**Q1. The band of light wavelengths that are too long to be seen by the human eye**  
(A) Infrared  
(B) Amber  
(C) Visible  
(D) Ultraviolet

**Answer:** Infrared

**Explanation:**

**Q2. The term power budgeting in optical fiber communication refers to**  
(A) the cost of cables, connectors, equipment, and installation  
(B) the loss of power due to defective components  
(C) the total power available minus the attenuation losses  
(D) the comparative costs of fiber and copper installations

**Answer:** the total power available minus the attenuation losses

**Explanation:**

**Q3. Which of the following cables will have the highest launch power capability?**  
(A) 50/125/0.2  
(B) 85/125/0.275  
(C) 62.5/125/0.275  
(D) 100/140/0.3

**Answer:** 100/140/0.3

**Explanation:**

**Q4. EMD is best described by which statement?**  
(A) 70 percent of the core diameter and 70% of the fiber NA should be filled with light  
(B) 70 percent of the fiber diameter and 70% of the cone of acceptance should be filled with light  
(C) 50 percent of input light should be measured at the output  
(D) 70 percent of the unwanted wavelengths should be attenuated by the fiber

**Answer:** 70 percent of the core diameter and 70% of the fiber NA should be filled with light

**Explanation:**

**Q5. The mechanical splice is best suited for**  
(A) quicker installation under ideal conditions  
(B) minimum attenuation losses  
(C) field service conditions  
(D) situations in which cost of equipment is not a factor

**Answer:** field service conditions

**Explanation:**

**Q6. Loss comparisons between fusion splices and mechanical splices are**  
(A) 01:10:00  
(B) 10:01:00  
(C) 05:01:00  
(D) 01:05:00

**Answer:** 01:10:00

**Q7. What is responsivity of a light detector**   
(A) the time required for the signal to go from 10 to 90 percent of maximum amplitude  
(B) the ratio of the diode output current to optical input power  
(C) the ratio of output current to output power  
(D) the ratio of output current to input current

**Answer:** the ratio of the diode output current to optical input power

**Explanation:**

**Q8. When connector losses, splice losses, and coupler losses are added, what is the final limiting factor?**  
(A) Source power  
(B) Fiber attenuation  
(C) Connector and splice losses  
(D) Detector sensitivity

**Answer:** Detector sensitivity

**Explanation:**

**Q9. As light is coupled in a multipoint reflective device, the power is reduced by**  
(A) 1.5 dB  
(B) 0.1 dB  
(C) 0.5 dB  
(D) 0.001 dB

**Answer:** 0.5 dB

**Explanation:**

**Q10. The three major groups in the optical system are**  
(A) the components, the data rate and response time  
(B) the source, the link, and the receiver  
(C) the transmitter, the cable, and the receiver  
(D) the source, the link, and the detector

**Answer:** the source, the link, and the detector

**Explanation:**

**Q11. The higher the index number**  
(A) the higher the speed of light  
(B) the lower the speed of light  
(C) has no effect on the speed of light  
(D) the shorter the wavelength propagation

**Answer:** the higher the speed of light

**Explanation:**

**Q12. The terms single mode and multimode are**  
(A) the number of fibers placed into a fiber-optic cable  
(B) the number of voice channels each fiber can support  
(C) the number of wavelengths each fiber can support  
(D) the index number

**Answer:** the number of wavelengths each fiber can support

**Explanation:**

**Q13. What is reflective index number**  
(A) a number which compares the transparency of a material with that of air  
(B) a number assigned by the manufacturer to the fiber in question  
(C) a number which determines the core diameter  
(D) a term for describing core elasticity

**Answer:** a number which compares the transparency of a material with that of air

**Explanation:**

**Q14. The cladding which surrounds the fiber core**  
(A) is used to reduce optical interference  
(B) is used to protect the fiber  
(C) acts to help guide the light in the core  
(D) ensures that the refractive index remains constant

**Answer:** acts to help guide the light in the core

**Explanation:**

**Q15. The term critical angle describes**  
(A) the point at which light is refracted  
(B) the point at which light becomes invisible  
(C) the point at which light has gone from the refractive mode to the reflective mode  
(D) the point at which light has crossed the boundary layers from one index to another

