- b. Mode field diameter**
- c. Gaussian

d. Wavelengths

65. What are the major advantages of optical fibers for long distance communications? [07M03]

- a. Small fiber size
- b. Non metallic
- c. Low losses when carrying high speed signals**
- d. Low loss only

66. _____ fibers are constructed by letting the dimensions of the core diameter be a few wavelengths (usually 8-12) and by having small index differences between the core and cladding [07S01]

- a. Single mode**
- b. Multi mode
- c. Cladding
- d. Line

67. For _____ fibers the geometric distribution of light in the propagation mode is used when predicting the performance characteristics of these fibers [07S02]

- a. Multimode
- b. Single mode**
- c. Graded index
- d. Cladded

68. An optical fiber has a core with refractive index of 1.52 and a cladding with index of 1.45. Its numerical aperture is _____ [07S03]

- a. 0.15
- b. 0.20
- c. 0.35
- d. 0.46**

69. Optical fiber attenuation can be as low as _____ [07S04]

- a. 0.1 db/km
- b. 0.2 db/km**
- c. 0.4 db/km
- d. 0.5 db/km

70. _____ can increase fiber losses by letting high order modes leaks out of the core [07S05]

- a. Cladding
- b. Wave length
- c. Bending**
- d. Core type

71. Glass composed of pure silica is referred to as _____ [08D01]

- a. Vitreous silica**
- b. Iron
- c. Glass silica
- d. Oxide

72. _____ glasses belong to a general family of halide glasses [08D02]

- a. Sulphur
- b. Aluminum
- c. Fluoride**
- d. Zinc

73. Plastic fibers are less widely used because of their substantially higher _____ than glass fibers [08M01]

- a. Strength
- b. Attenuation**

- c. Cost
- d. Gain

74. The main use of _____ fibers is in short distance applications and in abusive environments, where the greater mechanical strength is needed [08M02]

- a. Glass
- b. Transmission line
- c. Plastic**
- d. Silica

75. The principal raw material for silica is _____ [08M03]

- a. Iron
- b. Metal oxides
- c. Sand**
- d. Oxides

76. Fiber material must be transparent at a particular optical wave length in order for the filter to guide light _____ [08S01]

- a. Efficiently**
- b. Straight
- c. Parallel
- d. Zero efficient

77. Fiber materials should have slightly different _____ for the core and cladding must be available [08S02]

- a. Polarization
- b. Index
- c. Refractive indices**
- d. Levels

78. The majority of fibers made of glass consist of _____ [08S03]

- a. Sulphur
- b. Silica**
- c. Oxide
- d. Heavy oxide

79. _____ is made by fusing mixtures of metal oxides, sulfides or selenides [08S04]

- a. Plastic
- b. Glass**
- c. Halide
- d. Dopants

80. Cladding must have _____ index than the core [08S05]

- a. Lower**
- b. Higher
- c. Zero
- d. Infinite

81. Attenuation owing to radiate effects originates from _____ [09D01]

- a. Material
- b. Attenuation
- c. Light signal
- d. Perturbations**

82. Attenuation coefficient is usually denoted by _____ [09D02]

- a. Decibels
- b. Decibels per kilometer**
- c. Kilometers
- d. Pressure

83. Absorption is related to the _____ [09M01]

- a. Fiber material**
- b. Attenuation
- c. Scattering
- d. Light signal

84. _____ is associated both with the fiber material and with the structural imperfections in the optical wave guide [09M02]

- a. Material
- b. Attenuation
- c. Scattering**
- d. Light signal

85. As a light travels along a fiber, its power decreases _____ with distance [09M03]

- a. Linearly
- b. Exponentially**
- c. In step
- d. Non linearly

86. _____ is also known as fiber loss (or) signal loss [09S01]

