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**B. PHARM.**  
**(SEM I) THEORY EXAMINATION 2018-19**  
**PHARMACEUTICAL INORGANIC CHEMISTRY**

**Time: 3 Hours****Total Marks: 75**

**Note:** Attempt all Sections. Write section and question number of each answer.

**SECTION A**

**1. Attempt all questions in brief.**

**10 x 2 = 20**

- a. Give the reaction involved in the limit test of Iron.
- b. What do you mean by ORS?
- c. Potassium permanganate, used as an anti-infective agent, acts through which mechanism?
- d. Why dilute nitric acid used in the limit test of Chloride?
- e. Why Povidone-iodine preferred over iodine as Anti-infective agents?
- f. Define the term acidifying agents.
- g. Define Haematinics with examples.
- h. Give the name of electrolytes used in the replacement therapy.
- i. Define Expectorants with examples.
- j. Give disadvantage of Systemic antacids.

**SECTION B**

**2. Attempt any two parts of the following:**

**2 x 10 = 20**

- a. What do you understand from Anti-infective agents? Explain various mechanism of action of inorganic anti-microbial agents. Give preparation and reaction of Hydrogen peroxide.
- b. Write in detail about various techniques used in the measurement of radioactivity with suitable diagram.
- c. Give the preparation and reaction of any *four* :-
  - (i) Ammonium chloride
  - (ii) Sodium orthophosphate
  - (iii) Potassium permanganate
  - (iv) Magnesium hydroxide
  - (v) Copper sulphate

**SECTION C**

**3. Attempt any seven parts of the following:**

**7 x 5 = 35**

- a. Discuss principle and reaction involved in the Limit test of Arsenic.
- b. Write a note on various sources of impurities.
- c. Explain physiological acid base balance with suitable diagram.
- d. Describe Dentifrices with suitable example
- e. Write a short note on Antacids.
- f. Give classification of Cathartics with suitable examples.
- g. Define Astringents. Give preparation and reaction of Zinc sulphate.
- h. Give properties of alpha, beta and gamma radiations.
- i. Write a short note on Antidote with suitable examples.

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**B. PHARM**  
**(SEM-I) THEORY EXAMINATION 2019-20**  
**PHARMACEUTICAL INORGANIC CHEMISTRY**

**Time: 3 Hours****Total Marks: 75****Note: 1.** Attempt all Sections.**SECTION A****1. Attempt all questions in brief.****10 x 2 = 20**

a.	Composition of barium sulphate reagent.
b.	Give the importance of limit test.
c.	Give the mechanism of $\text{KMnO}_4$
d.	Write formula of Epsom salt.
e.	Give composition of ORS solution.
f.	Write the method for measurement of isotonicity.
g.	Write formula and uses of green vitriol.
h.	Define astringents with example.
i.	Define isotope and isobar.
j.	Differentiate between alpha, beta and gamma rays.

**SECTION B****2. Attempt any two parts of the following:****2 x 10 = 20**

a.	Define expectorant; give the preparation, properties, assay and uses of ammonium chloride.
b.	Give the preparation, properties, assay and uses of Hydrogen Peroxide and Chloride lime.
c.	Write a note on fluoride in the treatment of dental caries with reference to sodium fluoride.

**SECTION C****3. Attempt any five parts of the following:****5 x 7 = 35**

a.	Explain the methods of preparation, identification test, and test for purity of Bentonite and Aluminum hydroxide gel.
b.	Explain the properties of an ideal antacid; give the method for preparation of sodium bicarbonate and potassium permanganate.
c.	Define Haematinics. Write preparation and assay of ferrous sulfate.
d.	Write in detail the limit test for iron.
e.	Define radiopharmaceuticals and elaborate their Pharmaceutical applications.
f.	Write a detailed note on various sources of impurities in Pharmaceutical substances.
g.	Explain various methods for adjusting isotonicity.



