Question bank class 2 2025-26

1. **How would you obtain the intensity of EM waves starting from Poynting vector?**
2. **Two plane polarised waves are travelling along the same direction but having their electric field in two mutually perpendicular directions. If the phase difference between them is zero what will be the resultant if these waves are superposed?**
3. **Show that plane waves are solutions to the differential equation representing wave motion.**
4. **If the electric energy density and the magnetic energy density of an EM field is given by $\frac{1}{2}\varepsilon_0 E^2$ and $\frac{1}{2\mu_0}B^2$ respectively then what is the total energy density in terms of the electric field intensity E?**