PH-I/6

June 2018

HUMAN ANATOMY AND PHYSIOLOGY

Time Allowed: 3 Hours *Full Marks: 80*

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

1. A. Answer the following (any eight): 1½x8=12

i) What is Rh factor?
ii) What is BMR?
iii) What is the common site of fertilization?
iv) What do you mean by renal tubular acidosis?
v) What is cretinism?
vi) What is AngiotensinII?
vii) What is third heart sound?
viii) What is erepsin?
ix) What is Einthoven's triangle?
x) What are the grades of hypothermia?
xi) What is asphyxia?
xii) What is diabetes insipidus?

B. Differentiate between (any two): 2x2=4

i) Blood and Serum
ii) Lumber vertebra and cervical vertebra
iii) CNS and ANS

2. Write short notes on the following with neat sketch: 4x4
(a) Neuron, (b) Golgi apparatus, (c) Bones of Skull, (d) Lysosomes

3. What is lymph? What is lymph node? Write down the composition of lymph. Mention the function of function of lymphatic system. Draw a sketch of lymph node. 2+2+3+4+5

4. Give the general outline of female reproductive organ. 16

5. Draw a labeled diagram of eye. How eye accommodates near and far vision. 10+6

6. Explain the followings (any eight): 8x2
(a) Pleura, (b) CCF, (c) Myofibril, (d) Organ of corti, (e) Goblet cell, (f) Taste buds, (g) Bleeding time, (h) Tidal volume, (i) Osteoblasts.

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

8. What is nephron? Describe the structure and function of nephron. How urine is formed? 2+10+4

PH–I/5

June 2018

HEALTH EDUCATION AND COMMUNITY PHARMACY

Time Allowed: 3 Hours *Full Marks: 80*

Question No.1 is compulsory and answer <u>any four</u> from the rest.

1. Answers the questions (any eight): 8x2
   i) How do you define normal health?
   ii) Who initiated the idea of social medicine and when real practical beginning of social medicine made?
   iii) What is mortality?
   iv) What are the various impurities of air?
   v) What are the main sources of air pollution?
   vi) What are the criteria for safe and portable water?
   vii) Name the water born diseases.
   viii) What are the basic purposes of food intake and what are the main components of food?
   ix) Name the essential fatty acids and essential amino acids.
   x) What are vitamins?

2. Write short notes on (any two) – (i) Demography, (ii) First–aid, (iii) Sexually transmitted diseases, (iv) Epidemiology. 8x2

3. i) Name the fourteen trace elements in human nutrition as recognized by WHO.
   ii) What is the main step taken by authorities to prevent Goiter in the endemic area?
   iii) What are the effects of vitamin A deficiency?
   iv) What is the daily requirement vitamin A?
   v) What are the sources of vitamin K? Mention it's importance. 4+2+4+2+4

4. i) What do you understand by balance diet?
   ii) Mention some common faults in the Indian diet?
   iii) How is nutritional status of an individual determined?
   iv) Enumerate some of the causes of the poor nutritional status. 4+4+4+4

5. i) Describe with a sketch the cellular structure of a bacterium.
   ii) How water can be purified by small scale method. Write in short. 8+8

6. Differentiate the following – (i) Mortality and morbidity, (ii) Pandemic and epidemic, (iii) Active immunity and passive immunity, (iv) Toxin and toxoid.

7. Write the causative agent, mode of transmission and prevention of the following (any four) – (i) Tetanus, (ii) Leprosy, (iii) Malaria, (iv) Plague, (v) Cholera, (vi) Chicken pox. 4x4

8. Define family planning. Write down the objectives of family planning. Classify the method of contraception. Mention the advantages of physical method over chemical method. 2+5+3+6

PH-I/1

June 2018

PHARMACEUTICS – I

Full Marks: 80

Time Allowed: 3 Hours

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

2x8=16

1. Answer the question (any eight):

   a) What is the purpose of enteric coating tablet?
   b) What is the difference between toxin and toxoid?
   c) Which type of glass container generally used for storage of Injection?
   d) What is soft gelatin capsule?
   e) Name two metallic derivatives used as lubricating agent?
   f) Why glycerin is used as a base in throat paint?
   g) What is water for injection?
   h) Which sterilization method is best suitable for plastic disposable syringe?
   i) What is glass transition point?
   j) What is Implants?
   k) Supply 800 ml 45 % alcohol from 90 % alcohol

