

B.Pharm I Year I Semester (R19) Supplementary Examinations February 2023

PHARMACEUTICAL INORGANIC CHEMISTRY

(For 2019, 2020 & 2021 admitted batches only)

Time: 3 hours

Max. Marks: 75

PART – A
(Compulsory Question)

1 Answer the following: (10 X 02 = 20 Marks)

- | | |
|--|----|
| (a) Write the types of impurities in pharmaceutical substances. | 2M |
| (b) What is Pharmacopoeia? Mention different types of Pharmacopoeia. | 2M |
| (c) Define Acids and bases. Give examples. | 2M |
| (d) What is buffer capacity? Give examples. | 2M |
| (e) Write the medicinal uses of bentonite. | 2M |
| (f) Write the properties and uses of copper sulphate. | 2M |
| (g) Write the properties and uses of sodium nitrite. | 2M |
| (h) Write the properties and uses of Potassium tartrate. | 2M |
| (i) What are radioisotopes? Give example. | 2M |
| (j) Write the precautions to be taken for radioactive substances. | 2M |

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

- | | | |
|---|---|-----|
| 2 | Explain the principle, procedure in the limit test for Sulphates and lead. | 10M |
| 3 | Explain in detail methods of adjusting Isotonicity. | 10M |
| 4 | Write the preparation, assay and medicinal uses for H ₂ O ₂ and Chlorinated lime. | 10M |

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

- | | | |
|----|---|----|
| 5 | Explain in detail electrolytes used in the replacement therapy. | 5M |
| 6 | Explain in detail buffered solvents. | 5M |
| 7 | Explain the principle and procedure in the limit test for heavy metals. | 5M |
| 8 | Define and classify cathartics with suitable examples. | 5M |
| 9 | Define and classify haematinics with suitable examples. | 5M |
| 10 | Write the study of radioisotopes. | 5M |
| 11 | Write a note on pharmaceutical applications of radioactive substances. | 5M |
| 12 | Write a note on storage conditions of Iodine and its preparation. | 5M |
| 13 | Write a note on acidifiers with examples. | 5M |

B.Pharm I Year I Semester (R19) Regular Examinations July 2022

PHARMACEUTICAL INORGANIC CHEMISTRY

(For 2021 admitted batches only)

Time: 3 hours

Max. Marks: 75

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|---|----|
| (a) Write the types of impurities in pharmaceutical substances. | 2M |
| (b) Write the principal involved in the limits test for chlorides. | 2M |
| (c) What are buffers? Give examples. | 2M |
| (d) Define isotonic solution with examples. | 2M |
| (e) Write any two chemical properties and medicine for Dil.HCL. | 2M |
| (f) Write the ideal properties of antacids. | 2M |
| (g) Give any two reactions for sodium nitrite 333. | 2M |
| (h) Define astringent with examples. | 2M |
| (i) Explain the various precautions taken for radiopharmaceuticals. | 2M |
| (j) What are radiopharmaceuticals? Give examples. | 2M |

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

- 2 Explain the electrolytes used in the replacement therapy. 10M
- 3 Define haematinics. Write the preparation, assay, properties and medicinal uses for copper sulphate. 10M
- 4 Write a note on Oral Rehydration Salts (ORS). Add note on physiological acid base balance. 10M

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

- 5 Explain the principle and procedure involved in the limits for iron. 5M
- 6 Explain in detail the role of fluoride in the treatment of dental caries. 5M
- 7 Write a note on cathartics with suitable examples. 5M
- 8 Write any two reactions and medicinal uses for potassium permanganate. 5M
- 9 Write in detail the properties of α , β , δ radiations. 5M
- 10 Write a note on radio isotopes with suitable examples. 5M
- 11 Write the reaction and medical uses for sodium potassium tartrate. 5M
- 12 Explain in detail the history of pharmacopoeia. 5M
- 13 Explain the modified limit test for sulphate. 5M

B.Pharm I Year I Semester (R19) Supplementary Examinations September 2022

PHARMACEUTICAL INORGANIC CHEMISTRY

(For 2019, 2020 & 2021 admitted batches only)

Time: 3 hours

Max. Marks: 75

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|--|----|
| (a) Write the principle involved in the limit test for sulphates. | 2M |
| (b) What is modified limit test? Give examples. | 2M |
| (c) Define acids and bases. Give examples. | 2M |
| (d) Define dentifrices with example. | 2M |
| (e) Define and classify antimicrobials with examples. | 2M |
| (f) Write any two properties and medical uses of alum hydroxide gel. | 2M |
| (g) Give any two reactions for potash alum. | 2M |
| (h) Write the medical uses and reaction for ferrous gluconate. | 2M |
| (i) Define half-life with suitable examples. | 2M |
| (j) Define radioactive. Give example. | 2M |

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

- | | | |
|---|---|-----|
| 2 | Explain in detail the measurement of tonicity and methods of adjusting isotonicity. | 10M |
| 3 | Write the preparation, assay & medical use for ammonium chloride and add a note on combination of antacids. | 10M |
| 4 | Write in detail poison and antidotes with suitable examples. | 10M |

