First Year Pharmacy
PHARMACEUTICAL CHEMISTRY - I

Time: Three Hours  Maximum Marks: 80

Note: i) Attempt total six questions. Question No. I is compulsory. From the remaining questions attempt any five.
ii) Illustrate your answer with neat sketches wherever necessary.

1. Define any five of the following with examples.
   a) Extracellular electrolytes
   b) pH
   c) Antimicrobials
   d) Expectorants
   e) Acidifying agents
   f) Astringents

2. Solve any four of the following:
   a) Define acids-bases as per Lewis acid-base concept. Give two examples of each.
   b) Define Antioxidants. Give criteria for selection of antioxidants.
   c) Give properties and uses of any two:
      i) Ammonia solution strong
      ii) Hypophosphorous acid
      iii) Nitrogen
   d) Define and classify buffers. Explain buffer capacity.
   e) Write the identification test of the following:
      i) Carbonate
      ii) Strontium

3. Solve any four of the following:
   a) List the gastrointestinal agents, with examples.
   b) Give properties and uses of the following:
      i) Hydrochloric acid
      ii) Sodium bicarbonate
   c) What are protective and adsorbents? Write the properties and uses of Kaolin.
   d) What is poison? Discuss antidotes used in cyanide poisoning.
   e) Explain the term saline cathartic. Give properties and uses of magnesium sulfate.

4. Solve any four of the following:
   a) What are topical agents? Classify them giving suitable examples.
   b) Define Inhalants. State the storage condition for oxygen and nitrous oxide.
   c) Give the mechanism of action of inorganic antimicrobials.
   d) Explain Anticaries and desensitising agents. Give properties and uses of strontium chloride.
   e) Give properties and uses of the following:
      i) Calamine
      ii) Potassium permanganate

5. Solve any four of the following:
   a) Explain physiological acid-base balance is maintained in the body.
   b) What is meant by oral Rehydration therapy?
   c) Write the chemical formulae of the following:
      i) Potassium citrate
      ii) Potassium Acetate
   d) What is composition of ORS recommended by UNICEF.
   e) Mention the storage condition of the following:
      i) Sodium chloride
      ii) Sodium citrate
6. Solve any four of the following:
   a) Enlist the various sources of impurities in pharmaceutical compounds.
   b) Give the properties and uses calcium gluconate.
   c) Write the principle for limit test for Iron.
   d) Enlist the official compounds of calcium as per I.P. 1996.
   e) Why potassium cyanide and ammonia solution is used in limit test for lead (I.P.)? 

7. Solve any four of the following:
   a) What are the biological effects of radiations?
   b) Explain construction and working of G.M. counter.
   c) Explain the role of Iron in the body.
   d) Write only the names of four radionuclides with its uses.
   e) What are radio-opaque contrast medium? Give an account of Barium sulphate.

8. Write short note on any four of the following:
   a) Iodine
   b) Antimony Potassium Tartrate
   c) Respiratory stimulants
   d) Importance of quality control
   e) Chlorinated lime