MB–601

Seat No. _____

Diploma in Pharmacy (Part - I) Examination

May / June – 2003

Pharmaceutical Chemistry - I

Time : **3** Hours] [Total Marks :

Instructions : (1) Answer any **three** questions from **each** section.
(2) Tie each section **separately**.

SECTION – I

1 Answer any **three** of the following :

(a) Define the following terms :

(i) Achlorhydria

(ii) Radioisotopes

(iii) Parts per million

(iv) Electrolytes

(v) Antiseptic

(vi) Normality.

(b) Explain quality control and quality assurance.

(c) What are buffers ? Give the types of buffer solution. How they are prepared ?

(d) Describe the Bronsted and Lowry concept of acids and bases.

2 Write Preparation, Properties, Storage and Uses of any **four** of the following :

(a) Iodine

(b) Ferrous gluconate

(c) Potassium Permanganate

(d) Potassium Bromide

(e) Silver nitrate

(f) Di basic calcium phosphate.

3 (a) Explain the use of the following : (any **six**)

(i) Glycerol in the assay of Boric Acid.

(ii) Potassium Iodide in the assay of Ammoniated Mercury.

(iii) Nitrobenzene in the assay of Ammonium chloride.

(iv) Acetic acid in the assay of copper sulphate.

(v) Sulphuric acid in the assay of Ferrous sulphate.

(vi) Burnt sugar solution in the limit test of lead.

(vii) Hydrochloric acid in the limit test of sulphate.

(viii) Lead acetate cotton in the limit test of Arsenic.

(b) Classify the inorganic compounds acting as gastro intestinal agents.

(c) Write the requirements for an ideal antacid.

4 Discuss the principle involved in the assay of the following : (any **six**)

(i) Epsom salt.

(ii) Chlorinated lime.

(iii) Ammonium chloride.

(iv) Potassium permanganate.

(v) Hydrogen peroxide.

(vi) Sodium bicarbonate

(vii) Sodium chloride.

(viii) Sodium thiosulphate.

5 (a) Write chemical formula and uses :

(i) Tartar Emetic

(ii) Kaolin

(iii) Sodium hypochlorite

(iv) Magnesium tri silicate

(v) Sodium benzoate.

(b) Give the storage condition and uses :

(i) Ammonia solution

(ii) Caustic soda

(iii) Mercury

(iv) Silver nitrate.

(c) Explain the characteristic of Alpha, Beta and Gamma particles radiation.

(d) What are different types of laxatives ?

SECTION – II

6 Answer any **three** of the following :

(a) Describe the biological importance of Calcium ions. Give list of official compounds of Calcium.

(b) Describe various preparation of Iodine.

(c) Define and classify inorganic anti–oxidants with suitable examples.

(d) What are protectives ? Give the uses and important properties of protectives.

7 (a) Write the name of the indicator used in the assay of the following : (any **six**)

(i) Calcium gluconate

(ii) Ammoniated mercury

(iii) Sodium nitrite

(iv) Boric acid

(v) Silver nitrate

(vi) Hydrochloric acid (diluted)

(vii) Sodiumbi bicarbonate

(viii) Hydrogen peroxide.

(b) Discuss various types of inorganic compounds which are used in dentistry and in dental products.

(c) Name one inorganic compound used as :

(i) Respiratory stimulants

(ii) Preservative

(iii) Haematinic

(iv) Diuretic

(v) Radio–opaque contrast media

(vi) Germicide.

8 Answer any **three** of the following :

(a) Give the classification of antidotes with example.

(b) Explain principle involved in the limit test for Iron with suitable reaction.

(c) Explain biological effects of radiation on human body.

(d) Give the identification tests :

(i) Benzoate

(ii) Tartarate

(iii) Acetate

(iv) Lactate

(v) Phosphate.

9 (a) Explain principle involved in the limit test for Arsenic with suitable reaction.

(b) What precaution are to be taken in handling and storage of radioactive materials ?

(c) Explain Oral rehydration salt powder with its importance. What is intracellular and extracellular fluid ?

10 Write short notes on any **four** of the following :

(a) Geiger Muller counter

(b) Complexometric titration

(c) Antimicrobial agents

(d) Expectorants and Emetics

(e) Limit test of Lead

(f) Sources of impurities in pharmaceutical compounds.