Code No. R 22061   PHARMACEUTICS I

[*Time* : 3 hours

(Maximum marks : 80)

[*Note* :—1. Answer any *eight* questions.
2. All questions carry equal marks.
3. Draw diagrams wherever necessary.]

Marks

1. (a) How will you prepare 600 ml. of a 5% glucose solution ?

    (b) Define and explain (i) Sublingual tablets (ii) Syrups   (5 + 5 = 10)

2. (a) Write the history of Indian Pharmacopoeia.

    (b) Differentiate Soft gelatin capsules and Hard gelatin capsules.   (5 + 5 = 10)

3. Explain the working of :

    (a) Triple roller mill   (b) Autoclave   (5 + 5 = 10)

4. Write on :

    (a) Sintered filters   (b) Gaseous, Sterilisation   (5 + 5 = 10)

5. (a) Differentiate Percolation and maceration.

    (b) Describe simple distillation process with the help of a diagram.   (5 + 5 = 10)

6. (a) What are the different types of additives used in manufacture of tablets ? Give examples.

    (b) Describe the various types of coating of tablets.   (5 + 5 = 10)

7. (a) What are the official standards of powders ? Explain the working of cyclone separator.

    (b) Describe the working of a ball mill.   (5 + 5 = 10)

8. (a) Define and classify immunity.

    (b) Write the method of preparation of any one vaccine.   (5 + 5 = 10)

9. (a) What are the factors affecting evaporation ?

    (b) Write the working of a freeze dryer.   (5 + 5 = 10)

10. (a) What are the different types of glass used for containers ?
         Write the merits and demerits.

    (b) Write a note on aerosol packaging.   (5 + 5 = 10)
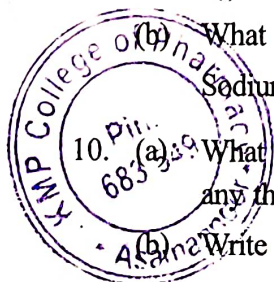
——————

[1]

Code No. R 22062   PHARMACEUTICAL CHEMISTRY I

[*Time* : 3 hours

(Maximum marks : 80)

[*Note* :— 1. Answer any *eight* questions.

           2. All questions carry equal marks.

           3. Draw diagrams and write equations wherever necessary.]

Marks

1. (a) Write the principle and procedure involved in the limit test for Iron.

   (b) What are the methods used in the quality control of pharmaceuticals ?   (5+5=10)

2. (a) Explain the principle involved in the assay of Ammonium chloride.

   (b) Give two identification tests each of : (i) Acetates   (ii) Lead   (5+5=10)

3. (a) How is physiological acid base balance maintained ?

   (b) Write a note on oral rehydration therapy.   (5+5=10)

4. (a) Give an account of official compounds of Iodine.

   (b) Define with one eg. each : (i) Antioxidant   (ii) Gastric acidifier   (5+5=10)

5. (a) Write the chemical formula of :

     (i) Potassium permanganate   (iv) Sodium bisulphite

     (ii) Potash alum   (v) Chlorinated lime

     (iii) Dicalcium phosphate

   (b) Write a note on respiratory stimulants.   (5+5=10)

6. (a) Define Antidotes. Write the chemical formula and storage conditions of any two.

   (b) Give two uses each of : (i) Calcium carbonate   (ii) Silicon polymers   (5+5=10)

7. (a) Write a note on Sulphur compounds.

   (b) Define with one example each : (i) Haematinic   (ii) Astringent   (5+5=10)

8. (a) Explain the working of Geiger Muller Counter.

   (b) Write a note on official buffers.   (5+5=10)

9. (a) Write the uses of :

     (i) Bismuth subcarbonate   (ii) Magnesium sulphate

   (b) What are Antacids ? Write the properties and assay of Sodium bicarbonate.   (5+5=10)

10. (a) What are Dentifrices ? Write the name and chemical formula of any three.

   (b) Write a note on Inhalants.   (5+5=10)

————————

[2]

Code No. R 22063

[Time : 3 hours

(Maximum marks : 80)

[Note :—1. Answer any *eight* questions.

2. All questions carry equal marks.

3. Draw diagrams wherever necessary.]

Marks

1. (a) Define alkaloid. Write the occurrence, identification and therapeutic uses of alkaloids.

   (b) Discuss pharmacological classification of crude drugs.   (5 + 5 = 10)

2. (a) Describe the cultivation and collection of Digitalis.

   (b) Describe the microscopy of Cinnamon bark.   (5 + 5 = 10)

3. (a) Discuss the various methods of adulteration of crude drugs.

   (b) Distinguish between Fennel and Coriander.   (5 + 5 = 10)

4. (a) What are Tannins ? Write the biological source, chemical constituents and uses of Pale catechu.

   (b) Discuss the morphological evaluation of crude drugs.   (5 + 5 = 10)

5. (a) What are anti-tussives ? Write the biological source, chemical constituents and uses of Benzoin.

   (b) Write the chemical tests of Asafoetida.   (5 + 5 = 10)

6. (a) Write the method of preparation of Absorbent cotton.

   (b) Give a brief account of diuretics.   (5 + 5 = 10)

7. (a) Describe the life cycle of Ergot.

   (b) Describe the microscopy of Senna leaf.   (5 + 5 = 10)

8. (a) Describe the morphological features of Clove and Nux-vomica.

   (b) Give an account of solanaceous drugs.   (5 + 5 = 10)

9. (a) Write the biological source, chemical constituents and uses of Ginger and Colchicum.

   (b) Give an account of perfumes and flavouring agents.   (5 + 5 = 10)

10. (a) Write the chemical constituents and uses of Cinchona and Pyrethrum.

