Roll No. [ ]

Total No. of Questions : 13

Total No. of Pages : 02

B.Pharma (Sem–1)

PHARMACEUTICS-I THEORY

Subject Code : BP-103T

M.Code : 74646

Date of Examination : 03-06-2023

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.**
3. **SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.**

SECTION-A

1. **Write Briefly :**

a) Mention the contents of inscript in a prescription.

b) Mention the English meaning of : qs; sos; ex aq; post cibos.

c) What is meant by 50 degree Proof?

d) What are effervescent powders? Mention their ingredients.

e) What are anti-oxidants? Give two examples of oil soluble antioxidants.

f) What is a gargle? Mention the ingredients of a gargle.

g) What is meant by displacement value with respect to suppositories?

h) What are isotonic solutions? Why eye drops should be isotonic?

i) What is meant by adjusted incompatibility?

j) What are lotions?

July–2023

SECTION-B

2. How many grams of a drug substance is required to make 120 ml of a 20% w/w solution having specific gravity of 1.15?

3. What are suppositories? Mention the types of drugs that can be advantageously administered through suppositories. Give a brief account on bases used for making suppositories.

4. What are emulsions? Mention the different types of emulsions and describe the tests employed to identify the type of emulsion. Briefly write about the parameters evaluated for testing the stability of emulsions.

SECTION-C

5. Write a note on career prospects in pharmacy profession in India.

6. Give an account of the method used for preparing effervescent granules.

7. Enumerate the excipients used in liquid preparations with examples.

8. Name various solubility enhancement techniques. Discuss any one with example.

9. Define liniments. Mention the ingredients of liniments and their uses.

10. Write a note on "melting" suppository bases.

11. Mention the formulae used for calculating dose for children on the basis of age.

12. Classify chemical incompatibilities with examples.

13. Discuss bases with examples for pessaries.

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Roll No. [ ]

Total No. of Questions : 13

Total No. of Pages : 02

B.Pharmacy (Sem–1)

PHARMACEUTICAL INORGANIC CHEMISTRY

Subject Code : BP-104T

M.Code : 74647

Date of Examination : 06-06-2023

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

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2. **SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**
3. **SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.**

SECTION-A

1. **Explain in brief :**

   a) Define emetics with examples.

   b) Define acidifiers with examples.

   c) What are the methods of adjusting tonicity?

   d) What is ionic product of water?

   e) What is bentonite?

   f) What is mechanism of antimicrobial agents?

   g) What are the units of radioactivity?

   h) What is lugol solution?

   i) Name two anticaries agents.

   j) Give assay of sodium bicarbonate.

July-2023

SECTION-B

2. Write a detailed note on sources and types of impurities in pharmaceutical substances.

3. Enlist major intra and extra cellular electrolytes? Describe the electrolytes used in replacement therapy.

4. Define and classify denitrifies according to their action. Discuss the method of preparation, assay of any two official preparations.

SECTION-C

5. Comment on "*Sodium potassium Tartarate as an Emetic*".

6. Define astringents and classify them according to their action with suitable examples.

7. Discuss any two antidotes used for cyanide poisoning.

8. What do you understand by *'Limit Test'*. Discuss its importance. Describe the principle and method involved in the limit test for lead.

9. Explain the cathartic action of magnesium sulphate.

10. Write down a brief note on history of pharmacopoeia.

11. What are Heamatinics? Discuss pharmacopoeiai assay of ferrous sulphate.

12. Define antacids. Discuss the properties and assay of sodium bicarbonate.

13. Differentiate the properties of alpha, beta and gamma radiations.

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Roll No. | | | | | | | | | | |

Total No. of Questions : 13

Total No. of Pages :02

B.Pharmacy (Sem-1)

HUMAN ANATOMY AND PHYSIOLOGY-I

Subject Code : BP-101 T

M.Code : 74644

Date of Examination : 08-06-2023

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

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SECTION-A

1. **Answer briefly :**

a) Define physiology.

b) What do you know about tissue levels of organization?

c) Define cell.

d) Define parasympathetic nervous system.

e) Enlist types of angina.

f) Define angina.

g) Draw a structure of skin.

h) Define transfusion.

i) What is lymph circulation?

j) Define cardiac cycle.

SECTION-B

2. Write a note on general principles of cell communication.

3. Elaborate types of bone and salient features and functions of bones of axial and appendicular skeletal system.

4. Write a detailed note on cardiovascular system.

SECTION-C

5. Explain and draw the anatomy of nervous system.

6. Explain skeletal system and organization of skeletal system.

7. Define mechanisms of coagulation.

8. Define physiology of neuromuscular junction.

9. What are the different types of joint movements?

10. Explain in detail, muscular tissue.

11. Elaborate the structure and functions of nose.

12. Define cardiac output and elements of corduction system of heart.

13. Discuss structure and functions eye.

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July -2023

Roll No. | | | | | | | | | | |

Total No. of Questions : 13

Total No. of Pages : 02

B.Pharmacy (Sem.–1)

PHARMACEUTICAL ANALYSIS I

Subject Code : BP-102T

M.Code : 74645

Date of Examination : 09-06-23

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

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SECTION-A

1. **Explain briefly :**

   a. What is law of mass action?

   b. Define co-precipitation.

   c. Define protogenic solvents with examples.

   d. What is alkalimetry.

   e. Define error with examples.

   f. Give two examples of strong acids.

   g. Define oxidizing and reducing agent.

   h. Difference between specific and equivalent conductance.

   i. Give example of indicator electrode used in electrochemical method of analysis.

   j. Define cerimetry with example.

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SECTION-B

2. Distinguish between determinate and indeterminate errors. How can you minimize errors in pharmaceutical analysis?

3. Define Volhard's method of precipitation titration? Discuss the titration conditions, chemical equations and applications of this method.

4. Write a detail note on theories of acid and bases with the neutralization curves involved in acid base titration.

SECTION-C

5. Write a short note on methods of expressing concentration.

6. Explain the principle and applications of iodometry.

7. What are impurities? Give sources of impurities in medicinal agents?

8. Name the type of metal ion indicators used in complexometric titration.

9. Write a note on different electrodes used in potentiometry.

10. Enlist the difference between primary standard and secondary standard.

11. What is the procedure for estimation of sodium chloride?

12. Write a short note on diazotization titration.

13. Give principle and procedure for Limit test of lead

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Roll No. _____ Total No. of Pages : 02

Total No. of Questions : 13

B.Pharma (Sem.–1)

PHARMACEUTICAL ANALYSIS-I

Subject Code : BP-102T

M.Code : 74645

Date of Examination: 12-01-2023

Time : 3 Hrs. Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
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3. **SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.**

SECTION-A

1. **Explain briefly :**

(a) Define as amphiprotic solvent. Give its example.

(b) What is the pH of a 0.01 N solution of NaOH?

(c) What is a mixed indicator? Give an example.

(d) Write the primary standard and indicator used in diazotization titration.

(e) Differentiate between iodometery and iodimetery.

(f) What is co-precipitation and post-precipitation?

(g) What is peptisation in gravimetry?

(h) Differentiate between accuracy and precision.

(i) You are provided a 35% w/v solution of HCl. Calculate the volume of this solution to prepare a 500 ml of N/20 solution of HCl.

(j) Define error.

SECTION-B

2. What is the principle of potentiometric titrations? Explain the construction, working, merits and demerits of various reference electrodes used in this method.

