

**1. Calculate the numerical aperture of an optical fibre whose core and cladding are made of materials of refractive indices 1.6 and 1.5 respectively.**

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**(B) 55.77**

**(C) 0.2458**

**(D) 0.647852**

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**2. A step-index fiber has a numerical aperture of 0.26, a core refractive index of 1.5 and a core diameter of 100 micrometer. Calculate the acceptance angle.**

- (A)  $1.47^\circ$**
- (B)  $15.07^\circ$**
- (C)  $2.18^\circ$**
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**3. If a light travels in a certain medium and it gets reflected off an optically denser medium with high refractive index, then it is known as,**

- a. External Reflection**
- b. Internal Reflection**
- c. Both a and b**
- d. None of the above**

**4. In an optical fiber, the concept of Numerical aperture is applicable in describing the ability of**

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- a. Light Collection**
- b. Light Scattering**
- c. Light Dispersion**
- d. Light Polarization**

**5. In an optical fiber, the light is guided through the core due to total internal \_\_\_\_\_**

- a. Reflection**
- b. Refraction**
- c. Diffraction**
- d. Dispersion**

**6. In the structure of a fiber, which component provides additional strength and prevents the fiber from any damage?**

- a. Core**
- b. Cladding**
- c. Buffer Coating**
- d. None of the above**



**7. Which kind of dispersion phenomenon gives rise to pulse spreading in single mode fibers?**

**a. Intramodal**

**b. Intermodal**

**c. Material**

**d. Group Velocity**

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**8. The core of an optical fiber has a**

- a. Lower refracted index than air**
- b. Lower refractive index than the cladding**
- c. Higher refract index than the cladding**
- d. Similar refractive index with the cladding**

**9. Dispersion is used to describe the**

- a. Splitting of white light into its component colors**
- b. Propagation of light in straight lines**
- c. Bending of a beam of light when it goes from one medium to another**
- d. Bending of a beam light when it strikes a mirror**

**10. The core of a fiber optic cable is made of**

**a. Air**

**b. Glass**

**c. Diamond**

**d. Quartz**

**11. The core of a fiber optic is surrounded by**

**a. Wire braid shield**

**b. Kevlar**

**c. Cladding**

**d. Plastic insulation**

**12. . Which type of fiber-optic cable is the best for very high-speed data transmission with minimum loss?**

- a. Single-mode step-index**
- b. Multimode step-index**
- c. Single-mode graded-index**
- d. Multimode graded-index**

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**13. The ratio of the speed of light in a vacuum and the speed of light in the material is known as,**

- a. S/N ratio**
- b. Refractive index**
- c. Intermodal dispersion ratio**
- d. Mono-mode ratio**

**14. Material dispersion is caused by the**

- a. Wavelength dependence of the index of refraction**
- b. Wavelength independence of the index of refraction**
- c. Dependence of the propagation constant on the mode number**
- d. Independence of the propagation constant on the mode number**

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**15.**

**16.**

**17.**

**18.**



