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**B PHARM**  
**(SEM-I) THEORY EXAMINATION 2020-21**  
**PHARMACEUTICAL INORGANIC CHEMISTRY**

**Time: 3 Hours****Total Marks: 75****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.****10 x 2 = 20**

a.	Write the principle involved in limit test of chloride.
b.	Write the name of test apparatus used in arsenic limit test.
c.	State the ideal properties of buffer solutions.
d.	What is isotonic solution and iso-osmotic solutions?
e.	What is achlorhydria?
f.	Classify inorganic anti-microbial agents.
g.	Define Expectorants with suitable examples.
h.	Define Astringents along with suitable examples.
i.	What is radioactivity? Give the unit of radioactivity.
j.	What is half-life of radioactive elements?

**SECTION B****2. Attempt any two parts of the following:****2 x 10 = 20**

a.	Define the term impurity. Discuss about various sources of impurities in pharmaceutical substances.
b.	What is antacid? Describe the properties, assay and uses of sodium bicarbonate as an antacid.
c.	What are Haematinics? Explain preparations, properties, assay and uses of ferrous sulphate.

**SECTION C****3. Attempt any five parts of the following:****5 x 7 = 35**

a.	Explain the principal and reaction involved in the limit test for arsenic.
b.	What are different methods of calculation of isotonicity?
c.	What are anticaries agents? Explain the role of fluoride in dental caries.
d.	What are saline cathartics? Give the preparations, properties and uses of magnesium sulphate.
e.	Write the properties, storage conditions and uses of potassium permanganate and Boric acid.
f.	Discuss in detail about cyanide poisoning and its treatment's.
g.	Write the precautions to be taken during handling and storage of radioactive substances.



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**BPHARM**  
**(SEM I) THEORY EXAMINATION 2021-22**  
**PHARMACEUTICAL INORGANIC CHEMISTRY– THEORY**

**Time: 3 Hours****Total Marks: 75****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.****10 x 2 = 20**

a.	What is pharmacopoeia? Enlist the different Pharmacopoeia.
b.	State the principle involved in limit test of chloride.
c.	Discuss the limitation of Arrhenius theory.
d.	State the ideal properties of buffer solutions.
e.	What is achlorhydria?
f.	Give function of ORS.
g.	Define Expectorants with suitable examples.
h.	Illustrate Astringents along with suitable examples.
i.	What is radioactivity? Give the unit of radioactivity.
j.	What is half-life of radioactive elements?

**SECTION B****2. Attempt any two parts of the following:****2 x 10 = 20**

a.	Define the term impurity. Discuss about various sources of impurities in pharmaceutical substances.
b.	Discuss in detail about Arsenic limit test along with apparatus used in arsenic limit test.
c.	Illustrate the method of preparations, properties, assay, and uses of Ammonium chloride.

**SECTION C****3. Attempt any five parts of the following:****7 x 5 = 35**

a.	Discuss the physiological role and disease condition due to imbalance of calcium in body.
b.	Outline anticaries agents. Explain the role of fluoride in dental caries.
c.	Classify cathartics according to their mechanism of action with suitable examples.
d.	Write the properties, storage conditions and uses of potassium permanganate and Boric acid.
e.	What are Haematinics? Explain preparations, properties, assay and uses of ferrous sulphate.
f.	Outline the precautions to be taken during handling and storage of radioactive substances.
g.	What is antacid? Describe ideal properties and uses of antacids.

**B PHARM**  
**(SEM-I) THEORY EXAMINATION 2022-23**  
**PHARMACEUTICAL INORGANIC CHEMISTRY**

**Time: 3 Hours****Total Marks: 75****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A**

**1. Attempt all questions in brief.****10 x 2 = 20**

- (a) What is pharmacopoeia? Enlist the different Pharmacopoeias.
- (b) What are limit tests? Why are they performed?
- (c) Write WHO composition of ORS solution.
- (d) State the ideal properties of buffer solutions.
- (e) What is achlorhydria? How it is treated?
- (f) What are cathartics? Enlist the inorganic compounds used as cathartics.
- (g) Define Expectorants with suitable examples.
- (h) Define Emetics with suitable examples.
- (i) Differentiate between alpha, beta, and gamma rays.
- (j) What is radioactivity? Give the unit of radioactivity.

