0806

21819

3 Hours / 80 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Figures to the right indicate full marks.

(4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **20**

a) Explain Arrhenius theory of acids and bases with example. Give its limitations.

b) Define antimicrobial agents. Explain mechanism of action of topical antimicrobials.

c) Draw a well labeled diagram of apparatus used for limit test for Arsenic. Name it.

d) Define antioxidants. Enlist the criteria for selection of antioxidant.

e) Define "Achlorhydria". Write a short mono-graph of drug used for it.

f) Enlist properties for an ideal antacids. Why antacids are preferred in combination?

g) Elaborate the role of iron and calcium in human physiology.

h) Explain physiological acid-base balance.

Marks

2. Attempt any THREE of the following: **12**

a) Discuss mechanism of action of antioxidants. Give properties and uses of hydrogen peroxide.

b) Write molecular formula and uses of ammonium chloride and sodium bicarbonate.

c) Define quality control and give its importance in pharmacy.

d) Write properties and uses of sodium thiosulphate and sodium nitrite.

e) Give uses, storage condition and labeling of carbon dioxide gas.

3. Attempt any THREE of the following: **12**

a) Enlist different "sources of impurities".

b) Elaborate ORS mixture. Give its composition according to WHO.

c) Write a note on cyanide poisoning.

d) Explain metabolic acidosis and alkalosis. Name one compound used in metabolic acidosis and metabolic alkalosis

e) Give medicinal uses of:

(i) Zinc oxide

(ii) Titanium dioxide

(iii) Talc

(iv) Kaoline

Marks

4. Attempt any THREE of the following: **12**

a) Write formula and uses of ferrous sulphate and calcium gluconate.

b) Explain radio-opaque contrast media. Give properties and uses of any one compound used for it.

c) Define the terms:

(i) Desensitizers

(ii) Emetics

(iii) Expectorant

(iv) Laxatives

d) Explain the principle involved in limit test for iron with reactions.

e) Define respiratory stimulants. Give properties and uses of ammonium carbonate.

5. Attempt any THREE of the following: **12**

a) What are inhalants? Give properties and uses of nitrous oxide.

b) Define antidote and classify it.

c) Enlist various intra and extra cellular electrolytes. Give properties and uses of sodium chloride.

d) Explain anti carries agent giving example

e) Define and classify gastro intestinal agents with example.

Marks

6. Attempt any THREE of the following: **12**

a) Give biological role of oxygen. Give properties and uses of oxygen.

b) Define Radiopharmaceuticals. Enlist its various applications.

c) Write two identification tests for:

(i) Calcium

(ii) Chlorides

d) Explain with examples:

(i) Heamatinic

(ii) Systemic alkaliser

e) Define topical agents. Discuss the uses of astringents with examples.

0806

11819

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Marks

1. Answer any EIGHT of the following: **16**

a) State any four ideal properties of buffer solution.

b) Mention two different allotropic forms of sulphur.

c) Explain Lewis Acid - Base theory.

d) Define:

(i) Assay

(ii) Radio opaque Contrast Media

e) Name the inorganic compound used in following:

(i) Schistosomiasis

(ii) Achlorhydria

f) Write storage conditions for:

(i) Calcium hydroxide

(ii) Bismuth sub carbonate.

Marks

g) Write incompatibilities of the following

(i) Sulphur dioxide

(ii) Silver Nitrate

h) Explain :

(i) Limit tests

(ii) Significant figures

i) Write importance of sodium ion in the body fluid.

j) Define :

(i) Radio activity

(ii) Half life

k) Explain the role of lead acetate cotton plug and mercuric chloride paper in Arsenic limit test.

l) Give one important use of following compound:

(i) Magnesium trisilicate

(ii) Stannous fluoride

2. Answer any FOUR of the following: **12**

a) Define and classify laxatives with examples.

b) Explain G.I.T. protective and adsorbent. Give properties and uses of Kaolin

c) Discuss Bronsted and Lowry concept of acids and bases. Explain its advantages over Arrhenius Theory.

d) Explain ORS powders recommended by UNICEF and WHO.

e) What are antacids? Give important properties of antacid.

f) Write properties and uses of :

(i) Titanium dioxide

(ii) Calamine.

