Q1. The band of light wavelengths that are too long to be seen by the human eye
Answer: Infrared
Q2. The term power budgeting in optical fiber communication refers to
Answer: the total power available minus the attenuation losses
Q3. Which of the following cables will have the highest launch power capability?
Answer: 100/140/0.3
Q4. EMD is best described by which statement?
Answer: 70 percent of the core diameter and 70% of the fiber NA should be filled with light
Q5. The mechanical splice is best suited for
Answer: field service conditions
Q6. Loss comparisons between fusion splices and mechanical splices are
Answer: 01:10:00
Q7. What is responsivity of a light detector
Answer: the ratio of the diode output current to optical input power
Q8. When connector losses, splice losses, and coupler losses are added, what is the final limiting factor?
Answer: Detector sensitivity
Q9. As light is coupled in a multipoint reflective device, the power is reduced by
Answer: 0.5 dB
Q10. The three major groups in the optical system are
Answer: the source, the link, and the detector
Q11. The higher the index number
Answer: the higher the speed of light
Q12. The terms single mode and multimode are
Answer: the number of wavelengths each fiber can support
Q13. What is reflective index number
Answer: a number which compares the transparency of a material with that of air
Q14. The cladding which surrounds the fiber core
Answer: acts to help guide the light in the core
Q15. The term critical angle describes
Answer: the point at which light has gone from the refractive mode to the reflective mode
Q16. Which of the following terms describes the reason that light is refracted at different angles?
Answer: The angle is determined by the index of the materials
Q17. The term dispersion describes the process of
Answer: separating light into its component frequencies
Q18. An incident ray can be defined as
Answer: a light ray directed toward a surface
Q19. A single fiber can handle as many voice channel as a
Answer: 1500-pair cable
Q20. Approximately what is the frequency limit of the optical fiber?
Answer: 40 GHz

1. Fiber optics was invented by ..... Thomas Mensah
2. Fiber optic cable operate at frequencies near --800 THz
3. Which is the most beneficial index profile in single mode fibers? -- Graded index
4. Which of the following statistics are used for calculations of strengths of optical fibers? Wei-bull statistics
1. Multimode step index fiber has _____
a) Large core diameter & large numerical aperture
2. A typically structured glass multimode step index fiber shows as variation of attenuation in range of _____
c) 2.6 to 50 dB km^{-1} at wavelength 0.85µm
3. Multimode step index fiber has a large core diameter of range is _____
a) 100 to 300 µm
4. Multimode step index fibers have a bandwidth of _____
b) 6 to 50 MHz km
5. Multimode graded index fibers are manufactured from materials with _____
b) Higher purity than multimode step index fibers.
6. The performance characteristics of multimode graded index fibers are _____
a) Better than multimode step index fibers
7. Multimode graded index fibers have overall buffer jackets same as multimode step index fibers but have core diameters _____
b) Smaller than multimode step index fibers
8. Multimode graded index fibers with wavelength of 0.85µm have numerical aperture of 0.29 have core/cladding diameter of _____
b) 100 µm/140 µm
9. Multimode graded index fibers use incoherent source only.
b) False
10. In single mode fibers, which is the most beneficial index profile?
b) Graded index
11. The fibers mostly not used nowadays for optical fiber communication system are _____
a) Single mode fibers
12. Single mode fibers allow single mode propagation; the cladding diameter must be at least _____
d) Ten times the core diameter
13. A fiber which is referred as non-dispersive shifted fiber is?
b) Standard single mode fibers
14. Standard single mode fibers (SSMF) are utilized mainly for operation in _____
c) O-band
15. Fiber mostly suited in single-wavelength transmission in O-band is?
b) Standard single mode fibers
1. An optical fiber has core-index of 1.480 and a cladding index of 1.478. What should be the core size for single mode operation at 1310nm?
d) 6.50µm
2. An optical fiber has a core radius 2µm and a numerical aperture of 0.1. Will this fiber operate at single mode at 600 nm?
a) Yes
3. What is needed to predict the performance characteristics of single mode fibers?
b) Geometric distribution of light in a propagating mode
4. Which equation is used to calculate MFD?
b) Peterman equations
5. A single mode fiber has mode field diameter 10.2µm and V=2.20. What is the core diameter of this fiber?
d) 10.1µm
6. The difference between the modes' refractive indices is called as _____
c) Fiber birefringence
7. A single mode fiber has a beat length of 4cm at 1200nm. What is birefringence?
c) $3*10^{-5}$
8. How many propagation modes are present in single mode fibers?
b) Two
9. Numerical aperture is constant in case of step index fiber.
a) True
10. Plastic fibers are less widely used than glass fibers.
a) True