- a. Signal attenuation**
- b. Signal
- c. Pulses
- d. Overlap

87. The _____ mechanisms in a fiber cause optical signal pulses to broaden as they travel along a fiber [09S02]

- a. Propagates
- b. Dielectric
- c. Distortion**
- d. Over lap

88. The signal distortion mechanisms thus limit the _____ of a fiber [09S03]

- a. Information carrying capacity**
- b. Light
- c. Pulses
- d. Cost

89. _____ plays a major role in determining the maximum transmission distance between a transmitter and a receiver. [09S04]

- a. Absorption
- b. Attenuation**
- c. Scattering
- d. Imperfections

90. The attenuation coefficient parameter is generally referred to as _____ [09S05]

- a. Fiber loss**
- b. Light loss
- c. Wave length
- d. Optical signal

91. _____ losses is minimized by extruding a compressible Jacket over the fiber [10D01]

- a. Bending
- b. Micro bending**
- c. Random
- d. Macro bending

92. _____ losses occur either because of electronic transistors between the

energy levels associated with the incompletely filled inner sub shell of these ions or because of charges transistors from one ion to another [10M01]

- a. Impurity absorption
- b. Attenuation
- c. Intrinsic
- d. Dominant

93. _____ losses in glass arise from microscopic variations in the material density, from compositional fluctuations, and from structural in homogeneities or defects occurring during fiber manufacture [10M02]

- a. Absorption
- b. Scattering
- c. Energy
- d. Bending

94. _____ is caused by atomic defects in the glass composition [10S01]

- a. Absorption
- b. Attenuation
- c. Scattering
- d. Bend losses

95. The higher the radiation level, the larger the _____ [10S02]

- a. Absorption
- b. Attenuation
- c. Scattering
- d. Bend losses

96. _____ absorption is associated with the basic fiber material [10S03]

- a. Extrinsic
- b. Intrinsic
- c. Dominant
- d. Scattering

97. _____ occurs when photon interacts with an electron in the valence band and excites it to a higher energy level [10S04]

- a. Absorption
- b. Scattering
- c. Energy
- d. Light

98. The losses of multimode fibers are generally _____ than those of single mode Fibers [10S05]

- a. Lesser
- b. Higher
- c. Scattered
- d. structural

99. _____ losses occur whenever on optical fiber undergoes a bend of finite radius of curvature [10S06]

- a. Absorption
- b. Micro bending
- c. Random
- d. Macro bending

100. A compressible jacket extruded over a fiber reduces micro bending resulting from _____ forces [10S07]

- a. Internal
- b. External
- c. Linear
- d. Parallel

101. Material dispersion which arises from the variation of the refractive index of the core material as function of _____ [11D01]

- a. Length
- b. Wave Length
- c. Spreading
- d. Path

102. The measure of the information Capacity of an optical wave guide is usually specified by the _____ product [11M01]

- a. Band width-distance
- b. Band width-acceptance
- c. light-refractive index
- d. Band width-radius

103. For a step index fiber the various distortion effects tend to limit the bandwidth distance product to about _____ MHz.Km [11M02]

- a. 8
- b. 10
- c. 15
- d. 20

104. The effect of _____ dispersion on pulse spreading can be approximated by assuming that the refractive index of the material is independent of wave length [11M03]

- a. Material
- b. Wave guide
- c. Polarization mode
- d. Inter modal

105. _____ properties determine the limit of the information Capacity of the fiber [11S01]

- a. Attenuation
- b. Absorption
- c. Dispersive
- d. Bending

106. In graded index fibers the various distortion effects tend to limit the band width - distance product to about _____ GHz .km [11S02]

- a. 2.5
- b. 10
- c. 15
- d. 20

107. The _____ can be determined by examining the deformation of short light pulses Propagating along the fiber [11S03]

- a. Information carrying Capacity
- b. Distortion
- c. Band width
- d. Absorption

108. _____ refers to the electric field Orientation of a light signal, which can vary significantly along the length of a fiber [11S04]