Marks

3. Answer any FOUR of the following: **12**

a) Explain the following terms:

(i) Desensitizing agent

(ii) Anticaries agent

(iii) Polishing agents

b) Define antidote. Discuss various actions of antidote with example.

c) Explain the role of Iron in human body.

d) Define and classify Topical agent with examples.

e) What are Metabolic acidosis and alkalosis? How they are treated?

f) Enlist six different sources of impurities in Pharmaceuticals.

4. Answer any FOUR of the following: **12**

a) Discuss the role of Oxygen in biological system.

b) State the precautions to be taken while handling and storage of Radiopharmaceuticals.

c) Write principle and reaction involved in the limit test for chloride.

d) Define respiratory stimulant and expectorant. State properties of potassium iodide.

e) Give molecular formula for:

(i) Sodium metabisulfite

(ii) Sodium bicarbonate

(iii) Ammonium Hydroxide

f) Write reactions involved in:

(i) Effect of heat on Boric acid

(ii) Effect of Glycerine on Boric acid.

Marks

5. Answer any FOUR of the following: **12**

a) Mention properties, uses and storage of Borax.

b) Explain electrolyte replacement therapy. Give official preparations of sodium chloride.

c) Define astringents. Give properties and uses of Alum.

d) Explain the principle involved in the limit test for arsenic.

e) Give procedure involved in the limit test for Iron.

f) Write Synonym of:

(i) Sodium metaphosphate

(ii) Sublime sulphur

(iii) Ferrous sulphate

6. Answer any FOUR of the following: **16**

a) Define:

(i) Antiseptic

(ii) Disinfectant

(iii) Germicide

(iv) Bacteriostatic

b) Give any four properties of α and β ray's.

c) Draw a neat labeled diagram and explain working of G.M. counter.

d) Define antioxidants. Give molecular formula properties and uses of sodium thiosulphate.

e) Mention four official preparations of :

(i) Iodine

(ii) Calcium

f) Give two identification tests for (any two)

(i) Acetate ion

(ii) Potassium ion

(iii) Chloride ion

(iv) Sodium ion

0806

21718

3 Hours / 80 Marks Seat No. | | | | | | | | |

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Marks

1. Attempt any FIVE of the following: **20**

a) Define acid and base as per Arrhenious theory and write drawbacks of it.

b) Define Antioxidants. Explain it's mechanism of action.

c) Explain mechanism action of Antimicrobial agents.

d) Write reactions involved in Assay of Boric acid with Glycerine.

e) Define and classify antacids with examples.

f) Write different allotropic forms of sulphur and give the properties and uses of precipitate sulphur.

g) Define topical agents and classify with examples.

h) Define 'Astringents'. Discuss their uses.

Marks

2. Attempt any THREE of the following: **12**

a) Define term Achlorhydria and write synonym, chemical formula, properties and uses of Muriatic acid.

b) Write mechanism action of osmotic laxatives. Classify cathartics with examples.

c) Give reasons why combination antacids are required with examples.

d) List official preparations of buffers and write its roles in pharmacy.

e) Define 'Volume Strength' and calculate volume strength of 20% W/V H_2O_2 solution.

3. Attempt any THREE of the following: **12**

a) Define following terms with examples. (any four)

(i) Internal protective and absorbents

(ii) Desensitizing agents

(iii) Respiratory stimulants

(iv) Buffers

(v) Inhalants

(vi) Expectorants.

b) Write biological role of oxygen or carbondioxide.

c) Define and classify dental products with examples.

d) What is 'Slaked Lime'? Give its properties, uses and molecular formula?

e) Write advantages of providone Iodine over other Iodine preparations and write properties and uses of providone Iodine.

Marks

4. Attempt any THREE of the following: **12**

a) Write synonyms of following (any four)

(i) Calcium carbonate

(ii) Sodium hydroxide

(iii) Talc

(iv) Boric acid

(v) Aqueous iodine solution

(vi) Magnesium sulphate

b) Write properties and uses of Alum.

c) Write chemical formulae for following (any four)

(i) Chlorinated lime

(ii) Borax

(iii) Antimony potassium tartrate

(iv) Sodium potassium tartrate

(v) Sodium thiosulphate

(vi) Hypophosphorus acid

d) Explain mechanism action of sodium thiosulphate and sodium nitritc in cyanide poisoning.

e) Write storage and labelling condition of sulphurdioxide and oxygen gases.