3. Classify complexometric titrations. Give examples in each category.

4. (a) '*Comment upon various solvents used in non-aqueous titrations.*' Give examples.

   (b) Plot the neutralization curve for the titration of a strong acid with a weak base.

SECTION-C

5. Enumerate various steps involved in estimation of Barium sulphate via gravimetry.

6. Explain in detail the different theories of acid base indicators.

7. Write a note on primary and secondary standard. Give examples.

8. How do you prepare a 0.1 M solution of Ceric ammonium sulfate? Explain its standardization giving balanced chemical equations and general calculation.

9. Comment upon different types of errors and their sources.

10. Give a detailed account on assay of sodium benzoate.

11. What is the principle of polarography? Explain their applications.

12. Give the construction and working of calomel electrode with the help of neat diagram.

13. Comment upon the concept of oxidation and reduction.

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DEC-2022

Roll No. | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 13

B.Pharma (Sem.–1)

PHARMACEUTICAL INORGANIC CHEMISTRY

Subject Code : BP-104T

M.Code : 74647

Date of Examination : 17-01-2023

Time : 3 Hrs. Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**
3. **SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.**

SECTION-A

1. Write in brief about the following :

(a) Which chemical reaction involved in limit test for lead.

(b) Write medicinal uses of lugol solution.

(c) What is buffer capacity?

(d) What is antidote for cyanide poisoning?

(e) What are the medicinal uses of magnesium hydroxide mixture?

(f) What is Kaolin?

(g) What are the qualities of an ideal antacid?

(h) Write composition and uses of Zinc eugenol cement.

(i) Define the significance of limit test.

(j) Name two medicinally important acidifiers.

SECTION-B

2. Enumerate various sources and types of impurities in pharmaceutical substances.
3. Write detailed note on Oral Rehydration Salt (ORS) and combination of antacids.
4. Discuss terminology and mechanism action of antimicrobials and astringents.

SECTION-C

5. Write about precautions and pharmaceutical applications of radioactive substances.
6. What are expectorant and emetics? Give two examples from each category.
7. Describe the method of preparation and uses of sodium bicarbonate.
8. Briefly describe about role of fluorides in the treatment of dental caries.
9. Discuss principle and chemical reaction involved in limit test for chloride.
10. What are the various methods to measure the tonicity?
11. Define the term heamatinics with uses and give two specific examples.
12. What are cathartics? Write in detail about sodium orthophosphate.
13. Give an account on physiological acid base balance.

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DEC-2022

Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 22

B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICS-I THEORY

Subject Code : BP-103T

M.Code : 74646

Time : 3 Hrs. Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**
3. **SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.**

SECTION-A

Answer briefly :

1. What is a prescription?
2. Mention the English meaning of: h.s. & dolore urgente.
3. What are dusting powders?
4. What are efflorescent powders? Give two examples.
5. What are throat paints? Mention the ingredients contained in them.
6. What is a gargle? Mention the ingredients of a gargle.
7. What is meant by displacement value with respect to suppositories?
8. Differentiate between creams and pastes.
9. What is meant by adjusted incompatibility?
10. What are lotions?

SECTION-B

11. Outline a typical prescription and label different parts in it. Explain the different parts of a prescription.
12. What are emulsions? How the type of emulsion is identified?
13. Differentiate between a flocculated and deflocculated suspension. Highlight the parameters evaluated for determining the stability of a suspension.

SECTION-C

14. Give a brief account of the errors encountered in a prescription.
15. What are effervescent powders? Give an account of the method used for preparing effervescent granules.
16. Give a brief account of the solubility enhancement techniques used for enhancing the solubility of drugs.
17. Mention the factors influencing the dermal penetration of drugs and the techniques used for enhancing the permeation across skin.
18. Define liniments. Mention the ingredients of liniments and their uses.
19. Comment on the stability testing of emulsions.
20. The adult dose of a drug is 1.5 G per day. The drug has to be given two times a day to a child of 15 months. Calculate each dose for the child.
21. Write a note on adjusted incompatibilities.
22. Discuss non-melting bases for suppositories.

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Roll No.

Total No. of Pages : 02

Total No. of Questions : 22

B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICAL ANALYSIS-I

Subject Code : BP-102T

M.Code : 74645

Time : 3 Hrs. **Max. Marks : 75**

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.

SECTION-A

Explain briefly :

Q1. Give the primary and secondary standards for: sodium thiosulphate and NaOH.

Q2. What is specific conductance? How is it related to observed conductance?

Q3. What is pK_a? What is its importance?

Q4. Give chemical reactions for standardization of sodium nitrite.

Q5. Explain glass electrode in brief.

Q6. What is specific conductance?

Q7. Calculate and express the result to correct number of significant figures : $[(205.0 + 10.025) \times 0.0500] + 10.0124$

Q8. Give pH range of phenolphthalein and methyl orange.

Q9. Define Chelating Agent and sequestering agent.

Q10. Why is water boiled before preparing sodium thiosulphate solution?

SECTION-B

Q11. Give a detailed account of titrants, solvents, indicators and chemistry involved in titration of any weakly basic drug by non-aqueous titrimetry.

Q12. Classify argentimetric titrations. Discuss the chemical equations, titration conditions and applications of Mohr's method.

Q13. What are potentiometric titrations? Discuss in detail various types of potentiometric titration curves.

SECTION-C

Q14. Explain calibration of conductance cell.

Q15. What is a dropping mercury electrode? Explain its construction and working.

Q16. Explain the working of a calomel electrode.

Q17. How can you minimize errors in pharmaceutical analysis?

Q18. What type of conductometric titration curve is obtained for NaOH *vs* HCl?

Q19. Discuss the concept and chemistry involved in permanganate titrations.

Q20. Draw a polarographic wave and explain its various components.

Q21. Discuss in brief the factors affecting the solubility of precipitates.

Q22. Taking appropriate examples, explain masking and demasking agents.

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Dec 2020

Roll No.

Total No. of Questions : 08

Total No. of Pages : 01

B.Pharma (2017 & Onwards) (Sem.-1)

HUMAN ANATOMY AND PHYSIOLOGY-I

Subject Code : BP-101T

M.Code : 74644

Time : 2 Hrs.

Max. Marks : 37.5

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE question(s), each question carries 7.5 marks.**

1. Describe the process of skeletal muscle contraction. What is the role of calcium and ATP in physiology of skeletal muscle contraction?
2. Explain the clinical significance of blood grouping. Describe the intrinsic and extrinsic pathways involved in blood coagulation.
3. Classify and describe epithelial tissues along with their characteristics.
4. Define Blood Pressure? Explain the neural regulation of blood pressure.
5. Explain the process of homeostasis with the help of example.
6. Differentiate between active and passive transport processes across cell membrane.
7. Draw a well labelled diagram of a :
   a) Neuron
   b) Cell membrane
8. Discuss briefly the physiology of hearing.

Note: Any student found attempting answer sheet from any other person(s), using incriminating material or involved in any wrong activity reported by evaluator shall be treated under UMC provisions.

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Roll No. | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 22

B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICAL INORGANIC CHEMISTRY

Subject Code : BP-104T

M.Code : 74647

Time : 3 Hrs. Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.