- a. dispersion
- b. distortion
- c. polarization
- d. absorption

109. Material dispersion occurs because the index of refraction varies as a function of the optical _____ [11S05]

- a. Wave length
- b. Distortion
- c. Dispersion
- d. Abruption

110. The amount of wave guide dispersion depends on the _____ [11S06]

- a. Fiber design
- b. Scattering
- c. Absorption
- d. Spreading

111. Intra modal dispersion depends primarily on _____ [12M01]

- a. Fiber materials
- b. Light
- c. Color of light
- d. Nano materials

112. Intra modal dispersion is also called as _____ dispersion [12S01]

- a. Chromatic
- b. Modal
- c. Inter modal
- d. Non-chromatic

113. _____ Dispersion occurs in all types of fibers [12S02]

- a. Intra modal
- b. Inter modal
- c. Non chromatic
- d. Modal

114. Inter modal dispersion occurs in _____ fibers [12S03]

- a. Intra modal
- b. Multimode
- c. Single mode
- d. Step index

115. Each type of dispersion mechanism leads to _____ so that the energy is overlapped [12S04]

- a. Dispersion
- b. Chromatic
- c. Light
- d. Pulse spreading

116. The spreading of the optical pulse as it travels along the fiber limits the _____ of the fiber [12S05]

- a. Light
- b. Chromatic
- c. Spreading
- d. Information capacity

117. Material dispersion comes under what type of dispersion [12S06]

- a. Intra modal
- b. Inter modal
- c. Pulse broadening
- d. Dispersion

118. _____ dispersion occurs because different colors of light travel through different materials and different wave guide structures at different speeds [12S07]

- a. Inter modal
- b. Intra modal
- c. Pulse
- d. Wave

119. _____ dispersion occurs because the spreading of a light pulse is dependent on the wavelength interaction with the refractive index of the fiber core [12S08]

- a. Material
- b. Pulse
- c. Wave
- d. Polarization mode

120. Different wave lengths travel at _____ speeds in the fiber material [12S09]

- a. Same
- b. 100 rpm
- c. 1500 rpm
- d. Different

121. _____ dispersion occurs because the mode propagation constant, is a function of the size of the fibers core relative to the wave length of operation [13M01]

- a. Material
- b. Polarized
- c. Wave guide
- d. Pulse

122. _____ dispersion occurs because each mode travels a different distance over the same time span [13M02]

- a. Material
- b. Wave guide
- c. Inter modal
- d. Intra modal

123. If the length of the fiber increases _____ dispersion increases [13M03]

- a. Material
- b. Wave guide
- c. Inter modal
- d. Intra modal

124. _____ dispersion is a function of the source spectral width [13S01]

- a. Material
- b. Wave guide
- c. Polarization
- d. Pulse

125. _____ dispersion is a function of the source spectral width [13S02]

- a. Material
- b. Wave guide
- c. Polarization
- d. Pulse

126. Material dispersion is less at _____ wave lengths [13S03]

- a. Shorter
- b. Medium
- c. Zero
- d. Longer

127. _____ dispersion occurs because light propagates differently in the core than in the cladding [13S04]

a. Wave guide

- b. Polarized
- c. Inter modal
- d. Material

128. In multi mode fibers, _____ dispersion is usually neglected [13S05]

- a. Material
- b. Wave guide**
- c. Inter modal
- d. Pulse

129. _____ dispersion is the dominant source of dispersion in multimode fibers [13S06]

- a. Material
- b. Wave guide
- c. Intra modal
- d. Inter modal**

130. _____ dispersion does not occur in single mode fibers [13S07]

- a. Inter modal**
- b. Intra modal
- c. Wave guide
- d. Material

131. Mechanical transfer registered jack connector is normally used in _____ connections [14D01]

- a. Data com
- b. Snap
- c. Duplex multi mode**
- d. Wall outlets

132. Optical fibers may be connected to each other by connector and on by _____ [14M01]

- a. Pasting
- b. Splicing**
- c. Joint
- d. Screwing

133. Straight tip connector is used in _____ applications [14M02]

- a. Wall outlets
- b. Data com
- c. Multimode networks**
- d. Digital audio

134. _____ terminates the end of an optical fiber, and enables quicker connection and disconnection than splicing [14S01]