**Answer:** the point at which light has gone from the refractive mode to the reflective mode

**Explanation:**

**Q16. Which of the following terms describes the reason that light is refracted at different angles?**  
(A) Photon energy changes with wavelength  
(B) Light is refracted as a function of surface smoothness  
(C) The angle is determined partly by a and b  
(D) The angle is determined by the index of the materials

**Answer:** The angle is determined by the index of the materials

**Q17. The term dispersion describes the process of**  
(A) separating light into its component frequencies  
(B) reflecting light from a smooth surface  
(C) the process by which light is absorbed by an uneven rough surface  
(D) light scattering

**Answer:** separating light into its component frequencies

**Explanation:**

**Q18. An incident ray can be defined as**  
(A) a light ray reflected from a flat surface  
(B) a light ray directed toward a surface  
(C) a diffused light ray  
(D) a light ray that happens periodically

**Answer:** a light ray directed toward a surface

**Explanation:**

**Q19. A single fiber can handle as many voice channel as a**  
(A) pair of copper conductors  
(B) 1500-pair cable  
(C) 500-pair cable  
(D) 1000-pair cable

**Answer:** 1500-pair cable

**Explanation:**

**Q20. Approximately what is the frequency limit of the optical fiber?**  
(A) 20 MHz  
(B) 1 MHz  
(C) 100 MHz  
(D) 40 GHz

**Answer:** 40 GHz

**[1. Fiber optics was invented by .........](https://www.onlineinterviewquestions.com/fiber-optics-mcq/" \l "collapseUnfiled1)**

* Thomas Mensah
* Thomas Edison
* John Henry Holmes
* None of the above

Thomas Mensah

**[2. Fiber optic cable operate at frequencies near](https://www.onlineinterviewquestions.com/fiber-optics-mcq/" \l "collapseUnfiled2)**

* 2 GHz
* 20 MHz
* 200 MHz
* 800 THz

[View Answer](https://www.onlineinterviewquestions.com/fiber-optics-mcq/)

800 THz

**[3. Which is the most beneficial index profile in single mode fibers?](https://www.onlineinterviewquestions.com/fiber-optics-mcq/" \l "collapseUnfiled3)**

* Step index
* Coaxial cable
* Graded index
* Step and graded index

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Graded index

**[4. Which of the following statistics are used for calculations of strengths of optical fibers?](https://www.onlineinterviewquestions.com/fiber-optics-mcq/" \l "collapseUnfiled4)**

* Edwin statistics
* Gamma statistics
* Newton statistics
* Wei-bull statistics

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Wei-bull statistics

1. Multimode step index fiber has \_\_\_\_\_\_\_\_\_\_\_  
a) Large core diameter & large numerical aperture  
b) Large core diameter and small numerical aperture  
c) Small core diameter and large numerical aperture  
d) Small core diameter & small numerical aperture  
View Answer

Answer: a

2. A typically structured glass multimode step index fiber shows as variation of attenuation in range of \_\_\_\_\_\_\_\_\_\_\_  
a) 1.2 to 90 dB km-1 at wavelength 0.69μm  
b) 3.2 to 30 dB km-1 at wavelength 0.59μm  
c) 2.6 to 50 dB km-1 at wavelength 0.85μm  
d) 1.6 to 60 dB km-1 at wavelength 0.90μm  
View Answer

Answer: c

3. Multimode step index fiber has a large core diameter of range is \_\_\_\_\_\_\_\_\_\_\_  
a) 100 to 300 μm  
b) 100 to 300 nm  
c) 200 to 500 μm  
d) 200 to 500 nm  
View Answer

Answer: a

4. Multimode step index fibers have a bandwidth of \_\_\_\_\_\_\_\_\_\_\_  
a) 2 to 30 MHz km  
b) 6 to 50 MHz km  
c) 10 to 40 MHz km  
d) 8 to 40 MHz km  
View Answer

Answer: b

5. Multimode graded index fibers are manufactured from materials with \_\_\_\_\_\_\_\_\_\_\_  
a) Lower purity  
b) Higher purity than multimode step index fibers.  
c) No impurity  
d) Impurity as same as multimode step index fibers.  
View Answer

