PH-I/1

June 2019

PHARMACEUTICS – I

Time Allowed: 3 Hours *Full Marks: 80*

Answer Question No.1 and <u>any four</u> from the rest.

1. Answer the following questions (any eight): 2x8

a) What do you mean by the term "Dosage form" of a medicine?
b) Define Sterilization.
c) How will you sterilize surgical dressing?
d) What is toxoid?
e) What is the storage temperature of vaccine?
f) What do you mean by the term "Disintegration time" of a tablet?
g) What is soft gelatin capsule?
h) Give one example each of a bacterial vaccine and viral vaccine.
i) What is meant by the term "marc" used in doing extraction?
j) What is sustained release dosage form?
k) What do you mean by allegation method in calculation?

2. Answer the following questions: 2+8+3+3

a) What do you mean by the term "size reduction" of drugs?
b) Mention the factors affecting size reduction.
c) What is elutriation process?
d) Write the use of disintegrator in size reduction process.

3. Answer the following questions: 2+8+4+2

a) What do you mean by filtration process?
b) Name various filtration media commonly used in pharmaceutical preparation.
c) Explain the term "Filter Aid".
d) For filtering strong acids, alkalis and oxidizing agents what type of filter media is used?

4. Answer the following questions: 4+8+2+2

a) Explain the terms Extraction and Galenical.
b) Briefly discuss percolation and maceration process of extraction.
c) Give suitable examples of preparation of the above mentioned processes of extraction.
d) What do you mean by Infusion with reference to the process of extraction?

5. Write brief notes on the following (any four): 4x4

a) Types of containers used in preservation of pharmaceutical products.
b) Ayurvedic dosage form.
c) Mixing of powder and equipment used.
d) Nanoparticle as new drug delivery system.
e) Filter press.
f) Bacteria proof filtration.

6. Answer the following questions: 8+8

a) Describe the method of sterilization by dry and moist heat in brief.
b) Describe the moist granulation process of manufacturing tablet in brief.

<u>OR</u>

Explain the excipients used in tablet formulation.

7. Differentiate between the following (any four): 4x4

a) Active and Passive Immunity
b) Enteric coated tablet and sugar coated tablet

c) Small pox vaccine and B.C.G vaccine
d) Purified water and water for injection
e) Drying and Freeze Drying

8. Write the definition of the following terms (any eight):
a) Vaccine
b) Isotonic solution
c) Metrology
d) Exotoxin
e) Antiseptic
f) Disinfectant
g) Evaporation
h) Fractional Distillation
i) Tablet Triturate
j) Implant
k) Microencapsulation

June 2019

PH-I/2

PHARMACEUTICAL CHEMISTRY – I

Time Allowed: 3 Hours

Full Marks: 80

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

1. A. Write whether the following statements are true or false (any ten): 1x10

i) Blue vitriol is the other name of ferrous sulphate.
ii) The term "cold" means any temperature between 8° to 25° C.
iii) Aluminium hydroxide causes constipation.
iv) Mercuric oxide has two different colour.
v) Dakin's Solution is another name of chlorinated lime.
vi) Borax contains 8 molecules of water of crystallization.
vii) Hypo is the synonym of sodium metabisulphate.
viii) Nitrous oxide is known as laughing gas.
ix) Glyceroboric acid is weak than Boric acid.
x) Aqua regia is a mixture of nitric acid and hydrochloric acid.
xi) Zinc is used in the limit test of arsenic as reducing agent.
xii) Ammonia possesses saponifying properties.
xiii) Boric acid is unstable in air.

B. What happens when (any three): 3x2

i) Zinc sulphate solution is treated with Sodium carbonate.
ii) Potassium permanganate is heated up to 240 ° C.
iii) Chlorinated lime is dissolved in water.
iv) Boric acid is heated to 100 ° C.
v) Ammonia passes over hot copper oxide.