- a. Optical fiber connector**
- b. Joint
- c. Terminal
- d. Attachment

135. The connectors mechanically couple and align the cores of fibers so that _____ can pass [14S02]

- a. Water
- b. Light**
- c. Current
- d. Nothing

136. The main differences among types of connectors are _____ and _____ methods of mechanical coupling [14S03]

- a. Dimensions**
- b. Small

- c. Very large
- d. Flexible

137. Ferrule connector is _____ coupling type [14S04]

- a. Switch
- b. Screw**
- c. Fixed
- d. Parted

138. Ferrule connectors are used in _____ lasers [14S05]

- a. Multimode
- b. Step index
- c. Single mode**
- d. Double mode

139. Standard connector is used in _____ applications [14S06]

- a. Wall outlets
- b. Data com**
- c. Snap connections
- d. Miniature

140. Local connector is normally used in _____ [14S07]

- a. High density connections**
- b. Data com
- c. Multimode networks
- d. Digital audio

141. The magnitude of the partial reflection of the light transmitted through the interface can be given by using _____ formulae [15D01]

- a. Fresnel**
- b. Faraday
- c. Smith
- d. Fredrick

142. The generally accepted splicing method is _____ [15M01]

- a. Arc fusion**
- b. Mechanical
- c. Glue type
- d. Bolts

143. For high fiber count applications, the most suitable method is _____ [15M02]

- a. Mass splicing**
- b. Mechanical splicing
- c. Glue type
- d. Bolts

144. Splices are _____ connections between two fibers [15S01]

- a. Temporary
- b. Permanent**
- c. Parting
- d. Over lap

145. Two techniques of splicing are fusion and _____ [15S02]

- a. Mechanical**
- b. Spreading
- c. Connective
- d. Artificial

146. Fusion splices are made by welding the two fibers together usually by an _____ [15S03]

- a. Mechanical

- b. Parting
- c. Electric arc**
- d. Over lapping

147. _____ splices are alignment gadgets that hold the ends of two fibers together with some index matching get on glue between them [15S04]

- a. Fusion
- b. Mechanical**
- c. Permanent
- d. Temporarily

148. _____ fiber splices are designed to be quicker and easier to install [15S05]

- a. Mechanical**
- b. Arc fusion
- c. Bolts
- d. Screwing

149.The chief advantage of mass splicing is _____ [15S06]

- a. High cost
- b. Speed**
- c. Losses
- d. Low cost

150. _____ is semi Permanent (or) permanent joints which find major use in most fiber telecommunication system [15S07]

- a. Fiber splices**
- b. Plugs
- c. Sockets
- d. Connectors

151.Any deviations in the geometrical and optical parameters of the two optical fibers which core jointed will affect the _____ through the connection [16M01]

- a. Gain
- b. Optical attenuation**
- c. Technique
- d. Data loss

152.Optical losses resulting from longitudinal. Lateral and angular misalignment depends upon _____, _____ and the distribution of the optical power between the propagating modes [16M02]

- a. Fiber type, core diameter**
- b. Fiber type, length
- c. Gain, amplification
- d. Length, radius

153.A permanent joint formed between two individual optical fibers in the field is known as a _____ fiber [16M03]

- a. Fiber cutting
- b. Fiber splicing**
- c. Attachment
- d. Joint

154.The effect of fresnel reflection at a fiber fiber connection can be reduced to a very low level through the use of a _____ fluid in the gap between the joined fibers [16S01]

- a. Color
- b. Index Un matching

- c. Index matching**
- d. Gel type

155.A potentially greater source of loss at a fiber- fiber connection is caused by _____ of the two jointed fibers [16S02]

- a. Misalignment**
- b. Gel
- c. Index matching
- d. Color

156.The mis alignment because of separation between the fibers is called as _____ misalignment [16S03]