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

- | | | |
|----|---|----|
| 5 | Explain the principle and process involved in the limit test for lead. | 5M |
| 6 | Write the preparation and assay for calcium gluconate. | 5M |
| 7 | Explain any two properties, assay and medical uses for sodium bicarbonate. | 5M |
| 8 | Write the preparation and assay for hydrogen peroxide. | 5M |
| 9 | Explain in detail measurement of radioactivity. | 5M |
| 10 | Explain the storage condition and pharmaceutical application of radioactive substances. | 5M |
| 11 | Write a note on expectorant with suitable examples. | 5M |
| 12 | Explain the sources and various types of impurities in pharmaceutical substances. | 5M |
| 13 | Write a note on desensitizing agents with examples. | 5M |

B.Pharm I Year I Semester (R19) Supplementary Examinations February 2022
PHARMACEUTICAL INORGANIC CHEMISTRY
(For 2020 admitted batches only)

Time: 3 hours

Max. Marks: 75

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- Write a short note on pharmacopoeia.
 - List out the different sources of impurities in pharmaceuticals.
 - Define molarity and normality with example.
 - What is buffer? Write its significances.
 - Define acidifiers and antacids with examples.
 - Give the mechanism of action of potassium permanganate and boric acid.
 - Mention the uses of potassium iodide and sodium potassium tartrate.
 - What is antidote? Give two examples with structure.
 - Define half life.
 - What is radio activity?

PART – B
(Answer any two questions: 02 X 10 = 20 Marks)

- 2 (a) Give the significances of fluoride in the treatment of dental caries.
(b) Write a note on Zinc eugenol cement.
- 3 Write about the preparation, properties, assay and uses of chlorinated lime.
- 4 (a) Explain the storage condition to be followed when handling radioactive substance?
(b) Give short notes on I^{131} .

PART – C
(Answer any seven questions: 07 X 05 = 35 Marks)

- 5 Briefly discuss about history of Indian pharmacopeia.
- 6 Write about the principle and reaction involved in the limit test of chlorides.
- 7 Describe about the calcium carbonate.
- 8 Write the preparation, properties, assay and uses on hydrogen peroxide.
- 9 Explain the ideal properties and combination of antacids.
- 10 Explain different iodine preparations.
- 11 Define astringents and write a note on Zinc sulphate.
- 12 Define antidotes and write a note on sodium nitrite.
- 13 Write short notes on measurement of radioactivity.

B.Pharm I Year I Semester (R19) Supplementary Examinations April/May 2022

PHARMACEUTICAL INORGANIC CHEMISTRY

(For 2019 & 2020 admitted batches only)

Time: 3 hours

Max. Marks: 75

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- Define limit test.
 - Write modified limit test for chloride.
 - Define ORS.
 - What are dentifrices? Give two examples.
 - Write assay of sodium thiosulphate.
 - List out the iodine preparations and their composition.
 - What are expectorants and emetics? Give suitable examples.
 - Define and give examples for Haematinic.
 - List out the pharmaceutical applications of any two radioactive substances.
 - Write the precautions of radioisotopes.

PART – B

(Answer any two questions: 02 X 10 = 20 Marks)

- 2 Write the principle and reaction involved in the limit test for Iron and sulphate.
- 3
- Classify antacid. Write a note on acid neutralizing capacity of Aluminium Hydroxide gel.
 - Give the preparation, assay and properties of Aluminium Hydroxide gel.
- 4
- List out and explain the role of electrolytes in acid base balance.
 - Give the preparation, assay and uses of ferrous sulphate.

PART – C

(Answer any seven questions: 07 X 05 = 35 Marks)

- 5 Write the sources of impurities in pharmaceutical substances.
- 6 Explain the principle and reaction involved in the limit test for lead.
- 7 Write about the preparation, assay and uses of calcium gluconate.
- 8 Write about the preparation, assay and uses of copper sulphate.
- 9 Explain about sodium bicarbonate.
- 10 Discuss about the properties and uses of the followings:
(i) Magnesium sulphate. (ii) Sodium ortho phosphate.
- 11 Write a short note on Alum.
- 12 What are expectorants? Give the preparation, properties, assay and uses of ammonium chloride.
- 13 Give a brief note on alpha, beta and gamma radiation.

B.Pharm I Year I Semester (R15) Supplementary Examinations February 2023
PHARMACEUTICAL ORGANIC CHEMISTRY – I

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- Write bond dissociation energies.
 - Define surface tension.
 - Classify isomerism with example.
 - What is conformational isomerism?
 - Define Markovnikov and anti-Markovnikov rule.
 - Write any two method of preparation of alkenes.
 - Define Walden inversion and Saytzeff's rule.
 - Write the preparation of each one alkyne and alkyl halide.
 - What is umpolung reaction? Quote an example.
 - Give an example for nucleophilic addition-elimination reaction.