SECTION-A

Briefly write about the following :

Q1. Modified limit test for chloride

Q2. Pharmaceutical buffers

Q3. Iodine and its preparations

Q4. Oral rehydration salt

Q5. Assay of sodium bicarbonate

Q6. Medicinal uses of chlorinated lime

Q7. Mechanism of antimicrobial agents

Q8. Ammonium chloride as an expectorant

Q9. Activated charcoal

Q10. Storage conditions of radioactive substances

DEC – 2020

SECTION-B

Q11. Enlist major intra- and extra-cellular electrolytes? Describe electrolytes used in replacement therapy.

Q12. What are the ideal properties of an antacid? Discuss how combination of antacids is useful? Write down the properties and medicinal uses of Magnesium hydroxide mixture.

Q13. What do you mean by radioactivity? How it is measured? Discuss the pharmaceutical applications of radioactive substances.

SECTION-C

Q14. Discuss any two antidotes used for cyanide poisoning.

Q15. What do you understand by 'Limit Test'. Discuss its importance. Describe the principle and method involved in the limit test for lead.

Q16. Discuss the role of fluoride in the treatment of dental caries.

Q17. Briefly write history of Pharmacopoeia.

Q18. Write properties and medicinal uses of Bentonite.

Q19. Give the mechanism of action of antimicrobial agents.

Q20. Explain the cathartic action of Magnesium sulphate.

Q21. Write a note on desensitizing agents.

Q22. What are Astringents? Discuss the properties and medicinal uses of Potash Alum.

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Roll No.

Total No. of Questions : 08

Total No. of Pages : 01

B.Pharma (2017 & Onwards) (Sem.-1)

HUMAN ANATOMY AND PHYSIOLOGY-I

Subject Code : BP-101T

M.Code : 74644

Time : 2 Hrs.

Max. Marks : 37.5

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE question(s), each question carries 7.5 marks.**

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2. Explain the clinical significance of blood grouping. Describe the intrinsic and extrinsic pathways involved in blood coagulation.
3. Classify and describe epithelial tissues along with their characteristics.
4. Define Blood Pressure? Explain the neural regulation of blood pressure.
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Roll No. | | | | | | |

Total No. of Questions : 22

Total No. of Pages : 02

B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICAL INORGANIC CHEMISTRY

Subject Code : BP-104T

M.Code : 74647

Time : 3 Hrs.

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Q5. Assay of sodium bicarbonate

Q6. Medicinal uses of chlorinated lime

Q7. Mechanism of antimicrobial agents

Q8. Ammonium chloride as an expectorant

Q9. Activated charcoal

Q10. Storage conditions of radioactive substances

2020

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SECTION-B

Q11. Enlist major intra- and extra-cellular electrolytes? Describe electrolytes used in replacement therapy.

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2020

Roll No.

Total No. of Questions : 22 Total No. of Pages : 02

B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICAL ANALYSIS-I

Subject Code : BP-102T

M.Code : 74645

Time : 3 Hrs. Max. Marks : 75

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Q3. What is pK_a? What is its importance?

Q4. Give chemical reactions for standardization of sodium nitrite.

Q5. Explain glass electrode in brief.

Q6. What is specific conductance?

Q7. Calculate and express the result to correct number of significant figures : $[(205.0 + 10.025) \times 0.0500] + 10.0124$

Q8. Give pH range of phenolphthalein and methyl orange.

Q9. Define Chelating Agent and sequestering agent.

Q10. Why is water boiled before preparing sodium thiosulphate solution?

SECTION-B

Q11. Give a detailed account of titrants, solvents, indicators and chemistry involved in titration of any weakly basic drug by non-aqueous titrimetry.

Q12. Classify argentimetric titrations. Discuss the chemical equations, titration conditions and applications of Mohr's method.

Q13. What are potentiometric titrations? Discuss in detail various types of potentiometric titration curves.

SECTION-C

Q14. Explain calibration of conductance cell.

Q15. What is a dropping mercury electrode? Explain its construction and working.

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Q17. How can you minimize errors in pharmaceutical analysis?

Q18. What type of conductometric titration curve is obtained for NaOH *vs* HCl?

Q19. Discuss the concept and chemistry involved in permanganate titrations.

Q20. Draw a polarographic wave and explain its various components.

Q21. Discuss in brief the factors affecting the solubility of precipitates.

Q22. Taking appropriate examples, explain masking and demasking agents.

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B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICS-I THEORY

Subject Code : BP-103T

M.Code : 74646

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

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4. What are efflorescent powders? Give two examples.
5. What are throat paints? Mention the ingredients contained in them.
6. What is a gargle? Mention the ingredients of a gargle.
7. What is meant by displacement value with respect to suppositories?
8. Differentiate between creams and pastes.
9. What is meant by adjusted incompatibility?
10. What are lotions?

SECTION-B

11. Outline a typical prescription and label different parts in it. Explain the different parts of a prescription.

12. What are emulsions? How the type of emulsion is identified?

13. Differentiate between a flocculated and deflocculated suspension. Highlight the parameters evaluated for determining the stability of a suspension.

SECTION-C

14. Give a brief account of the errors encountered in a prescription.

15. What are effervescent powders? Give an account of the method used for preparing effervescent granules.

16. Give a brief account of the solubility enhancement techniques used for enhancing the solubility of drugs.

17. Mention the factors influencing the dermal penetration of drugs and the techniques used for enhancing the permeation across skin.

18. Define liniments. Mention the ingredients of liniments and their uses.

19. Comment on the stability testing of emulsions.

20. The adult dose of a drug is 1.5 G per day. The drug has to be given two times a day to a child of 15 months. Calculate each dose for the child.

21. Write a note on adjusted incompatibilities.

22. Discuss non-melting bases for suppositories.

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Total No. of Questions : 10

Total No. of Pages : 02

B.Pharma (2012 to 2016) (Sem.–1)
PHARMACEUTICAL CHEMISTRY-I
(Inorganic Pharmaceutical Chemistry)
Subject Code : BPHM-102
M.Code : 46202

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

SECTION-A

1. Write briefly :

   a. Define Emetics.

   b. What do you mean by light and heavy magnesium carbonate?

   c. Give different causes and mechanism of tooth decay.

   d. Werner coordination number.

   e. Define Adsorbents.

   f. Role of nitric acid in chloride limit test

   g. Use of pumice

   h. Define, example and use of non-systemic antacids.

   i. Necessary features of good antioxidant.

   j. Define and classify the protective agents.

   k. Full form and structure of EDTA.

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   l. Give the importance and mechanism of sodium nitrite as antidote.

   m. What do you mean by saline cathartics?

   n. Define and give example of Combination antacid.

   o. Assay of Hydrogen peroxide.

SECTION-B

2. Method of preparation and assay of any two antimicrobial agents.

3. Give the importance and mechanism of electrolyte used in replacement therapy.

4. Explain brief account of inhalants.

5. Give name different types of water.

6. Comment on *"Hypophosphorous acid as an Antioxidant"*

SECTION-C

7. Give common sources of sulphate impurity. Discuss in detail the procedure and reactions in limit test of Sulphate.

8. Write a short note on :

   a. Astringents

   b. Dentrifices containing fluorides

9. Explain the various types of complexometric titrations in detail.

10. Give a detailed account on the various sources in final pharmaceutical product.

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Total No. of Questions : 13

Total No. of Pages : 02

B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICS-I THEORY

Subject Code : BP-103T

M.Code : 74646

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1) Answer briefly :

a) Define a prescription and mention its parts?

b) Mention the English meaning of : qs; sos; ex aq; post cibos.

c) What is meant by Proof Strength?

d) What are effervescent powders? Mention their advantages.

e) What are anti-oxidants? Give two examples of oil soluble antioxidants.

f) What is a gargle? Mention the ingredients of a gargle.

g) What is meant by displacement value with respect to suppositories?

h) Define a suspension and give examples of suspending agents.

i) What is meant by adjusted incompatibility?

j) What are creams?