    (b) Define Pharmacognosy. Describe the scope of Pharmacognosy.   (5 + 5 = 10)

———————

[3]

Code No. R 22064   BIOCHEMISTRY AND CLINICAL PATHOLOGY

[*Time* : 3 hours

(Maximum marks : 80)

[*Note* :—1. Answer any *eight* questions.

2. All questions carry equal marks.

3. Draw diagrams wherever necessary.]

Marks

1. (a) Define and Classify carbohydrates with examples. Give a chemical test to differentiate aldose and ketose.

   (b) Write a note on polysaccharides. (5+5=10)

2. (a) Explain the factors affecting enzyme activity.

   (b) Briefly describe the clinical and diagnostic application of enzymes. (5+5=10)

3. (a) Explain the sources, daily requirement of and biochemical functions of Calcium.

   (b) What is dehydration ? Explain the different types. How is it corrected ? (5+5=10)

4. (a) Explain the dietary sources, biochemical functions and deficiency diseases of Vitamin A.

   (b) Name the vitamin whose deficiency leads to the following diseases.

      (i) Beri Beri   (iii) Pernicious anaemia

      (ii) Scurvy   (iv) Pellagra (5+5=10)

5. (a) List the abnormal constituents of urine. Explain the significance of its detection.

   (b) Explain the role of platelets in our body. (5+5=10)

6. (a) Explain the four levels of structure of proteins.

   (b) What are essential amino acids ? Give examples. (5+5=10)

7. (a) Classify lipids with examples. Mention the tests for lipids.

   (b) Explain the significance of poly unsaturated fatty acids. (5+5=10)

8. (a) Describe the functions of proteins.

   (b) What is anaemia ? Explain the different types. (5+5=10)

9. (a) Explain the reactions of Citric acid cycle and its energetics.

   (b) Explain the terms Glycogenesis, Glycolysis and Gluconeogenesis. (5+5=10)

10. (a) Explain the disorders of carbohydrate metabolism.

    (b) Explain Beta oxidation of fatty acid with reference to Palmitic acid. (5+5=10)

[4]

Code No. R 22065   HUMAN ANATOMY & PHYSIOLOGY

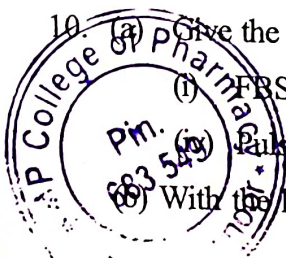[*Time* : 3 hours

(Maximum marks : 80)

[*Note* :—1. Answer any *eight* questions.

2. All questions carry equal marks.

3. Draw diagrams wherever necessary.]

Marks

1. (a) Enumerate the different types of WBC with their functions.

   (b) Write a short note on plasma proteins.   (5 + 5 = 10)

2. (a) Enumerate the hormones of master endocrine gland.

   (b) Differentiate exocrine and endocrine pancreas.   (5 + 5 = 10)

3. (a) With the help of a neat labelled diagram discuss the parts of urinary system.

   (b) Explain the process involved in urine formation.   (5 + 5 = 10)

4. (a) Enumerate the functions of cerebrum.

   (b) Discuss the formation and functions of CSF.   (5 + 5 = 10)

5. (a) Discuss the gross anatomy of large intestine and mention its functions.

   (b) Write briefly on digestive enzymes.   (5 + 5 = 10)

6. (a) Briefly explain the process of cardiac cycle.

   (b) Define BP. How BP is regulated in our body ?   (5 + 5 = 10)

7. (a) With the help of a neat labelled diagram discuss the parts of respiratory system.

   (b) Write any five disorders of eye.   (5 + 5 = 10)

8. (a) Discuss the different stages of menstrual cycle. What is meant by menarche ?

   (b) Write a short note on hormonal methods of contraception. (5 + 5 = 10)

9. (a) Enumerate the different types of muscular tissues and write their functions.

   (b) Classify joints with examples.   (5 + 5 = 10)

10. (a) Give the normal values of the following :

    (i) FBS   (ii) GFR   (iii) Body temperature

    (iv) Pulse rate   (v) Total WBC count

    (b) With the help of a neat labelled diagram discuss the parts of a nerve cell. (5+5=10)

[*Time* : 3 hours

(Maximum marks : 80)

[*Note* :— 1. Answer any *eight* questions.

2. All questions carry equal marks.

3. Draw diagrams wherever necessary.]

Marks

1. (a) Enumerate the various determinants of health.

   (b) Explain the various indicators of health.   (5+5=10)

2. (a) Explain the concept of prevention of diseases.

   (b) Classify Vitamins, write the disorders due to the deficiency of vitamin B12.   (5+5=10)

3. (a) Define demography and elaborate various stages of demographic cycle.

   (b) Write short notes on permanent family planning methods.   (5+5=10)

4. (a) Give a description on cardiopulmonary resuscitation.

   (b) Discuss the various methods for the disposal of excreta.   (5+5=10)

5. (a) Explain the various sources of water pollution.

   (b) Write first aid treatment of snake bite.   (5+5=10)

6. (a) Write the causative agent, modes of transmission & prevention of filariasis and typhoid.

   (b) Explain Gram's staining method.   (5+5=10)

7. (a) Write causative organism; mode of transmission & prevention of AIDS.

   (b) Explain the emergency treatment for fractures.   (5+5=10)

8. (a) Define the following terms :

   (i) Epidemic   (iii) Incubation period

   (ii) Prophylaxis   (iv) Disinfectant

   (b) What are nosocomial infections ? Discuss its preventive measures.   (5+5=10)

9. Describe the preventive measures and control of :

   (a) Hypertension

   (b) Diabetes Mellitus   (5+5=10)

10. (a) Write a note on protein deficiency diseases.

    (b) Define Immunity. Classify various types of immunity.   (5+5=10)

———————————

[6]