**Question Bank 2021-2023**

**Elementary particle Physics department /General**

Q1. Explain the family members of leptons?

Q2. Explain weak and strong interaction?

Q3. What are the characteristics of good neutron detector?

Q4. Describe the construction of a linear accelerators?

Q5. Write the principle of linear accelerator?

Q6. Give the principle of linear accelerator?

Q7. Give the principle of Van de Graff accelerator?

Q8. Write the working of cyclotron ?

Q9. What is the principle of synchro-cyclotron ?

Q10. What is the principle of betatron ?

Q11. What are elementary particle?

Q12. Give an account of standard model physics of particle ?

Q13. What are bosons?

Q14. What are fermions?

Q16. Explain the family members of bosons?

Q17. Explain the family members of hyperons?

Q19. Discribe the various properties of pi mesons, including their decay modes?

Q20. The strong force is one of the fundamental interactions. What exchange particle is

associated with this force?

Q21. Show how GeV/c2 can be used as a unit of mass?

Q22. If the Higgs boson has a mass of 115 GeV/c2, find its mass in kg.

Q23. The positron is the antiparticle to the electron. What is an antiparticle?

Q24. Explain the role of neutrino hypothesis in understanding the beta ray spectrum.

Q25. Explain the properties of pi mesons.