SECTION-B

2. How many ml of a 17% w/v concentrate of benzalkonium chloride solution should be used in preparing 300 ml of a stock solution such that 15 ml diluted to 1000 ml will yield a 1: 5000 solution?

3. What are suppositories? Mention the types of drugs that can be advantageously administered through suppositories. Give a brief account of bases used for making suppositories.

4. Differentiate between a flocculated and deflocculated suspension. Highlight the parameters evaluated for determining the stability of a suspension.

SECTION-C

5. Write a note on career prospects in pharmacy profession in India.

6. Give an account of the method used for preparing effervescent granules.

7. Enumerate the excipients used in liquid preparations with examples.

8. Name various solubility enhancement techniques. Discuss any one with example.

9. Define liniments. Mention the ingredients of liniments and their uses.

10. Briefly explain the tests employed for identifying type of emulsions.

11. Write briefly about stability testing of emulsions.

12. Classify chemical incompatibilities with examples.

13. Discuss bases with examples for pessaries.

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Roll No.

Total No. of Questions : 10

Total No. of Pages : 02

B.Pharma (2012 to 2016) (Sem.–1)

INTRODUCTION TO DOSAGE FORM

Subject Code : BPHM-105

M.Code : 46205

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

SECTION-A

1. **Answer the following :**

   (a) Define tinctures with examples.

   (b) Give any two example of colouring and flavouring agents.

   (c) What are nasal drops? Give two examples of marketed nasal drops.

   (d) Liniments are applied with friction. Why?

   (e) Define Pharmacopoeias.

   (f) Write labeling requirement for gargles.

   (g) Write principle of dry extract.

   (h) Define allergens.

   (i) Define emulsion.

   (j) Give examples of suspending agents.

   (k) What are monophasic liquids? Give its example.

   (l) Enlist the different types of dosage forms.

   (m) Define aromatic water with examples.

   (n) What do you understand by term elixirs?

   (o) Differentiate between solution and spirits.

SECTION-B

2. Differentiate between flocculated and deflocculated suspensions.
3. Write an account on additives used in different formulations of dosage form.
4. Define "Pharmaceutical aids". Write its application in pharmacy.
5. Write a short note on pharmacopoeia of India and British Pharmacopoeias Codex.
6. Differentiate between mouthwashes and gargles. Why is glycerin added to throat paints?

SECTION-C

7. Define emulsifying agents. Classify and discuss their application in preparations of emulsion.
8. Define term 'Extraction'. Discuss methods of preparations of dry, soft and liquid extracts and tincture of I.P. and B.P.
9. Differentiate between lotion and liniments. How are lotions prepared?
10. Define Diluents. Discuss in detail different types of diluents used for different formulations.

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8. Explain the following :

(a) IP address

(b) World-wide web

(c) Netsurfing

(d) Search Engine

(e) URL concept

(f) HTML

(g) Domain naming

(h) Browser

(i) Hypertext

(j) Web Portal

9. What is the need, organization and functions of an operating system? Explain internal and external commands with examples.

10. Write the process for the following :

(a) Inserting a New Slide

(b) Applying a Design Template

(c) Viewing Slides in Slide Show View

(d) Closing a Presentation and Exiting PowerPoint

(e) Deleting a Slide

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Total No. of Questions : 10

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B.Pharma (2012 to 2016) (Sem.–1)
COMPUTER SCIENCE AND APPLICATION
Subject Code : BPHM-104
M.Code : 46204

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

SECTION-A

1. **Write briefly :**

(a) What is a high level language?

(b) Distinguish between RAM and ROM.

(c) What is magnetic core memory?

(d) What is the difference between compiler and interpreter?

(e) What do you mean by handling drives? Explain.

(f) What is virtual memory?

(g) What is a Flow chart?

(h) What are presentation packages in PowerPoint?

(i) What are symbolic constants in 'c'?

(j) What are relational expressions in 'c'?

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(k) What do you mean by virus detection and prevention?

(l) What do you mean by drug design?

(m) What are the steps in software development?

(n) What are the types of graphics?

(o) What are the nested looping statements in 'c' language?

SECTION-B

2. Distinguish between Primary and Secondary memory devices.

3. What is cache memory? Where in a computer system is it placed? What is its importance? How it works?

4. What are the rules, conventions and symbols used in flow charts? Explain.

5. What are the various looping statements used in 'c' language? Explain with examples.

6. What are worksheets? What are the basic operation that are used in these sheets? Explain.

SECTION-C

7. Explain the following applications :

(a) Hospital and Community Pharmacy

(b) Pharmacokinetics and data analysis

(c) Drug Information Services

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Total No. of Questions : 13 Total No. of Pages : 02

B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICAL ANALYSIS-I

Subject Code : BP-102T

M.Code : 74645

Time : 3 Hrs. Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.**
3. **SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.**

SECTION-A

1. **Explain briefly :**

(a) What are primary standards in analysis?

(b) What is the purpose of limit test?

(c) Give examples of two self indicating titrants.

(d) Which indicator will you prefer for titration of acetic acid against sodium hydroxide?

(e) What are molar and normal solutions?

(f) What special treatment is given to water while preparing sodium thiosulphate solution?

(g) Define masking and demasking reagent.

(h) How precision of an experiment can be increased?

(i) Define conductometry.

(j) Differentiate between Iodimetry and Iodometry.

SECTION-B

2. What is gravimetric analysis? Discuss principle and steps involved in gravimetr analysis.

3. Enumerate different sources and types of error. How do we minimize systematic errors?

4. Explain the concepts of oxidation and reduction. Write detailed note on redox titrations.

SECTION-C

5. Discuss various sources of impurities in medicinal agents.

6. What are neutralization curves? Explain giving examples of each type.

7. Describe Modified Volhard's method in precipitation titrations.

8. Classify complexometric titrations. Write a note on estimation of Magnesium Sulphate.

9. Discuss co-precipitation versus post precipitation.

10. How do official estimation of Ephedrine hydrochloride was carried out?

11. Discuss basic principle and methods of diazotization titration.

12. Discuss in detail construction and working of indicator electrodes in potentiometry.

13. Define Polarography. Explain construction and working of dropping mercury electrode.

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Total No. of Questions : 13

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B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICAL INORGANIC CHEMISTRY

Subject Code : BP-104T

M.Code : 74647

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.

SECTION-A

1. **Write in brief about the following/Fill in the blank :**

a. Define acidifiers with examples.

b. Role of nitric acid in limit test of chloride.

c. Why combination antacid preparations are preferred?

d. Advantage of using aluminium phosphate over aluminium hydroxide as antacid.

e. Name the sources of calcium in replacement therapy.

f. Define adsorbents.

g. Name two anticaries agents.

h. Role of glycerol in boric acid assay.

i. Half life of radioactive substances.

j. Example of extracellular and intracellular cation is..............

