

May 2017.

PHARMACEUTICS - I



PH-I/I

Time Allowed: 3 Hours

Full Marks: 80

Answer any five of the following questions.

1. Fill in the blanks with appropriate word/words: 8×2
 - a) The implants are useful in _____ therapy.
 - b) Glass containers should comply with the test for _____.
 - c) Comminution helps to increase the _____ of Drugs.
 - d) In colloidal mill the rotor rotates at a speed of _____ to _____ r.p.m.
 - e) In Soxhlet process _____ solvent or _____ mixtures are used.
 - f) Sterile water for injection has pH between _____ to _____ and must with the test for _____.
 - g) Fluidised bed dryer method is _____ times faster than that of a tray dryer.
 - h) Beta-propiolactone is used in the concentration of _____ of space at _____.

2. Answer the following questions (any eight): 8×2
 - a) Why is it necessary to use sterilised talc and kaolin in preparing dusting powder?
 - c) Define the term "Pharmacopoeia".
 - d) What is isotonic solution?
 - e) Why lime soda glass is not used for storage of parenteral products?
 - f) Define the term "sieve number".
 - g) What are various types of lubricants used as excipients in compressed tablets?
 - h) What does the term "Angle of Repose" mean?
 - i) Explain the term "Antitoxin" and "Antiserum".

3. Write short notes on the followings (any four): 4×4

(a) Passive immunity, (b) Hard gelatine capsule, (c) Sterilisation by filtration, (d) Fluidised bed dryer, (e) Fractional distillation.

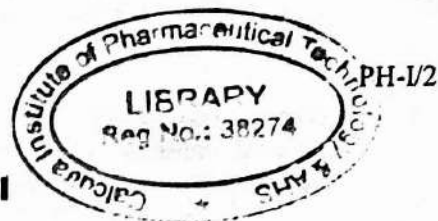
4.
 - a) Define Aerosols. How you classify aerosols? Write the merits and demerits of plastic containers.
 - b) Write about weathering and flaking.
 - c) Prepare 500ml of a 1 in 4000 solution from the 1 in 800 solution. 1+2+3+5+5

5.
 - a) Define term "Immunity" and "Vaccine".
 - b) Mention the immunological products with examples?
 - c) Write a brief about "Toxoids".
 - d) Describe briefly the method of preparation of any one of the vaccines. 1+2+3+5+5

6. Differentiate between the followings (any four): 4×4

(a) Exotoxin and Endotoxin, (b) Hard gelatine capsules and soft gelatine capsules, (c) Purified water and sterile water for injection, (d) Maceration process for organised drugs and unorganised drugs, (e) Disintegration and Dissolution

May 2017



PHARMACEUTICAL CHEMISTRY - I

Time Allowed: 3 Hours

Full Marks: 80

Answer Question No. 1 and any four from the rest.

1. A. Fill in the blanks (any ten): 1x10

- i) Chlorinated lime should contain not less than _____ of available chlorine.
- ii) Borax has _____ molecule of water of crystallization.
- iii) The normal range of pH of blood is _____.
- iv) Lugol's contains _____ of Iodine.
- v) The chemical formula of Magnesium trisilicate is _____.
- vi) The term "cool" means any temperature between _____.
- vii) Beta particles have unit _____ charge.
- viii) According to Lewis concept, an acid is _____.
- ix) The unit of radioactivity is _____.
- x) Example of a silicon polymer used as antacid is _____.
- xi) The pink colour of calamine is due to the presence of _____.
- xii) The shoulder of the oxygen cylinder should be painted _____.
- xiii) Blue vitriol is the synonym of _____.

B. What happens when (any three): 2x3

- i) Magnesium trisilicate is treated with hydrochloric acid.
- ii) Boric acid is heated.
- iii) Chlorinated lime is treated with dilute acids.
- iv) Potassium permanganate is heated to 2400C.
- v) Sodium thiosulfate is used as antidote in cyanide poisoning.

2. Write short notes on the followings (any four): 4x4

- a) ORS
- b) Official compounds of Iron
- c) Buffers
- d) Antacids
- e) Biological effects of radiation

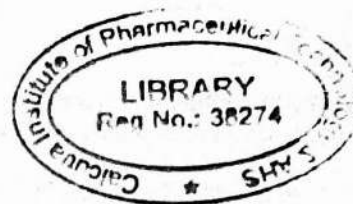
3. Explain the following statements (any eight): 2x8

- i) Potassium iodide is used in the limit test of Arsenic.
- ii) Citric acid is used in the limit test of Iron.
- iii) Barium sulphate reagent is used in the limit test of sulphate.
- iv) Lead acetate cotton is used in the limit test of arsenic.
- v) The solution is made alkaline with ammonia in the limit test of Iron.
- vi) Glycerol is used in Boric acid assay.
- vii) Methyl orange is a suitable indicator in sodium carbonate titration.
- viii) Thioglycolic acid is used in the limit test of Iron.
- ix) Nitrobenzene is added in sodium chloride assay.
- x) Hydrogen peroxide should be stored in light resistant container in a cool place.
- xi) Iodine solutions are prepared using potassium iodide.

