DIPLOMA IN PHARMACY (FIRST YEAR)

PHARMACEUTICAL CHEMISTRY - I

(102)

Time : Three Hours ***Maximum Marks : 80***

Note : (i) Attempt total *six* questions. Question No.1 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. 10
   a) Buffers
   b) Extra cellular electrolytes
   c) Emetics
   d) Antioxidants
   e) Antacids
   f) Antimicrobials.

2. Solve any four of the following. 14
   a) Define Acids-Bases as per Arrhenius concept. Give two examples of each.
   b) What are antioxidants? Give mechanism of action of antioxidants with examples.

c) Give properties and uses of any two:
   i) Hydrochloric Acid
   ii) Sodium hydroxide
   iii) Sodium metabisulphite

d) Define Buffers. Mention the criteria for selection of buffer system.

e) Write the identification test of the following.
   i) Calcium ii) Sulphate

3. Solve any four of the following. 14

a) What are GIT agents? Describe the characteristics of an ideal antacid.

b) Give properties and uses of the following:
   i) Aluminium hydroxide gel.
   ii) Dilute hydrochloric acid.

c) What are protective and absorbent? Write the properties and uses of Bismuth Subcorbonate.

d) Explain the term saline cathartic. Give properties and uses of Magnesium sulfate.

e) What is poison? Discuss antidotes used in cyanide poisoning.

4. Solve any four of the following : 14

a) Define antiseptics and disinfectants. Give properties and uses of hydrogen peroxide.

b) Explain allotropic forms of sulphor. Give properties and uses of selenium sulphide.

c) Define Inhalants. State the storage conditions for carbon dioxide, nitrous oxide and oxygen.

d) Give properties and uses of the following:
   i) Boric Acid
   ii) Potassium permanganate

e) Explain Anticaries and desensitising agents. Give properties and uses of strontium chloride.

5. Solve any four of following. 14

a) Explain how physiological acid base balance is maintained in the body.

b) Describe the properties of electrolytes used for replacement therapy.

c) Give synonyms of the following :
   i) Nitrous oxide
   ii) Sodium Chloride
   iii) Ammonium Carbonate

d) Give properties and uses of the following :
   i) Sodium citrate ii) Potassium chloride

e) Mention the storage condition of the following:
   i) Ammonium Chloride
   ii) Potassium Chloride.

6. Solve any four of the following. 14
   a) Explain the principle involved in the limit test for Arsenic with reaction.
   b) Explain four sources of impurities in pharmaceuticals.
   c) Write the principle for the limit test of Iron.
   d) Enlist the official compound of calcium as per I.P. 1966.
   e) Give preparation, properties and uses of Ferrous sulfate.

7. Solve any four of the following. 14
   a) What are the biological effects of radiations?
   b) Explain the role of Iron in the body.
   c) Write only the names of four radionuclides with its specific application.
   d) Draw a neat sketch labeled diagram and explain the working of G.M. Counter.
   e) What do you understand by radio-opaque contrast media?

8. Write short notes on any four of the following: 14
   a) Iodine
   b) Respiratory stimulants
   c) Topical Agents
   d) Handling of radiopharmaceuticals.
   e) Chlorinated lime.