**SECTION B**

**2. Attempt any two parts of the following:****2 x 10 = 20**

- (a) Define the term impurity. Discuss about various sources of impurities in pharmaceutical substances.
- (b) What are gastric acidifiers? Describe the preparations, properties, assay, and uses of Ammonium chlorides as acidifiers.
- (c) What are anti-microbial agents? Explain the mechanism of action of antimicrobial agents. Discuss the preparations, properties, assay, and uses of Hydrogen Peroxide.

**SECTION C**

**3. Attempt any five parts of the following:****7 x 5 = 35**

- (a) Discuss the apparatus, principle, reaction, and procedure involved in limit test for Arsenic.
- (b) Define electrolyte. Write composition of important physiological ion. Describe the function of sodium, potassium, and calcium as major electrolytes.

- (c) What is antacid? Describe the preparations, properties, and uses of sodium bicarbonate as an antacid.
- (d) Discuss the method of preparations, properties, assay, and storage of compound used in cyanide poisoning.
- (e) What are Haematinics? Explain method of preparations, properties, and uses of ferrous sulphate.
- (f) Write the precautions to be taken during handling and storage of radioactive substances.
- (g) Discuss in detail about the pharmaceutical applications of radioactive substances with examples.

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**BPHARM**  
**(SEM I) THEORY EXAMINATION 2023-24**  
**PHARMACEUTICAL INORGANIC CHEMISTRY– THEORY**

**TIME: 3HRS****M.MARKS: 75**

**Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A****1. Attempt all questions in brief.****10 x 2 = 20**

a.	What is mechanism of action of hydrogen peroxide which is used as an antimicrobial.
b.	What do you understand by the term monograph.
c.	Name a compound which is used as an acidifier as well as an expectorant.
d.	Which formula is used to represent buffer capacity.
e.	Define radioactivity? What are units of radioactivity.
f.	Write the composition of Zinc Eugenol cement.
g.	How do astringents act.
h.	Why formaldehyde is used in assay of ammonium chloride.
i.	State the principle involved in limit test of Iron.
j.	Write pharmaceutical uses of activated charcoal and sodium thiosulphate.

**SECTION B****2. Attempt any two parts of the following:****2 x 10 = 20**

a.	Discuss the term Expectorant. Illustrate the methods of preparation, properties, assay and uses of Ammonium Chloride.
b.	Define the term impurity. Elaborate the various sources of impurities with examples in detail.
c.	Write in detail the precautions and pharmaceutical applications of radioactive substances.

**SECTION C****3. Attempt any five parts of the following:****7 x 5 = 35**

a.	Describe the principle, procedure and apparatus used for limit test of Arsenic along with chemical reactions and diagram.
b.	What is an antacid? What are the ideal requirements and uses of an antacid.
c.	Write a note about methods of preparation, properties and uses of Boric acid
d.	Describe the functions of major physiological ions in the body.
e.	What are dental products and how are they used in dental care? Discuss the role of fluoride in the treatment of dental caries and the use of desensitizing agents.
f.	What are haematinics? Give the method of preparation, properties, medicinal uses and assay of ferrous sulphate.
g.	Explain the principle, construction, working and uses of the Geiger-Muller counter with a neatly labelled diagram.



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**BPHARMA**  
**(SEM I) THEORY EXAMINATION 2023-24**  
**PHARMACEUTICAL INORGANIC CHEMISTRY- THEORY**

TIME: 3 HRS

M.MARKS: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A**1. Attempt *all* questions in brief.

10 x 2 = 20

a.	Define cathartics with examples.
b.	Give two examples of dentrifices.
c.	Explain mechanism of action of antimicrobials.
d.	Write the category to which sodium potassium tartarate belongs to.
e.	What is the modified limit test for chloride.
f.	_____ is the molecular formula for white vitriol.
g.	What is half-life of radioactive elements?
h.	What are the contents of monograph.
i.	Which method is used in assay of sodium thiosulphate.
j.	Write the composition of ORS.