SECTION-B

2. What are radioactive substances? Name the different types of radiations emitted by them, discuss their properties, and interactions with matter in detail.

3. Define limit test. Name and draw labelled diagram of the apparatus used for limit test. Discuss in detail the principle, procedure and reactions involved in limit test lead.

4. Define and classify dentrifices according to their action. Discuss the method of preparartion, assay of any two official preparations.

SECTION-C

5. Selection criteria of antioxidants.

6. Brief account of Haematinics.

7. Storage and precautions of radioactive substances.

8. Comment on "*Sodium potassium Tartarate as an Emetic*".

9. Discuss different causes and mechanism of tooth decay.

10. Define astringents and classify them according to their action with suitable examples.

11. Explain buffer, and buffer equation.

12. Physiological acid base balance.

13. Discuss iodine preparations as antimicrobial.

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Total No. of Questions : 10

Total No. of Pages : 02

B.Pharma (2012 to 2016) (Sem.–1)

PHARMACEUTICAL ANALYSIS–I

Subject Code : BPHM-103

M.Code : 46203

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

SECTION-A

1. Answer briefly :

   a. Buffer capacity.

   b. Difference between Arrhenius and Lewis acid base theory.

   c. Standard Reduction Potential and its representation.

   d. Indeterminate errors.

   e. Primary standards.

   f. How you will preparation of 0.1 N of Sodium thiosulphate solution?

   g. Principle of estimation of sodium chloride by Mohrs method.

   h. Define Precision and how it differs from accuracy?

   i. What do you mean by the term digestion?

   j. What is common ion factor?

   k. Starch is added near to the end point of titration, why?

   l. What do you mean by Iodometry titrations?

   m. Name two redox indicators

   n. What do you mean by term co-precipitation?

   o. Effect of common ion on solubility.

SECTION-B

2. Name all theories of Acid base indicators and explain one in detail.
3. Taking a suitable example, explain the titration curve of weak base and strong acid.
4. Explain different analytical techniques.
5. Explain Von weimann ratio.
6. Principle, procedure and reaction involved in assay of sodium carbonate.

SECTION-C

7. What are oxidizing agents? Give the molecular and equivalent weight of Potassium permanganate in alkaline and acidic medium. Discuss the preparation and standardization of potassium permanganate solution in detail.
8. Write short notes on :

   a. Standard reduction potential and Nernst equation.

   b. Advantages and disadvantages of gravimetric titrations.

9. Name the different method for end point determination in precipitation titration. Discuss in detail Mohr and Vohlard method
10. Give a detailed account of sources and type of errors and enumerate the minimizing methods.

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B.Pharma (2011 to 2016) (Sem.–1)

PHARMACOGNOSY–I

Subject Code : BPHM-101

Paper ID : [D1102]

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

SECTION-A

1 Answer briefly :

a) How will you differentiate between a tracheid and a xylem vessel?

b) Differentiate between collenchyma and parenchyma.

c) Draw the floral diagram and also give floral formula of Papavaraceae.

d) Give complete biological source of two medicinally important plants belonging to family Rutaceae.

e) Explain the terms hybridization and polyploidy.

f) Enlist various physico-chemical parameters used to evaluate the quality of crude drugs.

g) Define a drug monograph. Enlist the parameters mention in a monograph of a crude drug.

h) What are cardenolides and bufadienolides? Highlight the differences between them.

i) What are true, proto- and pseudo-alkaloids? Give example for each.

j) Draw the basic moieties of a flavone and a flavonol.

k) Define Elicitors. Give their functions.

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l) What are Buttress and pneumatophoric roots? Give one example of one plant for each type of root.

m) What are multiple shoot cultures?

n) What is the difference between a runner and trailer stem?

o) Give example of two anticancer drugs from marine sources.

SECTION-B

2. What are Biotransformations? Discuss their application in plant drug research.
3. Discuss the alphabetical classification of crude drugs highlighting its various advantages and disadvantages.
4. What are glycosides? Write in brief about anthraquinone glycosides.
5. Write important characters of plants belonging to Lamiaceae family. Give floral formula and draw floral diagram of a plant belonging to this family.
6. How will you test the presence of cardiac and cyanogenetic glycosides and flavonoides in a given sample?

SECTION-C

7. Write an elaborated note on chemical classification of crude drugs.
8. How alkaloids are classified? Discuss various properties and various chemical tests for detection of alkaloids.
9. Elaborate on different types of plant tissue culture techniques and their applications in the field of plant drugs.
10. Define adulteration. Also discuss various types of adulterations.

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Total No. of Questions : 10

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B.Pharma (2011 to 2016) (Sem.–1)

PHARMACEUTICAL CHEMISTRY-I

(Inorganic Pharmaceutical Chemistry)

Subject Code : BPHM-102

Paper ID : [D1103]

Time : 3 Hrs. **Max. Marks : 80**

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students has to attempt any THREE questions.

SECTION-A

1. **Answer briefly :**

   a. What is the official limit of calcium phosphate in dentifrices?

   b. Define inhalants. Give one example.

   c. Give the difference between protectives and adsorbents in GIT agents with one example each

   d. Give two examples for calcium electrolyte replacement therapy.

   e. What is the mechanism behind antimicrobial activity of potassium permanganate?

   f. What is the role of insoluble zinc compounds?

   g. Name some of the official antioxidants used in pharmaceutical aids.

   h. Define saline cathartics. Give one example.

   i. Differentiate between sublimed sulphur and precipitated sulphur.

   j. Define the term Buffer capacity.

   k. What is Hypokalemia?

   l. Give two side effects of antacids.

   m. Write about activated charcoal.

   n. What is the use of Boric acid and Kaolin?

   o. Define Monograph.

SECTION-B

2. Write the assay principle and chemical reactions of any two of the following

   a. Zinc oxide b. Boric acid

   c. Ammonium chloride d. Hydrogen peroxide

3. Clarify Water for injection. Purified water and Bacteriostatic water for injection.
4. Write a short note on co-ordination compounds with examples.
5. Discuss combination antacid preparations with their advantages.
6. Give chemical formula, properties and uses of Talc.

SECTION-C

7. Discuss the impurities in pharmaceutical substances and their control sources. Elaborate the limit test for Iron and Lead. (10)
8. Define Astringents. Give the preparation and chemical formula for any two astringents. What is the mechanism action of hydrogen peroxide? (10)
9. Give the role of :

   a. Lead acetate cotton plug in limit test of Arsenic.

   b. Thioglycolic acid in limit test of Iron. (2×5 = 10)

10. Write a note on the following

    a. Expectorants

    b. Chelating agents (2×5 = 10)

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Total No. of Questions : 10

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B.Pharma (2011 to 2016) (Sem.–1)
COMPUTER SCIENCE AND APPLICATION
Subject Code : BPHM-104
Paper ID : [D1105]

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains FOUR questions carrying TEN marks each and students has to attempt any THREE questions.**

SECTION-A

Q1 Write briefly :

a) What is the role of hardware in Computers?

b) Differentiate RAM and ROM.

c) Define operating System.

d) What are the steps of creating directory and subdirectory?

e) Compare compiler with interpreter.

f) What is ring topology?

g) Write types of Printer.

h) What are logical and relational operators?

i) Define data types in C.

j) Discuss syntax and semantics.

k) Name any two high level languages.

l) Compare DOS with Windows.

m) Which are transfer statements in C?

n) What are presentation packages?

o) Convert binary number 10001100 into hexadecimal number

SECTION-B

Q2 Discuss the generations of computers.