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

(a) Solubility as per IP 1985
(b) Source of Impurities in pharmaceuticals
(c) Buffer capacity
(d) Radioactive substances
(e) Cyanide poisoning

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

(a) The solution is made alkaline with ammonia in the limit test of Iron.
(b) Stannated hydrochloric acid in the limit test of Arsenic
(c) Citric acid is used in the limit test of Iron.
(d) Burnt sugar solution is added in the limit test lead.
(e) Glucose is added in oral rehydration therapy.
(f) Methyl orange is a suitable indicator in the titration of sodium carbonate.
(g) Barium sulphate reagent is used in the limit test of sulphates.
(h) Sulphuric acid is amphoteric substance.
(i) Silver nitrate solution in the limit test of Chloride.
(j) Sulphuric acid is added to the solution of ferrous sulphate during its assay.
(k) All Bronsted acids are Lewis acids but all Lewis acids are not Bronsted acids

4. Discuss the role of antioxidants in pharmaceutical products. Mention the mechanism of action of inorganic antioxidants. Explain the criteria for selection of antioxidants. Write the preparation, properties and uses of Sodium metabisulphate. 3+4+3+6

5. Explain the term cathartic, laxative and purgative. Define antacid. State the requirements of ideal antacids. What is meant by Systemic antacid? What are topical agents? Discuss the composition and properties of calamine. 4+2+3+2+5

6. What do you mean by intracellular and extra cellular fluid? Write the name the major extra-cellular and intra-cellular ions. Name the important inorganic ions associated with body metabolism. What are the causes of electrolyte imbalance? What is replacement therapy? Explain sodium lactate injection is preferred over sodium carbonate injection. 3+4+2+2+2+3

7. What are the pharmaceutical uses of the following compounds (any eight): 8x2
Sodium thiosulphate; Magnesium sulphate; Ammoniated mercury; Ammonium carbonate; Antimony potassium tartarate; Sodium lactate; Dicalcium phosphate; Aluminium sub acetate solution; Magnesium trisillicate; Selenium sulphide; Povidone iodine.

8. Mention the storage conditions of the following compounds (any eight): 8x2
Calcium hydroxide; Sodium metabisulphite; Silver nitrate; Chlorinated lime; Sodium iodide (131I) solution; Ammonium chloride; Potassium permanganate; Hydrogen peroxide; Magnesium trisillicate; Ammonium carbonate ; Antimony potassium tartarate;

PH-I/3

June 2019

PHARMACOGNOSY

Time Allowed: 3 Hours *Full Marks: 80*

Answer Question No.1 and <u>any four</u> from the rest.

1. A. Answer the following: 8x1

i) Solanaceous drugs contain _____ alkaloids.
ii) Clove oil is used as _____.
iii) Leaf of _____ contains anthraquinone glycoside.
iv) Shark liver oil contain: Vitamin-A/ enzyme/ Volatile oil.
v) Xanthine derivatives are present in _____.
vi) Cinchona barks belongs to the family of _____.
vii) Swelling test is used to detect the purity of Ispagula (T/F).
viii) The active constitute of neem is _____.

B. Answer the following: 4x2

i) What is organised drug?
ii) What is pharmaceutical aids?
iii) Define stomachic with example.
iv) Define quill bark with example.

2. Define – (i) Exotic drug, (ii) Stomatal index, (iii) Ash value, (iv) Vein islet number, (v) Balsam, (vi) Saponin, (vii) Suture, (viii) Alkaloid. 8x2

3. Write biological sources, chemical constituents and uses of the following drug (any four): 4x4
Arjuna; Cardamom; Rauwolfia; Senna; Agar

4. What do you mean by evaluation of drugs? Describe in details about the various methods for evaluation of drugs. 2+14

5. a) Define the following terms giving example of drugs with mentioning their biological sources – (i) Antihypertensive, (ii) Antidiabetic, (iii) Antineoplastic, (iv) Cardiotonic, (v) Enzyme.
b) Mention the identification test for tannin. (5x3)+1

6. a) What is opium? Mention the active constituents, uses and storage condition of opium.
b) Write a note on various ways for drug adulteration with examples.
c) Write on the collection and preparation for the market of Digitalis. 6+6+4

7. Write short notes on: 4x4
(i) Catgut and absorbent cotton, (ii) Keller-Killiani test, (iii) Flavouring agents, (iv) Chemical classification of crude drugs.