5. Attempt any THREE of the following: **12**

a) Write four sources of impurities in the pharmaceuticals with examples.

b) Draw well-labelled diagram of Gutzeit apparatus.

c) Write importance of quality control and quality assurance in pharmacy.

d) Write principle and reactions involved in limit test for Iron.

e) Write principle and reactions involved in Assay of Iodine or ferrous sulphate.

Marks

6. Attempt any THREE of the following: **12**

a) Write acid-base balance of the body.

b) Explain the biological effects of radiations on human body.

c) What is ORS? Give different formulae given by WHO and UNICEF.

d) Distinguish between α, β and γ rays.

e) Solve any two of the following:

(i) Define radio opaque contrast media with example

(ii) Write any four compounds official of calcium.

(iii) Discuss Role of iron in human body.

(iv) Give uses of stannous fluoride and selenium sulphide.

0806

11718

3 Hours / 80 Marks Seat No. | | | | | | | | |

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(6) Use of Non-programmable Electronic Pocket Calculator is permissible.

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Marks

1. Attempt any EIGHT of the following: **16**

a) Explain the following terms. (Any 2)

(i) Achlorhydria

(ii) Emetics

(iii) Astringents

b) Write chemical incompatibilities of the following. (Any 2)

(i) Hypophosphorus acid

(ii) Sulphurdioxide

(iii) Ferrous Sulphate

c) Give synonyms for the following. (Any2)

(i) Magnesium Sulphate

(ii) Sodium Potassium Tartarate

(iii) Precipitated Sulphur

Marks

d) Write molecular formula for the following. (Any 2)

(i) Sodium Metabisulphite

(ii) Calcium Carbonate

(iii) Stannous Fluoride

e) Discuss uses of the following compounds. (Any 2)

(i) Sodium Nitrite

(ii) Sodium Acetate

(iii) Sodium Thiosulphate

f) Discuss the uses of boric acid. Discuss the effect of heat on boric acid.

g) Write properties and uses of calcium hydroxide.

h) Explain the importance of Glycerine in the assay of boric acid.

i) Write properties, storage and handling of NaOH.

j) Classify antacids with examples. Write two properties of aluminium hydroxide gel.

k) Give two identification test for each ion :-

(i) Chloride

(ii) Sulphate

l) Write uses and storages and labelling of Oxygen.

2. Attempt any FOUR of the following: **12**

a) Define Antacids. Explain why combination antacid therapy is preferred over single antacid therapy with examples.

b) Explain Protectives and Adsorbents. Give properties and uses of Kaolin.

c) Name three official compounds of iron along with their molecular formula.

d) Explain the principle along with reactions involved in limit test for sulphate IP.

e) Discuss biological effects of Radiations.

f) Explain the term 'Inhalants' Mention uses and properties of carbondioxide.

Marks

3. Attempt any FOUR of the following: **12**

a) Define antioxidants. Discuss properties required of an ideal antioxidant.

b) Define the following terms with examples.

(i) Expectorants

(ii) Antidotes

c) Explain properties, uses and storage conditions of hydrogen peroxide.

d) Discuss the role of calcium cation in the body.

e) Explain importance of 'Electrolyte Combination Therapy' with special reference to ORS.

f) Discuss the properties and uses of Ammonium Chloride.

4. Attempt any FOUR of the following: **12**

a) Discuss the effects of impurities present in the pharmaceuticals.

b) Classify antidotes based on mechanism of action. Mention the antidotes for cyanide poison.

c) Define mEq/L. Calculate the mEq. of sodium chloride in one litre of 0.90% w/v solution.

d) Enlist the various units used to measure radioactivity.

e) Explain the importance of use of the following reagents :-

(i) Thioglycollic acid in iron limit test IP

(ii) Bariumchloride in sulphate limit test IP.