Q3 Briefly explain Secondary storage devices.

Q4 What are the basic steps involved in software development?

Q5 Write a short note on Mail merge in MS word.

Q6 Define Virus. How they are prevented?

SECTION-C

Q7 What are the potential uses and abuses of the Internet? Explain.

Q8 What is loop in C language? How to declare loops? Explain with suitable example.

Q9 Explain the concept of drug designing. Name some of the simulation tools related to drug designing.

Q10 Explain the functioning of MS Excel by taking any suitable example.

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B.Pharma (2017 & Onwards) (Sem.-1)

HUMAN, ANATOMY AND PHYSIOLOGY-I

Subject Code : BP-101 T

Paper ID : [74644]

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.**
3. **SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.**

SECTION-A

1. Answer briefly :

a. Define the term anatomy

b. Classify various types of joints

c. Define pulse

d. What are the functions of lymph?

e. Differentiate between artery and vein

f. What are resting membrane and threshold potentials of SA node?

g. Differentiate between skeletal and smooth muscles.

h. The contractile proteins of muscle are .....and.....

i. Differentiate between serum and plasma.

j. Why pacemaker is auto-rhythmic?

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SECTION-B

2. Elaborate molecular mechanism of muscle contraction

3. Discuss renal and neural regulation of blood pressure

4. Describe various types of connective tissues with suitable diagram and examples

SECTION-C

5. Write a note on blood group and transfusion

6. Differentiate between parasympathetic and sympathetic nervous system

7. Discuss various types of transport processes across the cell membrane

8. Write down structure and functions of skin with suitable diagram

9. Describe cardiac cycle in detail.

10. Discuss the mechanism of blood coagulation.

11. Elaborate composition and functions of blood.

12. Write down functions of various cranial nerves

13. Discuss the structure and functions of eye

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Total No. of Pages :02

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B.Pharma (2011 to 2016) (Sem.–1)

INTRODUCTION TO DOSAGE FORM

Subject Code :BPHM-105

Paper ID : [D1106]

Max. Marks : 80

Time : 3 Hrs.

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains FOUR questions carrying TEN marks each and students has to attempt any THREE questions.**

SECTION-A

Q1 Define the following :

1 elixirs

2 douches

3 binders

4 soft extracts

5 Infusion

Differentiate between :

6 Liniments and lotion

7 Emulsion and suspension

8 Spirits and tinctures

9 Percolation and decoction

10 Mouth wash and draught

11 Diluent and binder

Answer briefly :

12 Provide examples of preservatives effective in basic medium.

13 What is the percentage of iodine in Weak iodine solution and strong iodine solution?

14 Why talc is added in aromatic waters?

15 Which is the latest edition of USP?

SECTION-B

Q2 Discuss the physico-chemical factors involved in the preformulation of solid dosage forms.

Q3 Discuss the methods used for the preparation of liquids extracts.

Q4 Discuss standardization of extracts.

Q5 Write a short note on Pharmacopoeias.

Q6 Discuss the methods of preparation of suspensions.

SECTION-C

Q7 Discuss how testing and standardization of extracts could be used to prepare high quality extracts.

Q8 Discuss manufacturing procedures for glycerides and suspensions.

Q9 Categorize various pharmaceutical ingredients and excipients.

Q10 Discuss the scope of pharmacy as a career in India.

8 What are flocculated and de-flocculated suspensions?

9 Define and discuss the types of bases used for the preparation of ointment.

10 What are suppositories? Discuss the importance of displacement value in the formulation of suppositories.

11 Discuss in detail the various factors influencing the dermal penetration of dosage form.

12 What do you understand by term posology? The normal adult dosage of a medication is 150 mg. The child weighs 32 kg and is 120 cm tall. How much medication should be given to the child?

13 Find the concentration of dextrose required to make a 0.12% solution of sodium chloride iso-osmotic with blood plasma.

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Total No. of Questions : 13

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B.Pharma (2017 Batch) (Sem. – 1)

PHARMACEUTICAL ANALYSIS-I

M Code: 74645

Subject Code: BP-102T

Paper ID: [74645]

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES:

1. **Section A is COMPULSORY consisting of TEN Questions carrying TWO marks each.**
2. **Section B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**
3. **Section C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.**

SECTION A

1 a) What are oxidizing agents? Give examples.

b) Give Henderson-Hasselbach equation and explain its relevance.

c) How does iodometry differ from iodimetry?

d) Discuss end-point determination in nitrosation titrations.

e) Give primary standards for sodium thiosulphate, potassium permanganate, sulphuric acid and sodium hydroxide.

f) Calculate and express the result to correct number of significant figures:

(100.05 x 10.00) ÷ 0.005

g) How is contribution of migration current minimized in polarography?

h) What is Ilkovic's equation?

i) What is SCE? Where is it used?

j) Give the structure of complex of EDTA with calcium ion.

SECTION B

2. Discuss the indicator selection in different types of acid-base titrations and the theoretical basis behind it. Give the mechanism of colour change in acid-base indicators.
3. What are various sources of errors in pharmaceutical analysis? Discuss in brief the methods to minimize them.
4. Give an account of various types of conductometric titrations with their titration curves. What is volume correction factor in conductometry? Why is it applied?

SECTION C

5. Give complexometric estimation of magnesium sulphate.
6. Give the preparation and standardization of 0.1 N sodium thiosulphate solution.
7. What is a glass electrode? Give its construction and working in brief.
8. Why is hydrochloric acid avoided for maintaining acidic pH in potassium permanganate titrations?
9. Define precision and accuracy. Explain with appropriate examples.
10. Explain Volhard's method and its pharmaceutical application.
11. Discuss the gravimetric determination of barium sulphate.
12. Give the chemistry and titration conditions for estimation of ephedrine HCl by non-aqueous titration.
13. What type of potentiometric titration curve is obtained for acetic acid vs NaOH?

Roll No. | | | | | | | | | | |

Total No. of Questions: 10

Total No. of Pages: 02

B.Pharma(2011 & Onwards) (Sem. – 1)

COMPUTER SCIENCE AND APPLICATIONS

M Code: 46204

Subject Code: BPHM-104

Paper ID: [D1105]

Time: 3 Hrs.

Max. Marks: 80

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

SECTION A

1. Write short note on the following:

a) Write some hardware components of Computer.

b) Convert (.125)10 into Binary.

c) Discuss the types of printers.

d) Name some internal commands of DOS.

e) Write the need of secondary storage devices.

f) What is the importance of network topology?

g) Write a short note on bounded communication media.

h) Why object oriented language is important?

i) Define data types in C.

j) Discuss the syntax of *for* statement.

k) Name any two high level languages.

l) What is the use of internet in pharmacy?

m) What are arrays in C?

n) What are presentation packages?

o) What is the process of pharmacokinetics?

SECTION B

2. What is the need of computers in pharmaceutical services? Discuss the generations of computers.
3. What is the use of operating system? Explain the types of operating system.
4. Discuss the functioning of seven layers of OSI architecture.
5. What is the importance of MS Word? Write a short note on formatting the text in MS word.
6. Define computer virus. How they can be detected and prevented?

SECTION C

7. What are the potential uses and abuses of the Internet? Explain.
8. What is loop in C language? How to declare loops? Explain with suitable example.
9. Explain how the computer will be useful for hospital and community pharmacy?
10. Explain the functioning of MS Excel? How the data is exported and imported in MS Excel?