8. Describe with neat diagram the gross anatomical studies of Cinnamon and Ipecacuanha. 8x2

PH-I/5

June 2019

HEALTH EDUCATION & COMMUNITY PHARMACY

Time Allowed: 3 Hours *Full Marks: 80*

Answer Question No.1 and <u>any four</u> from the rest.

1. A. Solve the followings: 8x1

i) An example of RNA virus is _____.
ii) Xeropthalmia is caused due to deficiency of _____.
iii) _____ anaemia occurs due to depression of bone marrow.
iv) Give an example of acid-fast bacteria.
v) A sound upto _____ decibel is considered as whisper.
vi) In drinking water chlorine should be present in a quantity of _____.
vii) The best method for disposal of hospital refuse is _____.
viii) Name two arthropod borne diseases.

B. Answer the following questions: 4x2

i) What is spiritual health?
ii) What is demography?
iii) What is health education?
iv) What is shock?

2. a) Discuss various 'Indicators of Health'.
b) Write short notes on 'Immunization Schedule'. 10+6

3. Define – (i) Infertility, (ii) Communicable diseases, (iii) Sewage, (iv) Pandemic, (v) Infestation, (vi) Fomites, (vii) Mortality rate, (viii) balance diet. 16

4. a) Describe the different methods available for family planning.
b) Write the causes, mode of transmission and prevention of AIDS. 8+8

5. a) What are trace elements? Describe the role of Iodine/Iron as trace element in our body.
b) What is gram staining of bacteria? What is its significance?
c) Discuss the first-aid management for a burn case patient. 6+6+4

6. Answer the followings: 4x4
(i) Effects of noise pollution, (ii) Chemical disinfectants, (iii) Fat soluble vitamins, (iv) Hospital acquire dinfection.

7. Write the causative agent, mode of transmission and prevention of the followings: 4x4
Tuberculosis; Rabies; Poliomyelitis; Hepatitis

8. Compare the followings (any four): 4x4
a) 'Vaccine' and 'Sera'
b) Disinfection and sterilization
c) Nasocomal and opportunistic infections
d) Epidemic and endemic
e) Infectious disease and contagious disease.

PH-I/6

June 2019

HUMAN ANATOMY & PHYSIOLOGY

Time Allowed: 3 Hours *Full Marks: 80*

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

1. A. Answer the following (any eight): 1½x8=12
   i) What are the elementary tissues of the human body?
   ii) What is synapse?
   iii) What is the common site of fertilization?
   iv) What is blood brain barrier?
   v) What is dwarfism?
   vi) What is erythropoesis?
   vii) What is first heart sound?
   viii) What is lamella?
   ix) What is Einthoven's triangle?
   x) What is rigor mortis?
   xi) What are pleura?
   xii) What is EEG?

   B. Differentiate between (any two): 2x2=4
   i) Male pelvis and Female pelvis
   ii) Hyperthyroidism and hypothyroidism
   iii) Megaloblastic anaemia and sickle cell anaemia

2. Write short notes on the following with neat sketch: 4x4
   (a) WBC, (b) Mitochondria, (c) Bones of the hand, (d) Endoplasmic reticulum.

3. Discuss the general characteristics, classification ad function of epithelial tissues. Write down the mechanism of blood clotting. 10+6

4. Describe anatomical position and structure of the Heart. What is cardiac cycle? Discuss the various events of cardiac Cycle. 10+2+4

5. Describe the structure and function of ear with the help of basic physiology involved. 16

6. Explain the followings (any eight): 8x2
   (a) Vital capacity, (b) Residual volume, (c) Dyspnea, (d) Hypoxia, (e) Glaucoma, (f) Myopia, (g) Hypermetropia, (h) Reflex action, (i) Taste buds.

7. Describe the anatomical position, structure and function of Liver. 16

8. Draw a labeled diagram of Kidney. How urine is formed? Mention the composition of urine. 9+3+4
