**Pharmaceutical inorganic chemistry sem-1 (B Pharmacy)**

**Question bank**

**UNIT-1**

**5marks**

1. Explain the principle and procedure for the limit test for sulphates.
2. Write in detail the principle and reactions involved in the limit test for arsenic.
3. Give the principle and procedure involved in the sulphate limit test.
4. Write the principle involved in the limit test for arsenic.
5. Write the principle of limit test for lead.
6. Write the procedure and principle with reactions for limit test for lead.
7. Write the principle and reaction involved in the heavy metals (IP) limit test.
8. Give the principle, reactions involved in the limit test for iron and lead.
9. Write in detail the principle, reactions and procedure for the limit test for iron.
10. Explain briefly the implications of impurities in pharmaceutical substances.
11. What do you mean by the term monograph? What are the contents of the monograph in Detail?
12. Give a detailed account of the history of Pharmacopoeia.
13. Write a note on Pharmacopoeia of India.

**10 marks**

1. Describe the various sources of impurities present in pharmaceutical substances.
2. Write briefly the different sources of impurities present in pharmaceutical substances..
3. Explain the principle and procedure involved in the limit test of arsenic with a neat Labelled diagram of Gutziet’s apparatus.
4. Give principle, procedure, reactions and role of reagents involved in the limit test for a) b) Lead-based on IP 1996 method.
5. Explain the various sources of impurities in pharmaceuticals. Discuss the importance of
6. Limit tests in quality control of pharmaceuticals.
7. Write in brief the different sources of impurities present in pharmacopoeial substances.
8. What are impurities? Explain different sources of impurities with examples.
9. Write the procedure and principles for the limit tests for a) Sulphates b) Iron
10. Describe the principle, apparatus and procedure for the limit test of arsenic.
11. Define limit test? List out different limit tests you have studied. Discuss in detail the limit Test for sulphate and iron.

**UNIT-2**

Chapter: Acid-Base and Buffers

**2marks**

1. Define the following terms i) Osmotic pressure ii) Isotonic solution.
2. What is buffer capacity?
3. Define buffers with examples.
4. Define buffers. Give examples of two official buffers.
5. What are buffer capacity and isotonicity?
6. What is the importance of buffer in pharmacy?
7. Define the term hypotonic and hypertonic.
8. Define the term tonicity.
9. What is osmotic pressure?
10. Give any two examples of strong acid and weak acid.
11. Give any two examples of a strong base and weak base.
12. Write the limitations of Arrhenius theory.

**5marks**

1. What are buffers derive from the Henderson-hasselbalch equation for buffers?
2. What are buffered isotonic solutions? Give details.
3. Explain the Lewis acid and Lewis base with examples.
4. What is a buffer solution that explains the mechanism of buffer action?
5. Write the importance of buffer solutions in pharmacy.
6. Write a note on the isotonic buffer.
7. Define acids and bases according to various concepts.
8. Write a note on buffer solutions.
9. Describe various methods used to adjust isotonicity.

**10Marks**

1. Describe buffer capacity, stability of buffers, methods of adjusting isotonicity. Buffers and their role in pharmacy.
2. Discuss various types of physiological buffers. Explain the mechanism of their Buffer action.
3. Explain major buffers used in pharmaceutical preparations. What are the disadvantages of each? What factors must be taken into consideration in the Selection of a buffer?
4. What are buffers? Explain the mechanism of buffer action with an example. Briefly discuss the role of buffers in pharmacy.

Chapter: Major Intra and extracellular electrolyte

**2 Marks**

1. Give the composition of sodium chloride injection.
2. What is the biological importance of sodium and chloride ions?
3. What is milliequvalent per litre,
4. Write the formula and uses of ORS.
5. Classify extra and intracellular electrolytes with examples
6. Give the method of preparation and uses of calcium gluconate injection.

**5 MARKS**

1. Discuss the physiological acid-base balance in the body.
2. Write a note on electrolytes used in replacement therapy.
3. Explain the preparation, assay principle, storage conditions and medical uses of calcium Gluconate injection.
4. Describe the physiological mechanism of acid-base balance in the body.
5. What is electrolyte combination therapy? Explain a note on ORS.
6. Explain the physiological role of sodium, calcium, chloride and bicarbonate ions.
7. Give the principle and reaction involved in the assay of Calcium gluconate.
8. Write a note on physiological acid-base balance.
9. Write a note on a combination of electrolyte replacement therapy.

Chapter: Dental products

**2 marks**

1. ✦ Write about zinc eugenol cement.
2. What is an anticaries agent? Give example.
3. What is dental caries? Name two anticaries agents.
4. What is desensitizing agents? Give examples.
5. What are Dentifricing agents? Give examples.
6. What are dental products? Classify them with examples.
7. Write the composition and application of zinc eugenol cement

**5marks**

1. Discuss the role of fluorides in dental caries.
2. What are dentifrices? Classify them with an example. Write a note on the role of fluoride as an Anticaries agent.
3. Preparation and medicinal uses of calcium carbonate and sodium fluoride.
4. Describe the method of preparation and uses of any two dental products.

UNIT-03

Chapter: Gastrointestinal agent

**2 marks**

1. What Are antacids? Give examples.
2. Define gastrointestinal protective agent. Give examples.
3. Give the method of preparation of milk of magnesia.
4. What is achlorhydria? Give its treatment.
5. Define saline Cathartic give examples.
6. Write the molecular formula and uses of milk of magnesia.
7. Write the uses of aluminium hydroxide and magnesium hydroxide.
8. Write the composition and uses of kaolin.
9. Chemical composition and uses of magnesium trisilicate.
10. Write two uses of NaHCO3.
11. What are non-systemic antacids?
12. Give the synonym of NaHCO3, MgSO4, magnesium hydroxide.
13. Define antacids. Give examples
14. Classify gastrointestinal agents for example.
15. Write adverse effects of antacids.
16. Write the pharmaceutical importance of Bentonite powder.