Answer: b

6. The performance characteristics of multimode graded index fibers are \_\_\_\_\_\_\_\_\_\_\_  
a) Better than multimode step index fibers  
b) Same as multimode step index fibers  
c) Lesser than multimode step index fibers  
d) Negligible  
View Answer

Answer: a

7. Multimode graded index fibers have overall buffer jackets same as multimode step index fibers but have core diameters \_\_\_\_\_\_\_\_\_\_\_  
a) Larger than multimode step index fibers  
b) Smaller than multimode step index fibers  
c) Same as that of multimode step index fibers  
d) Smaller than single mode step index fibers  
View Answer

Answer: b

8. Multimode graded index fibers with wavelength of 0.85μm have numerical aperture of 0.29 have core/cladding diameter of \_\_\_\_\_\_\_\_\_\_\_  
a) 62.5 μm/125 μm  
b) 100 μm/140 μm  
c) 85 μm/125 μm  
d) 50 μm/125μm  
View Answer

Answer: b

9. Multimode graded index fibers use incoherent source only.  
a) True  
b) False  
View Answer

Answer: b

10. In single mode fibers, which is the most beneficial index profile?  
a) Step index  
b) Graded index  
c) Step and graded index  
d) Coaxial cable  
View Answer

Answer: b

11. The fibers mostly not used nowadays for optical fiber communication system are \_\_\_\_\_\_\_\_\_\_\_  
a) Single mode fibers  
b) Multimode step fibers  
c) Coaxial cables  
d) Multimode graded index fibers  
View Answer

Answer: a

12. Single mode fibers allow single mode propagation; the cladding diameter must be at least \_\_\_\_\_\_\_\_\_\_\_  
a) Twice the core diameter  
b) Thrice the core diameter  
c) Five times the core diameter  
d) Ten times the core diameter  
View Answer

Answer: d

13. A fiber which is referred as non-dispersive shifted fiber is?  
a) Coaxial cables  
b) Standard single mode fibers  
c) Standard multimode fibers  
d) Non zero dispersion shifted fibers  
View Answer

Answer: b

14. Standard single mode fibers (SSMF) are utilized mainly for operation in \_\_\_\_\_\_\_\_\_\_\_  
a) C-band  
b) L-band  
c) O-band  
d) C-band and L-band  
View Answer

Answer: c

15. Fiber mostly suited in single-wavelength transmission in O-band is?  
a) Low-water-peak non dispersion-shifted fibers  
b) Standard single mode fibers  
c) Low minimized fibers  
d) Non-zero-dispersion-shifted fibers

Answer: b

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?  
a) 7.31μm  
b) 8.71μm  
c) 5.26μm  
d) 6.50μm  
View Answer

Answer: d

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  
b) No  
View Answer

Answer: a

3. What is needed to predict the performance characteristics of single mode fibers?  
a) The intermodal delay effect  
b) Geometric distribution of light in a propagating mode  
c) Fractional power flow in the cladding of fiber  
d) Normalized frequency  
View Answer

Answer: b

4. Which equation is used to calculate MFD?  
a) Maxwell’s equations  
b) Peterman equations  
c) Allen Cahn equations  
d) Boltzmann’s equations  
View Answer

Answer: b

5. A single mode fiber has mode field diameter 10.2μm and V=2.20. What is the core diameter of this fiber?  
a) 11.1μm  
b) 13.2μm  
c) 7.6μm  
d) 10.1μm  
View Answer

Answer: d

6. The difference between the modes’ refractive indices is called as \_\_\_\_\_\_\_\_\_\_\_  
a) Polarization  
b) Cutoff  
c) Fiber birefringence  
d) Fiber splicing  
View Answer

Answer: c

7. A single mode fiber has a beat length of 4cm at 1200nm. What is birefringence?  
a) 2\*10-5  
b) 1.2\*10-5  
c) 3\*10-5  
d) 2  
View Answer

Answer: c

8. How many propagation modes are present in single mode fibers?  
a) One  
b) Two  
c) Three  
d) Five  
View Answer

Answer: b

9. Numerical aperture is constant in case of step index fiber.  
a) True  
b) False  
View Answer

Answer: a

10. Plastic fibers are less widely used than glass fibers.  
a) True  
b) False  
View Answer

Answer: a