APRIL 2018

Roll No. _____

Total No. of Questions : 13

Total No. of Pages : 03

B.Pharma (2017 & Onward) (Sem.–1)

PHARMACEUTICS I-THEORY

Subject Code : BP-103T

Paper ID : [74646]

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Answer briefly :

a) In what proportion must a preparation containing 10% of drug be mixed with one containing 15% of drug, to produce a mixture of 12% drug strength?

b) Give the metric equivalents of following

a. One fluid oz

b. One dessert spoonful

c. One teaspoonful

d. One drop

c) Define the following

a. Throat paint

b. Liniments

d) How many grams of sodium chloride would be required to dispense 2 fluid ounce of 0.9% (w/v) solution?

e) Differentiate between bulk and divided powders.

f) Why is invert syrup sweeter than simple syrup?

g) What are aromatic waters?

h) Enlist the various dosage forms for parenteral route.

i) Differentiate between mouthwashes and gargles.

j) How many proof gallons are contained in 5 gallon of 70%v/v alcohol?

SECTION-B

2 a) Define emulsions. Discuss various methods of their preparation.

b) Distinguish between ointments and pastes.

3 a) Define prescription. Explain its various parts and errors in prescription.

b) Write a note on various solubility enhancement techniques.

4 Differentiate between :

a) Syrups and elixirs.

b) Lotion and liniments.

SECTION-C

5 Write note on Indian pharmacopoeia.

6 Discuss the types of powders and grading with examples.

7 Identify the type of incompatibility in the below prescriptions and discuss its rectification

Rx

Oleic Acid.... 2 ml

Liq. Paraffin... 6 ml

Glycerin... 3 ml

Methyl paraben... 22.5 mg

Triethanolamine... 2 ml

Water...to.... 30 ml

Fiat- Emulsion

Roll No. | | | | | | | | | | |

Total No. of Questions : 10

Total No. of Pages : 02

B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICAL ANALYSIS-I

Subject Code : BP-102T

Paper ID : [74645]

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

SECTION-A

1. **Explain briefly :**

   a. Reduction Potential.

   b. Primary standards.

   c. Equivalent weight of potassium permanganate on acid and alkaline medium.

   d. What do you understand by digestion of precipitates? Give its advantages.

   e. Starch is added near to the end point of titration, why?

   f. Name four different end point determination methods for precipitation titrations.

   g. Werner Coordination number.

   h. Masking agents.

   i. Relation of pH to potential.

   j. Chelation

   k. Cell constant

   l. Define and give units of Specific conductance.

   m. Give one name of reference and standard electrode each.

   n. Difference between Iodimetry and Iodometry titrations.

   o. Name two metal ion indicators.

SECTION-B

2. Factors affecting stability of complexes.
3. Co-precipitation and Post-precipitation.
4. Derive the Handerson-Hasselbalch equation.
5. Taking a suitable example, explain the titration of weak bases by non-aqueous titrations.
6. Give a schematic diagram of assembly used in Arsenic limit test.

SECTION-C

7. Various types of electrochemical method of analysis, giving advantages and disadvantages.
8. Give the principle detailed procedure, reactions and use of each reagent used in Iron limit test.
9. Give a detailed account of sources and type of errors in pharmaceutical analysis.
10. Explain the constructions and working of dropping mercury electrode.

Dec 2018

Roll No. | | | | | | | | | |

Total No. of Questions : 13

Total No. of Pages : 02

B.Pharma (2017 Batch) (Sem.–1)

PHARMACEUTICAL ANALYSIS-I

Subject Code : BP-102T

Paper ID : [74645]

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.**
3. **SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.**

SECTION-A

1. **Explain briefly :**

   a. Reduction Potential.

   b. Primary standards.

   c. Equivalent weight of potassium permanganate on acid and alkaline medium.

   d. Starch is added near to the end point of titration, why?

   e. Name four different end point determination methods for precipitation titrations.

   f. Werner Coordination number.

   g. Masking agents.

   h. Relation of pH to potential.

   i. Define and give units of Specific conductance.

   j. Give one name of reference and standard electrode each.

(529)-415

SECTION-B

2. Factors affecting stability of complexes

3. Co-precipitation and Post-precipitation.

4. Derive the Handerson-Hasselbalch equation.

SECTION-C

5. Taking a suitable example, explain the titration of weak bases by non-aqueous titrations.

6. Give a schematic diagram of assembly used in Arsenic limit test.

7. Various types of electrochemical method of analysis, giving advantages and disadvantages

8. Give the principle detailed procedure, reactions and use of each reagent used in Iron limit test.

9. Give a detailed account of sources and type of errors in pharmaceutical analysis.

10. Explain the constructions and working of dropping mercury electrode.

11. Discuss the concept and chemistry involved in diazotization titration.

12. Explain the working of Calomel electrode

13. What type of conductometric titration curve is obtained for NaOH *vs.* HCl?

Roll No. | | | | | | | | | | |

Total No. of Questions : 13

Total No. of Pages : 02

B.Pharma (2017 & Onwards) (Sem.–1)

PHARMACEUTICAL INORGANIC CHEMISTRY

Subject Code : BP-104T

Paper ID : [74647]

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**
3. **SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.**

SECTION-A

Q.1 Write in brief about the following :

i) Principle involved in limit test of sulphate.

ii) Oral rehydration salt.

iii) Sodium thiosulphate as poison antidote.

iv) Hazards associated with radiopharmaceuticals.

v) Combination antacid preparations.

vi) Properties and medicinal uses of Kaolin.

vii) Expectorants.

viii) Assay of ferrous sulphate.

ix) Desensitizing agents.

x) Method of preparation of hydrogen peroxide.

SECTION-B

Q.2 What do you understand by the term impurity and limit test? Describe the various sources of impurities in pharmaceuticals. Give the principle and methodology of limit test of Arsenic.

Q.3 Give two examples of radiopharmaceuticals. Derive a mathematical expression by which you can calculate the activity of a radiopharmaceutical at time't', if activity at 0 time is known to you.

Q.4 Describe functions of major physiological ions. Discuss physiological acid-base balance. Give methods of preparation and assay of calcium gluconate.

SECTION-C

Q.5 Describe the mechanism of antimicrobial agents.

Q.6 Write a note on electrolytes used in replacement therapy.

Q.7 What are acidifying agents and antacids? Explain Magnesium compounds as antacids.

Q.8 Write chemical properties and medicinal uses of potassium permanganate.

Q.9 What are astringents? Describe the astringent action of potash alum.

Q.10 Discuss the storage conditions of radioisotopes.

Q.11 Write assay procedure and method of preparation of sodium carbonate.

Q.12 Describe the chemical properties and uses of boric acid.

Q.13 Discuss the role of fluoride in the treatment of dental caries. Give one example.

Roll No. [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Total No. of Pages : 02

Total No. of Questions : 10

B.Pharma (2011 to 2016) (Sem.–1)

PHARMACEUTICAL ANALYSIS–I

Subject Code : BPHM-103

Paper ID : [D1104]

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students has to attempt any THREE questions.