**5 marks**

1. Give the method of preparation and uses of Aluminium hydroxide gel.
2. Define and classify antacids with examples. Add a note on combination antacid Therapy.
3. Define cathartics. Give the preparation and uses of any two cathartics.
4. What are GIT agents? Classify them with examples. Write a note on acidifiers.
5. What are antacids? Classify them with examples. State requirements for an ideal Antacid.
6. Define and classify antacids? Discuss the preparation, assay principle and Medicinal uses of Baking soda.
7. Write the principle for the assay of magnesium hydroxide.
8. What are saline cathartics? What is their mechanism of action?
9. Enlist different antacids. Write the preparation and uses of Magnesium Hydroxide.
10. Write a note on antacid combination therapy.
11. What are antacids? Classify them with examples. Give the method of Preparation, uses and assay of Sodium bicarbonate.
12. What are gastrointestinal protectives and adsorbents. Write a short note on kaolin.

**10marks**

1. What are Antacids? Classify them with examples. Give the ideal properties of Antacids. Write the preparation, assay and uses of sodium bicarbonate.
2. Enlist in detail any drug with their molecular formula, synonym (if any) method of preparation and use belongs to magnesium, aluminium and sodium-containing antacid.
3. Explain the principle, reaction and procedure involved in the assay of chlorinated lime and hydrogen peroxide.

Chapter: Antimicrobial agent

**2marks**

1. What are antimicrobial agents? Give examples.
2. Why sulphuric acid is added in the assay of Hydrogen peroxide.
3. What is the use of glycerine in the boric acid assay?
4. Define antimicrobial agent. List out the antimicrobial agents with molecular Formula.
5. Preparation of boric acid?
6. Give reasons: Dilute sulphuric acid used in the assay of hydrogen peroxide.
7. Give the composition and method of preparation of Iodine tincture.
8. Mention various preparations of iodine and their uses.
9. What are antimicrobial agents? Give examples.
10. Name two antimicrobials with their molecular formula.
11. Write the molecular formula of boric acid and chlorinated lime.
12. Write the synonym for bleaching powder and its uses.
13. Write the molecular formula and uses of ZnO
14. Write the molecular formula and uses of KMNO4.
15. Write the molecular formula and uses of Boric acid,

**5 marks**

1. Define antimicrobial agents. Write the principle involved in the preparation and assay of hydrogen peroxide.
2. Describe the various mechanism of action of inorganic anti-microbial agents.
3. What are anti-microbials? Give the method of preparation and principle in the assay of chlorinated lime.
4. What are antimicrobials? Write a note on various iodine preparations.
5. Write the preparation and uses of Chlorinated lime and boric acid.
6. Explain the principle and reactions in the assay of Chlorinated lime.

**UNIT-04**

Chapter: Miscellaneous Agent

**2 marks**

1. Define term antidotes. Give examples.
2. haematinics? Give examples.
3. Define emetics with examples.
4. Give the chemical formula and medicinal use of sodium thiosulphate.
5. Define expectorant and emetics Give examples.
6. Give reasons a) Potassium iodide is used in the assay of Copper sulphate b) HCHO used in the assay of Ammonium chloride.
7. What are expectorants? Give an example.
8. Write pharmaceutical uses of activated charcoal and sodium thiosulphate.
9. Define antidotes with examples.
10. Write the molecular formula and medicinal uses of sodium thiosulphate.
11. What are Haematinics? Give examples.
12. What are antidotes? Give the method of preparation and importance of activated charcoal.
13. Write the synonym for ferrous sulphate and copper sulphate.

**5 marks**

1. Explain the method of preparation and assay of Ammonium chloride.
2. Explain the principle and reactions involved in the assay of copper sulphate.
3. What are Haematinics? Write the preparation and assay of ferrous sulphate.
4. What are Haematinics? Explain the preparation and assay Of Green Vitriol.
5. What are emetics? Write the method of preparation and assay Of Copper sulphate.
6. What are expectorants? Give the method of assay of anyone expectorant.
7. What are haematinics? Give the method of preparation, assay principle and Medicinal uses ferrous sulphate.
8. What are expectorants? Give example and mechanism of action.
9. Define and classify antidotes with examples. Write a note on activated charcoal.
10. What is cyanide toxicity? What are the symptoms and treatment for cyanide Poisoning?

**UNIT-05**

Chapter: Radiopharmaceuticals

**2 marks**

1. What are radiopharmaceuticals?
2. Give the importance of radioisotopes in pharmacy
3. Define half-life.
4. Write the uses of sodium iodide I131
5. Define isotope.
6. Write the storage condition of sodium iodide I131
7. Give the precautionary measure required to handle radioactive substances.

**5Marks**

1. Explain in detail any one method employed for the measurement of radioactivity.
2. Describe the precautions for storage and handling of radioisotopes.
3. Write a note on radiopharmaceutical sodium iodide I131
4. What are radiopharmaceuticals? Discuss the importance of radioisotopes used in Medicine.
5. Describe the properties of a, ß and y radiations.
6. Explain the diagnostic and therapeutic applications of radioisotopes in Detail.
7. Write the construction, working principle of the Geiger-muller counter With a neatly labelled diagram.
8. Give a brief account of hazards associated with radiopharmaceuticals.
9. Write the pharmaceutical application radioactive substances.