(iii) Mercuric Chloride Paper in Arsenic Limit Test IP.

f) Define buffers. Explain mechanism of action of buffers.

Marks

5. Attempt any FOUR of the following: **12**

a) Which salt is commonly used in Sodium Replacement Therapy? Mention various preparations containing it.

b) Discuss the various handling and storage conditions for Radioisotopes.

c) Discuss Lowry-Bronsted Theory for acid and base with examples. Explain its advantages over Arrhenius Acid-Base theory.

d) Mention the synonyms and uses of :-

(i) Hydrochloric acid

(ii) Sodium bicarbonate

(iii) Zinc Sulphate

e) Enlist various Iodine preparations. Explain role of Iodine in body.

f) Explain the theory involved in the assay of hydrogen peroxide with reactions.

6. Attempt any FOUR of the following: **16**

a) Enlist the various sources of impurities found in pharmaceutical substances. Describe any two.

b) Define 'Topical Agents'. Classify them with examples.

c) Discuss Arsenic Limit Test IP along with the apparatus used and reactions involved.

d) Enlist the major anions and cations found in body fluids. Explain how physiological acid-base balance is maintained.

e) Classify the G.I.T. agents with examples. Discuss uses and properties of Bismuth subcarbonate.

f) Explain Radio-Opaque Contrast Media. Discuss Synonym, Properties and Uses of Barium Sulphate.

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0806

11718

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Marks

1. Attempt any EIGHT of the following: **16**

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(iii) Astringents

b) Write chemical incompatibilities of the following. (Any 2)

(i) Hypophosphorus acid

(ii) Sulphurdioxide

(iii) Ferrous Sulphate

c) Give synonyms for the following. (Any2)

(i) Magnesium Sulphate

(ii) Sodium Potassium Tartarate

(iii) Precipitated Sulphur

Marks

d) Write molecular formula for the following. (Any 2)

(i) Sodium Metabisulphite

(ii) Calcium Carbonate

(iii) Stannous Fluoride

e) Discuss uses of the following compounds. (Any 2)

(i) Sodium Nitrite

(ii) Sodium Acetate

(iii) Sodium Thiosulphate

f) Discuss the uses of boric acid. Discuss the effect of heat on boric acid.

g) Write properties and uses of calcium hydroxide.

h) Explain the importance of Glycerine in the assay of boric acid.

i) Write properties, storage and handling of NaOH.

j) Classify antacids with examples. Write two properties of aluminium hydroxide gel.

k) Give two identification test for each ion :-

(i) Chloride

(ii) Sulphate

l) Write uses and storages and labelling of Oxygen.

2. Attempt any FOUR of the following: **12**

a) Define Antacids. Explain why combination antacid therapy is preferred over single antacid therapy with examples.

b) Explain Protectives and Adsorbents. Give properties and uses of Kaolin.

c) Name three official compounds of iron along with their molecular formula.

d) Explain the principle along with reactions involved in limit test for sulphate IP.

e) Discuss biological effects of Radiations.

f) Explain the term 'Inhalants' Mention uses and properties of carbondioxide.

Marks

3. Attempt any FOUR of the following: **12**

a) Define antioxidants. Discuss properties required of an ideal antioxidant.

b) Define the following terms with examples.

(i) Expectorants

(ii) Antidotes

c) Explain properties, uses and storage conditions of hydrogen peroxide.

d) Discuss the role of calcium cation in the body.

e) Explain importance of 'Electrolyte Combination Therapy' with special reference to ORS.

f) Discuss the properties and uses of Ammonium Chloride.

4. Attempt any FOUR of the following: **12**

a) Discuss the effects of impurities present in the pharmaceuticals.

b) Classify antidotes based on mechanism of action. Mention the antidotes for cyanide poison.

c) Define mEq/L. Calculate the mEq. of sodium chloride in one litre of 0.90% w/v solution.

d) Enlist the various units used to measure radioactivity.

e) Explain the importance of use of the following reagents :-

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(iii) Mercuric Chloride Paper in Arsenic Limit Test IP.

f) Define buffers. Explain mechanism of action of buffers.