8x2

2. Write short notes on (any two):
(a) Aerosol Packaging, (b) Vacuum Distillation, (c) Climbing Film Evaporator.

3. Explain the term galenicals. What type of extraction process is used for Tinc? Orange? What is soft extract and dry extract? What is continuous extraction? Describe an apparatus and procedure by which continuous extraction is carried out. 2+2+3+2+7

4. Define Filtration and Clarification. Mention the factors affecting the rate of filtration. What are filter aids? Differentiate between positive and negative pressure filtration. When are they used in pharmaceutical operation? What is filter cakes? 3+4+2+3+2+2

5. Define Drying. What are the objectives of drying as a unit operation in the pharmaceutical Industry? What is the significance of 3-phase diagram with respect to drying? Write notes on – (a) Spray Dryer, (b) Fluidized Bed Dryer. 2+4+3+7

6. Define Sterilization. What is principle of working of Autoclave? What are the IP recommended doses of Autoclaving? Why moist heat sterilization is more active than dry heat sterilization? Write notes on – (a) membrane filters for sterilization, (b) gamma rays for sterilization. 2+2+3+2+7

7. What are the excipients used in the tablet preparation? Schematically mention the preparation of tablet. Write notes on evaluation of tablet. What are tablet manufacturing defects? 3+5+5+3

8. Define the following: (a) live, killed and attenuated bacterial Vaccine and sabin vaccine, (b) Schick toxin, exotoxin, endotoxin and antitoxin, (c) antigen, antibody, active and passive immunity, (d) F-value, Z-value, D-value and disinfection. 4+4+4+4+4

PH-I/3

June 2018

PHARMACOGNOSY

Full Marks: 80

Time Allowed: 3 Hours

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

8x2=16

1. A. Answer the following (any eight):
   i) What is Vein-islet number?
   ii) What do you mean by Stomatal index?
   iii) What is Corolla?
   iv) What Raphe?
   v) What is Hilum?
   vi) What are Wrinkles?
   vii) What Resin?
   viii) What is the common adulterant of Tolu balsam?
   ix) Give the example of channeled bark.
   x) What is trichome?
   xi) What are leaflets?

8x2

2. Write the parts used and pharmacological uses of the followings (any eight):
   a) Black pepper
   b) Coriander
   c) Ashwagandha
   d) Amla
   e) Vinca
   f) Colchicum
   g) Sylvestro
   h) Gokhru
   i) Tulsi
   j) Benzoin

8x2

3. Write the biological source and uses of the following (any five):
   a) Hyoscine
   b) Cinchonine
   c) Strychnine
   d) Emetine
   e) Morphine
   f) Ephedrine
   g) Theobromine
   h) Aconitine
   i) Pilocarpine
   j) Quinine

2+14

4. Define crude drugs. Describe the classification of drugs of natural origin.

2+8+3+3

5. What do you mean by Glycosides? Classify it with suitable example. Differentiate between glycan and aglycan. Write down the procedure of isolation of Glycosides.

4x4

6. Mention the collection and preparation of the following crude dugs for market:
   (a) Digitalis, (b) Senna, (c) Opium, (d) Ergot

2+3+3+8

7. Define surgical dressing. What are the ideal properties of surgical dressing? What are the difference between plant fibre and animal fibre? Write down the biological source, active constituents and uses of the Cotton, Jute, Silk & Wool.

8x2

8. Mention the biological source, active constituents of one drug each of the following therapeutic activity:
   a) Antidiabetic
   b) Antileprotic
   c) Laxative
   d) Antidysentric
   e) Enzymes
   f) Astringent
   g) Disinfectant
   h) Cardiotonics

PH-1/2

June 2018

PHARMACEUTICAL CHEMISTRY – I

Full Marks: 80

Time Allowed: 3 Hours

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;