4. Define the followings (any eight): 2x8
Assay, Expectorants, Emetics, Buffer capacity, Antidotes, Radio-isotopes, Saline Cathartics, Dentifrices, Half-life, Normality, Astringent, Anti-oxidants.

5. What do you mean by Extracellular and Intracellular fluid? Write the name of the major extra-cellular and intra-cellular ions. What are the causes of electrolyte imbalance in our body? How Physiological acid base balance is maintained in body? 2+3+3+8
6. Write the mechanism of action of Inorganic antioxidants. Discuss the criteria for selection of antioxidants. Write the Biological effects of radiation. Write the handling and storage of radioactive elements. 4+3+5+4
7. Write the pharmaceutical uses of the following compounds (any eight): 2x8
Tc⁹⁹, Antimony Potassium tartarate, Potassium permanganate, Sodium nitrite, Magnesium trisilicate, Magnesium sulphate, Selenium sulphide, Ammonium chloride, Calcium gluconate, Stannous fluoride.
8. Write the storage conditions of the following compounds (any eight): 2x8
Ammonia solution, Sodium hydroxide, Sodium meta bi sulphate, Sodium thiosulphate, Aluminium hydroxide, Borax, Hydrogen peroxide, Iodine, Silver nitrate, Nitrous oxide, I¹³¹.
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May 2017



PH-I/3

PHARMACOGNOSY

Time Allowed: 3 Hours

Full Marks: 80

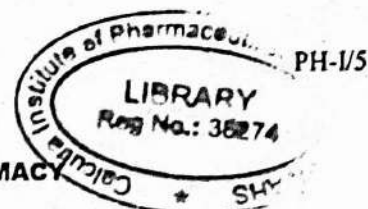
Answer Question No. 1 and any four from the rest.

1. A. Answer any four from the followings: 4x2
- i) Define Pharmacognosy.
 - ii) What is cremocarp?
 - iii) Define carminative with example.
 - iv) What is Pharmaceutical Aids?
 - v) What is Borntrager Test?
 - vi) Define unorganised drug with example.
- B. Fill in the blanks (any eight): 8x1
- i) Chemically Kaolin is _____.
 - ii) Chaulmoogra oil is a _____ drug.
 - iii) Natural Shark Liver oil contain vitamin _____.
 - iv) Papain is obtained from _____.
 - v) Arjuna bark is a _____.
 - vi) Benzoin is a _____.
 - vii) Ash value is a process of _____.
 - viii) Vincristine is an _____ alkaloid.
 - ix) Main Chemical constituent of cotton is _____.
 - x) Senna leaf contain _____ glycoside
 - xi) Sugar part of the glycoside known as _____.
 - xii) C. A. Seydler coined the term _____.
 - xiii) Carminative is the category of drug which _____.
 - xiv) Senna contains _____ glycoside.
 - xv) Example of cremocarp fruit _____.
 - xvi) Volatile oil shows red colour with _____.
 - xvii) Resin and volatile oil contains _____ unit.
2. What is adulteration of crude drug? Mention different types of adulteration with example. Define evaluation of crude drugs. What are the different methods of evaluation? Write a note on morphological evaluation. Define Ash value and Moisture content. 1+5+2+4+4
3. a) What is laxative? Classify laxative with example.
b) Write detail pharmacognostic notes on Senna and Isabgul. Write a note on Aloe. (2+4)+(2+4)+4
c) Define glycoside. Classify it with example.
4. Mention the alkaloid present in opium with their pharmacological use .Write a note on commercial preparation of opium. What is oxytocic? Mention the pharmacological use of oxytocic. Write a note on ergot. 5+3+3+5
5. a) Mention biological source, chemical constituent, morphology and use of a vitamin C containing drug.
b) Write a note on a natural antihypertensive drug.
c) Mention the microscopic feature of following drug (any two):
Fennel, clove, ginger, cinchona, senna 4+4+(4x2)

6. Mention the scope of Pharmacognosy. What is Indigenous system of medicine? What are different indigenous system of medicine. Write a detail note on Ayurvedic system of medicine. 3+2+3+8
7. a) What are the different system of crude drug ? Write a note on Pharmacological system of classification and Morphological system of classification.
b) Classify fibre. Write a note on cotton and wool.
c) Mention the different method of classification of crude drugs. Explain morphological system of classification with example. 6+4+6
8. a) Write the difference between:
i) Fixed oil and volatile oil
ii) Root and rhizome
iii) Unorganised drug, organised drug
b) Mention the biological source, synonym , morphology and use of following drugs (any six):
Senna, vasaka, nim, ashwagandha, ajowan, ginger, turmeric (4+3+3)+6
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May 2017

HEALTH EDUCATION & COMMUNITY PHARMACY



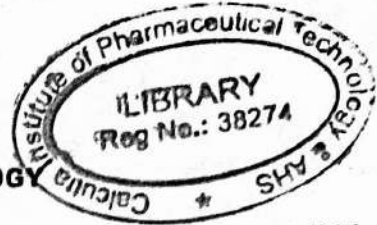
Time Allowed: 3 Hours

Full Marks: 80

Question No. 1 is compulsory and answer any four questions from the rest.