- a. Lateral
- b. Angular
- c. Longitudinal**
- d. Fault

157.The misalignment because of the offset perpendicular to the fiber core axes is called as _____ misaligned [16S04]

- a. Lateral**
- b. Angular
- c. Longitudinal
- d. Fault

158.The misalignment because of the angle between the core axes is called as _____ misalignment [16S05]

- a. Lateral
- b. Angular**
- c. Longitudinal
- d. Fault

159.The lateral misalignment give _____ losses per unit displacement than the longitudinal misalignment [16S06]

- a. Less
- b. Greater**
- c. Equal
- d. No

160._____ misalignment reduces the over lap region between the two fiber cores [16S07]

- a. Lateral**
- b. Longitudinal
- c. Angular
- d. Equal

161.For Commercially available fiber connectors the range of insertion losses is _____ [17D01]

- a. 8 to 100 dB
- b. 0.2 to 3 dB**
- c. 10 to 30 dB
- d. 15 to 100 Db

162.The average loss obtained using ferrule connectors with multimode graded index fiber is _____ [17D02]

- a. 10 dB
- 17
- b. 0.22 dB**
- c. 1 dB
- d. 25 dB

163.Double eccentric connector will exhibit the insertion losses of _____ dB [17M01]

- a. 10

- b. 20
- c. 0.48**
- d. 0

164.The use of an _____ material in the connector between the two jointed fibers can assist the connector by increasing the light transmission and avoiding dust and dirt between the fibers [17S01]

- a. Index matching**
- b. Gel
- c. Splicing
- d. Joint

165._____ Connectors rely up on alignment of the two prepared fiber ends in close proximity to each other so that the fiber core axes coincide [17S02]

- a. Butt jointed**
- b. Expanded beam
- c. Splicing
- d. Gel

166._____ Connectors utilize interposed optics at the joint in order to expand the beam from the transmitting fiber end before reducing it again to a size compatible with the receiving fiber end [17S03]

- a. Butt jointed
- b. Expanded beam**
- c. Splicing
- d. Gel

167.In cylindrical ferrule connectors _____ materials are used [17S04]

- a. Glass
- b. Ceramic**
- c. Ash
- d. Gel

168.The duplex fiber connector are used in _____ Communication [17S05]

- a. one side
- b. two way**
- c. receiving
- d. sending

169._____ Connectors are useful for mortifier connection and edge connector for printed circuit boards [17S06]

- a. Duplex fiber
- b. Ferrule
- c. Expanded beam**
- d. Duplex fiber

170._____ connector employs a moulded spherical lens [17S07]

- a. Duplex fiber
- b. Expanded beam**
- c. Ferrule
- d. Duplex fiber

171.The optical output from LED is _____ [18M01]

- a. Coherent
- b. Incoherent**
- c. Less
- d. High

172.The output from the laser diode is _____ [18M02]

- a. Coherent**
- b. Incoherent

- c. Less
- d. High

173.The principal light sources used for fiber optic communications applications are _____ [18S01]

- a. ILD's and LED's**
- b. Transistors
- c. BJT's
- d. Diodes

174.Hetero junction-structured semiconductor laser diodes are also referred to as _____ diodes [18S02]

- a. Injection laser**
- b. Forward bias
- c. Reverse bias
- d. Level setting

175.A _____ consists of two adjoining semiconductor materials with different band gap-energizer [18S03]

- a. Homo junction
- b. Hetero junction**
- c. Break down junction
- d. Small junction

176.A hetero junction semiconductor laser diodes are best suitable for fiber transmission systems because of _____ [18S04]

- a. High power O/P**
- b. High I/P
- c. Low power O/P
- d. Low efficiency

177.In _____ source, the optical energy is produced in an optical resonant cavity [18S05]

- a. Coherent**
- b. Incoherent
- c. Light
- d. Laser

178.In an incoherent LED source, no optical cavity exists for _____ selectivity [18S06]

- a. Gain
- b. Light
- c. Wave length**
- d. Source

179._____ are generally used with multimode fibers [18S07]