Marks

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c) Discuss Lowry-Bronsted Theory for acid and base with examples. Explain its advantages over Arrhenius Acid-Base theory.

d) Mention the synonyms and uses of :-

(i) Hydrochloric acid

(ii) Sodium bicarbonate

(iii) Zinc Sulphate

e) Enlist various Iodine preparations. Explain role of Iodine in body.

f) Explain the theory involved in the assay of hydrogen peroxide with reactions.

6. Attempt any FOUR of the following: **16**

a) Enlist the various sources of impurities found in pharmaceutical substances. Describe any two.

b) Define 'Topical Agents'. Classify them with examples.

c) Discuss Arsenic Limit Test IP along with the apparatus used and reactions involved.

d) Enlist the major anions and cations found in body fluids. Explain how physiological acid-base balance is maintained.

e) Classify the G.I.T. agents with examples. Discuss uses and properties of Bismuth subcarbonate.

f) Explain Radio-Opaque Contrast Media. Discuss Synonym, Properties and Uses of Barium Sulphate.

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11920

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Marks

1. Attempt any FIVE of the following: **20**

a) Define the terms with examples

(i) Lewis Acid and Lewis Base

(ii) Respiratory stimulants and Inhalants.

b) Give synonyms and molecular formula for

(i) Sodium hydroxide

(ii) Chlorinated lime

c) Explain why glycerin is used in the assay of Boric acid. Give reactions involved.

d) Define and classify "Topical Agents" with examples.

e) Define "Astringents". Mention their uses.

f) Classify antacids with example. Write properties of ideal antacids.

g) Define expectorants. Write mechanism of action of expectorants with example.

h) Discuss principle involved in limit test for iron with reactions.

P.T.O.

Marks

2. Attempt any THREE of the following: **12**

a) Define achlorhydria. Give properties, uses and molecular formula of agent used to treat achlorhydria.

b) Define the following terms

(i) Antioxidants

(ii) Anticaries Agent

(iii) Emetics

(iv) Dental Fluorosis

c) Explain principle involved in the limit test for lead IP with reactions.

d) Give properties and uses of calcium carbonate and hydrogen peroxide.

e) Define Antimicrobial agents and explain their mechanism of action. Give properties of Potassium Permanganate.

3. Attempt any THREE of the following: **12**

a) Define and explain mechanism of antioxidants. Give properties and uses of sodium thiosulphate.

b) Define with examples

(i) Radio Isotopes

(ii) Protectives and Adsorbents

(iii) Buffers

(iv) Radiopaque constrast media

c) Give two identification tests for

(i) Chloride ion

(ii) Calcium ion.

d) Discuss the biological effects of radiations on human body.

e) Define cathartics. Classify with examples. Give synonym and molecular formula of Sodium Potassium tartarate.

Marks

4. Attempt any THREE of the following: **12**

a) Give storage and labelling for
   (i) Oxygen
   (ii) Carbondioxide

b) Draw a well-labelled, neat diagram of Gutzeit - Apparatus.

c) Classify Gastrointestinal Agents with examples.

d) Name four devices used for measurement of radiations. Explain GM counter.

e) Define and classify antidote with examples. Name two antidotes used in cyanide poisoning.

5. Attempt any THREE of the following: **12**

a) Explain "Physiological acid-base balance."

b) Define impurity and explain its effect on pharmaceutical preparations.

c) Discuss Arrhenious theory of acids and bases with examples. Write uses of Boric acid and Calcium hydroxide.

d) State the reactions and explain the principle of assay of hydrogen peroxide or ferrous sulphate.

e) Give properties, uses, storage and labelling of Nitrous oxide.

6. Attempt any THREE of the following: **12**

a) Explain the importance of Electrolyte combination therapy and ORS mixture and give formulas recommended by WHO and UNICEF.

b) Define and classify Dental products. Give the role of fluorides in dental caries.

c) Write the molecular formula and uses of following.
   (i) Ferrous Sulphate
   (ii) Magnesium Sulphate

d) Write the principle and reaction involved in the limit test for chloride IP.

e) Exaplain Lowry-Bronsted theory with examples. Discuss advantages of this theory over other acid-base theories.