1. Answer the following questions (any eight): 8×2=16
- i) Which of the following is not an indicator of mortality? – (a) Doctor population ratio, (b) Infant mortality rate, (c) Expectation of life, (d) Crude death rate.
 - ii) Secondary prevention of diseases is – (a) Specific protection, (b) Health promotion, (c) Early diagnosis and treatment, (d) Rehabilitation.
 - iii) All are essential amino acids except – (a) Leucine, (b) Lysine, (c) Phenylalanine, (d) Tyrosine.
 - iv) All the following are saturated fatty acids except – (a) Lauric acid, (b) Palmitic acid, (c) Stearic acid, (d) Oleic acid.
 - v) One gram of carbohydrate provides energy – (a) 4.75 kCal, (b) 9.3 kCal, (c) 4.1 kCal, (d) 3.75 kCal.
 - vi) Daily requirement of Vitamin D in pregnancy is – (a) 2.5 mcg, (b) 5 mcg, (c) 7.5 mcg, (d) 10 mcg.
 - vii) Major source of fluorine to man is – (a) Water, (b) Cheese, (c) Milk, (d) Green vegetables.
 - viii) In cobra snake bite the predominant symptoms are – (a) Oedema, unconsciousness, bleeding, (b) Drowsiness, weakness, paralysis, (c) Vomiting, pain, oedema, (d) Myalgia, unconsciousness, vomiting.
 - ix) In anaphylactic shock the drug of choice is – (a) Isoprenaline, (b) Dopamine, (c) Coramine, (d) Adrenaline.
2. Write short notes on (any four) – (a) National population policy, (b) Air Pollution, (c) Food Poisoning, (d) Vector Borne Transmission, (e) Determinants of diseases. 4x4
3. Discuss in brief (any four) – (a) Secondary prevention in HIV infection, (b) Zoonoses, (c) Combined pill, (d) Universal Antidote, (e) Mosquito borne diseases. 4x4
4. Define Nutrition and food. Write in details the functions, sources and protein energy malnutrition (PEM). 1+1+4+4+6
5. Define Family planning. Justify the statement “Education is the best contraceptive”. Write about national population Policy indicators of fertility measurement. 2+4+6+4
6. Define shock. Enumerate different types of shock. Describe the first aid treatment of anaphylactic shock. 2+6+8

May 2017



PH-I/6

HUMAN ANATOMY & PHYSIOLOGY

Time Allowed: 3 Hours

Full Marks: 80

Answer Question No. 1 and any four from the rest.

- 2x8
1. Answer the following questions (any eight):
- i) What are the bones present in middle ear?
 - ii) Describe proteolytic enzymes.
 - iii) Howoxyhaemoglobin formed?
 - iv) Define polycythemiavera.
 - v) What is lymph?
 - vi) Define synapse.
 - vii) What are the components of bile salt?
 - viii) What is blood brain barrier?
 - ix) What is Hypermetropia?
 - x) What are components of saliva?
 - xi) What is dwarfism?
 - xii) What is pericardium?
2. Mention the composition & specific gravity of normal urine. Write down the physiology of urine formation. Describe the anatomical position and structure of kidney with neat labelled diagram. 3+6+7
3. Discuss cardiac cycle with neat diagram. Write a note on Angina pectoris, congestive heart failure. What is AV node? 8+3+3+2
4. Write a note on ABO blood grouping system. What is fibrinolysis? Write in details about blood coagulation. What is haemoglobin? What is leukaemia? 5+2+5+2+2
5. Define vital capacity, expiratory reserve volume of lung, tidal volume of lung. Explain in details about physiology of respiration. What are the muscles involved in respiration. What is external respiration? 2+2+2+6+2+2
6. Write short note on the followings (any four): 4x4
- a) Lysosome
 - b) Neuromuscular junction
 - c) Cell membrane
 - d) Biliary tract
 - e) Mitochondria
7. Define hormone. Write down the difference between hormones and enzymes. Write in details about the hormones secreted from the pituitary gland. What is hyperthyroidism? What is Addison's disease? 2+4+8+2
8. Describe the histology of large intestine. Write down the function of Gallbladder. Give a summary of chemical digestion of food. 6+4+6