PART – B
(Answer all the questions: 05 X 10 = 50 Marks)

- 2 Write a brief note on organic reagents and reactions.
- OR**
- 3 Explain SP³ and SP² hybridization with suitable examples.
- 4 (a) Explain about Baeyer's strain theory with their limitations.
(b) Write the IUPAC nomenclature of alkanes.
- OR**
- 5 (a) Explain the relative stabilities of alkenes.
(b) Describe about the halogenation of alkanes with Free radical mechanisms.
- 6 Briefly describe electrophilic addition reactions of alkene.
- OR**
- 7 (a) What products would you obtain when HBr is added to 1, 3-butadiene? Justify your answer with diagram.
(b) Define with an example the Bayer's oxidation and Markovnikov's addition reaction.
- 8 (a) Give an account on the mechanism, kinetics, reactivity and stereochemistry of SN₂ reaction.
(b) Write the IUPAC nomenclature of alkyl halide.
- OR**
- 9 Explain the mechanism and stereochemistry of SN₁ and SN₂ reactions.
- 10 (a) Discuss the nomenclature of aldehydes and ketones.
(b) Explain with mechanism the Reformatsky reaction.
- OR**
- 11 (a) Write the reaction and mechanism of Aldol condensation and Benzoin condensation.
(b) Explain about the polarity of carbonyl compounds.

B.Pharm I Year I Semester (R15) Supplementary Examinations September 2022
PHARMACEUTICAL ORGANIC CHEMISTRY – I

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- Write bond dissociation energies.
 - Define surface tension.
 - Write relative stabilities of cyclohexane.
 - Define Bayer strain theory.
 - What is Kharasch effect?
 - Write any two examples of conjugated dienes.
 - Write the reaction for formation of metal acetylides.
 - Define Keto-enol tautomerism.
 - Give one example for nucleophilic addition of carbonyl compounds.
 - Define Reformatsky reaction.

PART – B
(Answer all the questions: 05 X 10 = 50 Marks)

- 2 Explain SP³ and SP² hybridization with suitable examples.
- OR
- 3 Give a detailed note on impact of structures on boiling point, melting point and solubility with suitable examples.
- 4 Write in brief about the free radical substitution reactions of alkanes & its selectivity.
- OR
- 5 Explain various conformations of cyclohexane and their ring stabilities.
- 6 Explain the mechanism with suitable example of 1, 4-addition than 1, 2-addition of conjugated alkadienes.
- OR
- 7 Briefly describe electrophilic addition reactions of alkene.
- 8 Explain in detail about the elimination reactions of alkyl halides.
- OR
- 9 Write short notes on the following:
- Walden inversion.
 - Saytzeff rule.
- 10
- Write the methods of preparation of carbonyl compounds.
 - Discuss about Aldol condensation.
- OR
- 11
- Explain the mechanism of Perkins reaction.
 - Write a brief note on Oppenauer oxidation.

B.Pharm I Year I Semester (R15) Supplementary Examinations September 2022
PHARMACEUTICAL INORGANIC CHEMISTRY

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- Define limit test.
 - Write the composition and significance of ethanolic sulphate solution.
 - Define normality and molality.
 - What is primary standard substance? Give examples.
 - Write the composition and uses of ORS.
 - Write the chemical formulae and uses of dibasic calcium phosphate.
 - What are pharmaceutical aids? Give examples.
 - Write the composition and uses of bentonite.
 - Write the chemical formulae and uses of magnesium trisilicate.
 - What are emetics? Give examples.

PART – B
(Answer all the questions: 05 X 10 = 50 Marks)

- Write the principle & procedure for chloride limit test IP 2018.
 - Write the principle & procedure for iron limit test IP 2018.
- OR
- Explain the principle and reactions of arsenic limit test.
 - With neat labeled diagram describe the Gutzeit's apparatus.
- What is primary standard substance? Give examples and enlist their ideal properties.
 - With example write the classification of titrations based on chemical reactions.
- OR
- How will you prepare and standardize the 500 ml of approximately 0.1N potassium permanganate and 0.05M EDTA?
- What are dental products? Classify them with examples.
 - Write the method of preparation of ferric ammonium citrate and mention its uses.
- OR
- Write the principle reactions and procedure for the assay of sodium chloride and ferrous sulphate.
- With chemical equations, explain the various methods of preparations of hydrogen peroxide.
 - What are topical agents? Classify them with examples.
- OR
- Write the principle and reactions involved in the assay of zinc oxide and hydrogen peroxide.
- What are gastrointestinal? Classify them with examples.
 - Write method of preparation uses of sodium thiosulphate and mention its medicinal uses.
- OR
- Write the principle and reactions involved in the assay of ammonium chloride.
 - Write the chemical formulae and uses of:
 - Lithium carbonate.
 - Plaster of Paris.
 - Sodium antimony gluconate.
 - Sodium tetradecyl sulphate.
 - cis-platin.
