

SECTION – II

- Q-4** **Attempt the Following questions (1 Mark *7=7)** **(07)**
- a.** List the fundamental forces. **01**
 - b.** Give the list of magic numbers. **01**
 - c.** Name the members of Meson family. **01**
 - d.** Mesons and Baryons made of how many quarks? **01**
 - e.** List the members of lepton family & what is lepton number for Baryon? **01**
 - f.** What is the value of strangeness for Kaons and nucleons? **01**
 - g.** State the CPT theorem. **01**
- Q-5** **(14)**
- Give brief description of liquid drop model and derive SEMF.
- OR**
- Q-5** **Attempt all questions**
- a** Explain mass parabola for even nuclei. **07**
 - b** Write a detailed note on fundamental forces. **07**
- Q-6** **Attempt all questions** **(14)**
- a** Write a note on mass parabola for odd nuclei. **06**
 - b** **Find Spin and parity of following nuclei.** **08**
 ^{57}Fe , ^6Li , ^{15}O , ^{40}Ca , ^{14}C , ^{14}N , ^{46}Ti , ^{64}Cu
- OR**
- Q-6** **Attempt all Questions**
- a** Write a note on quarks. **07**
 - b** Explain the classification of the elementary particles in detail. **07**