**SECTION B**2. Attempt any *two* parts of the following:

2 x 10 = 20

a.	What are emetics. Write the method of preparation, properties, uses and assay of copper sulphate.
b.	Define limit test. List out the various limit tests you have studied. Discuss in detail limit test of sulphate
c.	What do you understand by acidifiers? Illustrate the method of preparation, properties, uses and assay of ammonium chloride

**SECTION C**3. Attempt any *five* parts of the following:

7 x 5 = 35

a.	Illustrate with the help of principle, diagram, reactions limit test of arsenic.
b.	Write a detailed note on iodine and its preparations.
c.	Discuss electrolytes used for replacement therapy.
d.	Explain pharmaceutical applications of radioactive substances.
e.	Write a detailed note on poison antidote. Give preparation and uses of Sodium thiosulphate.
f.	What are hematinics. Explain preparation, properties and uses of ferrous sulphate.
g.	Write a detailed account on history of Pharmacopoeia.





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**BPHARM**  
**(SEM I) THEORY EXAMINATION 2024-25**  
**PHARMACEUTICAL INORGANIC CHEMISTRY**

**TIME: 3 HRS****M.MARKS: 75**

**Note:** 1. Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A****1. Attempt all questions in brief.****10 x 2 = 20**

a.	What is the significance of radioactivity?
b.	Explain the composition of Zinc eugenol cement.
c.	What are the uses of astringents?
d.	Discuss the value of limit tests in impurity testing.
e.	List examples of dentifrices.
f.	Write the chemical formula and uses of sodium thiosulfate.
g.	Define the chemical nature and uses of activated charcoal.
h.	What is the composition of buffered isotonic solutions?
i.	Paraphrase the ideal properties of antacids.
j.	Enlist two examples of Hematinics.

**SECTION B****2. Attempt any two parts of the following:****2 x 10 = 20**

a.	Explain the procedure of Mohr's method and Volhard's method with examples.
b.	Discuss the methods used for measurement of radioactivity, storage conditions, precautions & pharmaceutical application of Sodium iodide $I_{131}$ .
c.	What are acidifiers? Give methods of preparation, properties, and uses of Ammonium Chloride.

**SECTION C****3. Attempt any five parts of the following:****7 x 5 = 35**

a.	Give a note on Oral Rehydration Salt (ORS) with examples.
b.	Describe the effects of Poison and Antidote with examples.
c.	What are emetics? Give the methods that are used for the preparation of Copper sulphate.
d.	Discuss the limit test used for chloride and sulphate.
e.	Explain the methods used for measurement and adjustment of tonicity.
f.	Discuss the type of antimicrobials with a note on the action of Hydrogen Peroxide.
g.	What are the sources and types of impurities?



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**BPHARM**  
**(SEM I) THEORY EXAMINATION 2024-25**  
**PHARMACEUTICAL INORGANIC CHEMISTRY– THEORY**

**TIME: 3 HRS****M.MARKS: 75**

**Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A****1. Attempt all questions in brief.****10 x 2 = 20**

a.	Define expectorants.
b.	What is zinc eugenol cement?
c.	What are the uses of potash alum?
d.	Discuss the uses of extra and intracellular electrolytes.
e.	Give the uses of potassium chloride.
f.	Explain the role of Kaolin and Bentonite.
g.	List examples of iodine and its preparations.
h.	What are Hematinics?
i.	Paraphrase the role of activated charcoal.
j.	Enlist the uses of poison and antidote

**SECTION B****2. Attempt any two parts of the following:****2 x 10 = 20**

a.	Explain the storage conditions, precautions & pharmaceutical application of Sodium iodide I <sup>131</sup> .
b.	Describe the assay method used for ammonium chloride and heavy metals.
c.	Summarize the type of impurities with examples.

**SECTION C****3. Attempt any five parts of the following:****7 x 5 = 35**

a.	Give a note on the use of sodium bicarbonate.
b.	Discuss the limit test of chloride.
c.	Write a brief note on $\alpha$ , $\beta$ , $\gamma$ radiations.
d.	Explain the mechanism of action of hydrogen peroxide and its uses.
e.	Discuss the history of pharmacopeia.
f.	What are the methods used for measurements of tonicity?
g.	What is the composition of oral rehydration salt?