

Duration: 3 hours**Total marks: 70**

N.B(1) Figures on the right indicate total marks.

(2) All questions are compulsory

(3) Draw the diagrams wherever necessary.

Q.1. (a) Explain the following terms (Any five)**[5]**

i) Milliequivalent ii) Dentifrice iii) Hyponatremia iv) Relative Biological Effectiveness

v) Pharmaceutical Buffer vi) Astringent

Q.1. (b) Match the following**[5]**

A	B
Potassium Chloride	Essential trace ion
Boric acid	Diagnostic agent for renal function
Zinc	Chelating agent
¹³¹ I injection	Topical Agent
Penicilamine	Electrolyte

Q.1. (c) Give pharmaceutical role of the following agents (Any five)**[5]**i) Silver nitrate, ii) Milk of Bismuth, iii) Ammonium carbonate, iv) Sodium Fluoride, v) Sodium nitrite, vi) Cyanocobalamin Co⁵⁷**Q.2. (a)** Describe the significance of pharmaceutical buffers? Explain buffer capacity and action with suitable examples. **[4]****(b)** Discuss the role of oxygen in respiratory chain. Explain various conditions arising due to inadequate supply of oxygen to body. **[4]****(c)** What are topical agents? Classify with suitable examples. **[3]****Q.3. (a)** Discuss the role of iodine and Phosphorus radioisotopes as diagnostic agents. **[4]****(b)** Depict the role of following in dental product **[4]**

i) Stannous fluoride, ii) Dicalcium phosphate, iii) Strontium chloride, iv) Zinc chloride

(c) Write a note on "Electrolyte combination therapy" with suitable examples. **[3]****OR****(c)** Discuss the role of proteins which form complexes with Fe in the body.**Q.4. (a)** What is Pharmaceutical water? Give its different types. Explain any one method to remove permanent hardness of water. **[4]****(b)** Write a note on any two of following **[4]**

i) Lubricant, ii) Diluent, iii) Suspending agent, iv) Filter aids

(c) Write a note on diagnostic and therapeutic uses of Radiopharmaceuticals. **[3]**

Q.5. (a) Write a note on Aluminium hydroxide gel and magnesium Trisilicate used in combination as antacid. [4]

(b) What are the physiological functions of potassium and phosphate? Enumerate the conditions related to their imbalances. [4]

(c) What are chelating agents? Explain the role of any one chelating agent in details. [3]

Q.6. (a) Discuss the physiological acid-base balance system in brief. [3]

(b) Give the role of hydrogen peroxide and zinc oxide [2]

(c) Write short notes on (Any three): [6]

i) Antacid therapy, **ii)** Expectorants **iii)** Diagnostic use of Fe⁵⁹, **iv)** Antidotes **v)** Adsorbents