Instructions –

1. All Questions are Compulsory.

2. Answer each next main Question on a new page.

3. Illustrate your answers with neat sketches wherever necessary.

4. Figures to the right indicate full marks.

5. Use of Non-programmable Electronic Pocket Calculator is permissible.

6. Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any EIGHT of the following: 16

   a) Define the term monograph. What are the content of monograph?

   b) Define acid and base as per Lewis concept.

   c) Define the terms:

      (i) Accuracy and precision

      (ii) Antiseptic and disinfectant

   d) Define Achlorhydria and give name of agent used in this condition along with its role.

   e) State molecular formula and uses of:

      (i) Chlorinated lime

      (ii) Silver nitrate.

P.T.O.
f) Describe the reaction of boric acid with glycerin.
g) Explain combination antacid preparations in short.
h) Define Antacid. Write ideal properties of Antacid.
i) State synonym of the following:
   (i) Sodium hydroxide
   (ii) Calcium hydroxide
j) Define Radioactivity. Enlist units used for measuring Radioactivity.
k) Write importance of Quality control.
l) State molecular formula and uses of magnesium trisilicate.

2. Attempt any FOUR of the following: 12
   a) Define Antidote. Explain the role of antidote in cyanide poisoning.
   b) Define topical agents. Classify topical agent with examples.
   c) Write storage condition of:
      (i) Oxygen
      (ii) Hydrogen peroxide
   d) Mention allotropic forms of sulphur and describe properties and uses of selenium sulphide.
   e) Calculate the mEq of sodium chloride in one litre of 0.9% w/v solution.
   f) Explain how physiological acid-base balance of body is maintained.
3. **Attempt any FOUR of the following:**

   a) Draw a neat labelled diagram of Gutzeit test apparatus with all specification mention in I.P. 96.

   b) Define Expectorant and write properties and uses of Ammonium Chloride.

   c) Write molecular formula and uses of (any two):
      
      (i) Talc  
      (ii) Hypophosphorous acid  
      (iii) Strontium chloride

   d) Define Inhalant. Write storage and uses of carbon dioxide.

   e) Explain metabolic acidosis and alkalosis. Write the uses of potassium citrate.

   f) Define protective. Write properties and uses of calamine.

4. **Attempt any FOUR of the following:**

   a) Define Laxative and classify with examples.

   b) Write the principle and reaction involved in limit test for iron.

   c) Name the compound used as:
      
      (i) Scabicides  
      (ii) Antidandruff  
      (iii) Anticaries

   d) Explain the construction and working of G.M. counter.

   e) Describe the role of iron in human body and write their official preparations.

   f) Enlist the various sources of impurities in pharmaceutical substances. Explain any two.
5. Attempt any FOUR of the following:  

a) Define Gastrointestinal agent. Classify Gastrointestinal agent with examples.

b) Define Astringent. Write the important uses of Astringent.

c) Write the procedure of limit test for chloride as per I.P.

d) Define Respiratory stimulant and write properties, uses of Ammonium Carbonate.

e) Why Povidone - iodine is preferred to over elemental iodine. Give its three properties and uses.

f) Write any one I.P. identification test for:
   (i) Acetate
   (ii) Bicarbonate
   (iii) Chloride

6. Attempt any FOUR of the following:  

a) Enlist official compound of calcium and write molecular formula, uses of calcium gluconate.

b) Define Antioxidants. Classify antioxidants with suitable examples and write criteria for selection of inorganic antioxidants.

c) Define buffer and write role of buffer in pharmacy.

d) Define Radioactivity. Write properties of Alpha, Beta and Gamma Radiation.

e) What is Radio-opaque contrast media? Write properties and uses of Barium Sulphate.

f) Define Replacement therapy. Give official preparation and uses of sodium chloride.