The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note: All questions carry equal marks. Attempt any six questions.

1. Explain first and second law of thermodynamics and derive its equation. (15)

2. (a) Discuss state of matter with reference to liquid state. (10)

(b) Differentiate endothermic and exothermic reaction. (5)

3. (a) What is meant by ‘Colloids’? Discuss the classification of colloids with suitable examples. (10)

(b) Explain the zeta potential and their utility. (5)

4. (a) Discuss the factors which improves the physical stability of emulsion. (10)

(b) Define the thixotropy and draw different types of thixotropy curves. (5)

5. (a) Define adsorption isotherm. Draw various types of adsorption isotherm and explain their behaviours. (10)

(b) Difference between ideal & non-ideal solution. (5)
6. (a) Evaluation of different parameters for Ayurvedic tablets & vatics. (10)
(b) Define difference types of densities. Explain the difference among them. (5)

7. Answer briefly any five of the following:
(a) Define Azeotropic mixture.
(b) What is meant by flocculation?
(c) Define course disperson.
(d) What is meant by gell?
(e) Define catalyst.
(f) Give six examples of Ayurvedic preparations. (15)