- a. ILD's
- b. LED's**
- c. Transistor
- d. FET

180._____ are employed in high-speed local area applications to transmit several wave lengths on the same fiber [18S08]

- a. ILD's
- b. LED's**
- c. Transistor
- d. FET

181.The isotropic patterns from a surface emitter is called a _____ pattern [19D01]

- a. Surface
- b. Lambert ion**
- c. Circular
- d. Edge

182. The two basic LED configurations used in fiber optics are _____ and ____ [19M01]

- a. LED-1 LED-2
- b. ILD, LED
- c. Surface emitters, edge emitters**
- d. LED, transistors

183. In Lambert ion pattern, the source is equally bright when viewed from any direction, but the power diminishes as _____ [19M02]

- a. Sin
- b. Tan
- c. Sec
- d. Cos**

184. The _____ in the active region is the fraction of the electron-hole pairs that recombine radiatively [19M03]

- a. Internal quantum efficiency**
- b. External quantum efficiency
- c. Intrinsic efficiency
- d. External efficiency

185. For fiber transmission applications LED's must have _____ efficiency [19S01]

- a. High quantum**
- b. Less
- c. Good
- d. Electron

186. In _____ emitter, the plane of the active light emitting region is oriented perpendicularly to the axis of the fiber [19S02]

- a. Surface**
- b. Edge
- c. Transistor
- d. FET

187. The _____ emitter consists of an active junction region, which is the source of the incoherent light, and two guiding layers [19S03]

- a. Surface
- b. Edge**
- c. Fet
- d. Circular

188. The external quantum efficiency is defined as the ratio of the photons emitted from the LED to the number of internally generated _____ [19S04]

- a. Electrons
- b. Protons
- c. Photons**
- d. Neutrons

189. For optical fiber systems the laser sources used are _____ [19S05]

- a. Semiconductor laser diodes**
- b. Photons
- c. Transistors
- d. Zener diodes

190. Laser action is the result of 3 key processes; photon absorption, spontaneous emission and ____ [19S06]

- a. Radiation
- b. Stimulated emission**
- c. Transistor
- d. Inversion

191. What is the power source for erbium- doped fiber amplifiers [20D01]

- a. Electric current passing through the fiber
- b. They require no power
- c. Diode lasers emitting at 980 or 1480 nm**
- d. Power is drawn from the optical signal

192. How can erbium doped fibers be made into lasers? [20D02]

- a. They cannot be made into lasers
- b. By adding mirrors to form a resonant cavity**
- c. By adding pump lasers
- d. By adding external modulators

193. Laser light is produced by [20M01]

- a. Stimulated emission**
- b. Spontaneous emission
- c. Black magic
- d. Electricity

194. The spectral width of a semiconductor laser is about [20M02]

- a. 2 nm**
- b. 30 nm
- c. 40 nm
- d. 850 nm

195. The _____ efficiency is defined as the number of photons emitted per radiative electron _ hole pair recombination above threshold [20S01]

- a. External differential quantum**
- b. Overall
- c. Internal differential quantum
- d. Electron density

196. In _____ wave guide, the central region has a higher refractive index than the outer regions [20S02]

- a. Negative index
- b. Positive index**
- c. Stable index
- d. Unstable index

197. In _____ wave guide, the central region of the active layer has a lower refractive index than the outer region [20S03]

- a. Negative index**
- b. Positive index
- c. Stable index
- d. Unstable index

198. The process of imposing information on a light stream is called _____ [20S04]

- a. Demodulation
- b. Multiplexing
- c. De-multiplexing
- d. Modulation**

199. _____ modulation is needed for high speed systems to minimize undesirable non linear effects [20S05]

- a. Internal
- b. External**
- c. Multiplex
- d. PWM

200. Light emission from an LED is modulated by [20S06]

- a. Voltage applied across the diode
- b. Current passing through the diode**
- c. Illumination of the diode
- d. Light of another source