Module 1 Unit 2

OPTICAL FIBRES - QUESTIONS

(As per Revised Curriculum SVU R-2023)

1. State advantages of using optical fibres in communications.
2. What is total internal reflection? What are its requirements?
3. Define acceptance angle, acceptance cone, internal critical angle and numerical aperture of optical fibre.
4. Derive an expression for numerical aperture of optical fibre.
5. Discuss classification of optical fibres based on different categories.
6. What are step index and graded index fibres? Draw their refractive index profile and ray propagation.
7. What do you understand by mode of propagation? What are single mode and multimode fibres? Which fibre offers minimum losses and why?
8. Differentiate between step index and graded index fibres.
9. Differentiate between single mode and multimode fibres.
10. What are skew and meridional rays? What are referred as higher order and lower order modes in fibres?
11. What is attenuation in fibres? State its different causes.
12. What is dispersion in fibres? State its different causes.
13. What is intermodal dispersion? Explain how it is eliminated in a graded index fibre.
14. What is waveguide dispersion? In which type of fibre it is significant and why?
15. What is optical window? What is its significance in communications?

==========