SECTION-A

1. Answer briefly :

a. Define common ion effect and give its relevance.

b. What are amphoteric substances? Give two examples.

c. Why is starch added near the end point in thiosulphate titration?

d. What is co-precipitation?

e. Calculate the pH of 0.01 M potassium benzoate solution. pKa for benzoic acid is 4.2.

f. What will be the normality of a 0.05 M solution of potassium permanganate?

g. Calculate and express the result to correct number of significant figures : (100.0 - 10.05) × 0.020.

h. What is precision and accuracy in an assay?

i. Give two pharmaceutical applications of precipitation titrations.

j. Can we use HCl as acidifying agent in potassium permanganate titrations?

k. Define buffer.

l. How will you prepare 0.5 N sulphuric acid? Give calculations for the same.

m. What are adsorption indicators? Where are these used?

n. What is the difference between iodometry and iodimetry?

o. What is standard reduction potential and sign convention?

SECTION-B

2. What is Handerson-Hasselbach equation? What is its relevance in buffer preparation?

3. Discuss the theory behind the assay of boric acid.

4. Explain the titration curve and indicator selection for neutralization of weak acid with sodium hydroxide.

5. What are the factors affecting the solubility of precipitates?

6. What are potassium iodate titrations? Give their applications.

SECTION-C

7. What is Volhard's method? Discuss the titration conditions, chemical equations and applications of this method.

8. How will you prepare 100 mL of 0.1 N sodium thiosulphate solution? Give the chemistry and stoichiometry involved in its standardization. Comment on its storage conditions.

9. Distinguish between determinate and indeterminate errors. How can you minimize errors in pharmaceutical analysis?

10. a. What is the importance of flocculation and peptization in gravimetry?

b. Discuss the gravimetric determination of magnesium.

Roll No. | | | | | | | | | | | |

Total No. of Pages: 02

Total No. of Questions: 10

B.Pharma (2011 & Onwards) (Sem. – 1)

PHARMACOGNOSY–I

M Code: 46201

Subject Code: BPHM-101

Paper ID: [D1102]

Time: 3 Hrs.

Max. Marks: 80

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

SECTION A

1. a) Define bark.
   b) Name different tissues present in a leaf.
   c) What do you mean by organolaptic characters?
   d) Write chemical test for steroids.
   e) Write floral formula of family Umbelliferae.
   f) Name two members of family Graminae.
   g) What is polyploidy?
   h) What are unorganized drugs?
   i) Give one test for detection of tannins.
   j) What is alphabetical classification of crude drugs?
   k) Name different sources of drugs.
   l) Write uses of plant tissue culture.
   m) Write names of two medicinal plants of family Rutaceae.
   n) What are saponins?
   o) What are flavonoids?

SECTION B

2. How physical methods are used for evaluation of crude drugs?
3. What are glycosides? Give classification.
4. Write a note on historical aspects of pharmacognosy.
5. Discuss marine sources for drugs.
6. Write floral formula and floral diagram of family Apocynaceae.

SECTION C

7. What are alkaloids? Give classification.
8. What are the factors which affect the cultivation of crude drugs?
9. Discuss pharmacological classification of drugs with suitable examples.
10. Write a note on thin layer chromatography.

Roll No. | | | | | | | | | | |

Total No. of Questions: 13

Total No. of Pages: 02

B. Pharma (Sem. 1)

HUMAN ANATOMY AND PHYSIOLOGY-I

M Code: 74644

Subject Code: BP-101T

Paper ID: [74644]

Time: 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES:

1. Section A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. Section B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.
3. Section C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.

SECTION A

1. a) Which connective tissue is responsible for immune responses.

   b) Give the composition of hemoglobin.

   c) Name two locations where simple cuboidal epithelium is present.

   d) Give the formula for blood pressure.

   e) Which layer of skin contains root of hair follicles and sweat glands?

   f) Name two structural proteins involved in skeletal muscle contraction.

   g) Which supporting cell is responsible for formation of myelin sheath in CNS?

   h) Name the cranial nerves supplying face and eye.

   i) Name two joints based on structural classification.

   j) Write the name of one disorder each related to eye and ear.

SECTION B

2. Describe the process of skeletal muscle contraction. What is the role of calcium and ATP in physiology of skeletal muscle, contraction?
3. Differentiate between sympathetic and parasympathetic nervous system.
4. Discuss the various phases of cardiac cycle. How blood pressure is regulated by kidney?

SECTION C

5. Differentiate between the structure of artery and vein.
6. Describe the structure of a neuron with the help of labelled diagram.
7. Define lymph. What are the various functions of lymphatic system?
8. Draw a well labelled diagram depicting anatomy of eye.
9. Define hemostasis. What are the various steps involved in the process of hemostasis?
10. Classify bones on the basis of structure? Discuss the salient features and functions of bone of axial skeletal system.
11. Explain the structure of skin with the help of well labelled diagram
12. Describe the various forms of intracellular signaling.
13. What is a nucleosome? Write a note on genetic code.

Roll No. | | | | | | | | | | |

Total No. of Pages: 02

Total No. of Questions: 13

B. Pharma (Sem.1)

PHARMACEUTICS-I THEORY

M Code: 74646

Subject Code: BP-103T

Paper ID: [74646]

Time: 3 Hrs. **Max. Marks: 75**

INSTRUCTIONS TO CANDIDATES:

1. **Section A is COMPULSORY consisting of TEN Questions carrying TWO marks each.**
2. **Section B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**
3. **Section C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.**

SECTION A

1. a) In what proportion must a preparation containing 15% of drug be mixed with one containing 8% of drug, to produce a mixture of 12% drug strength?

   b) Give the metric equivalents of following:

   i) One fluid oz ii) One dessert spoonful iii) One tablespoonful iv) One drop

   c) Define the following:

   i) Spirits ii) Lotions

   d) How many grams of sodium chloride would be required to dispense 2 fluid ounce of 0.9% (w/v) solution?

   e) Differentiate between bulk and divided powders.

   f) Why is invert syrup sweeter than simple syrup?

   g) Enlist various errors in prescription.

   h) Enlist the various dosage forms for parenteral route.

   i) Differentiate between mouthwashes and gargles.

   j) How many proof gallons are contained in 5 gallon of 70%v/v alcohol?

SECTION B

2. a) Define emulsions. Discuss various methods of their preparation.

   b) Distinguish between ointments and pastes:

3. a) Define prescription. Explain its various parts.

   b) Discuss the classification of powders giving examples of official preparations.

4. Discuss the various solubility enhancement techniques.

SECTION C

5. Write note on pharmacopoeias.
6. Discuss the stability problems of suspensions and ways to overcome them.
7. Identify the type of incompatibility in the below prescriptions and discuss its rectification

   Rx

   Oleic Acid.... 2 ml

   Liq. Paraffin... 6 ml

   Glycerin... 3 ml

   Methyl paraben.... 22.5 mg

   Triethanolamine... 2 ml

   Water....to.... 30ml

   Fiat- Emulsio

8. What are flocculated and de-flocculated suspensions?
9. Define and discuss the types of bases used for the preparation of ointment.
10. What are suppositories? Discuss the importance of displacement value in the formulation of suppositories.
11. Discuss in detail the various factors influencing the dermal penetration of dosage form.
12. What do you understand by term posology? The normal adult dosage of a medication is 250 mg. The child weighs 25kg and is 120 cm tall. How much medication should be given to the child?
13. Find the concentration of dextrose required to make a 0.9% solution of sodium chloride iso-osmotic with blood plasma.

Roll No. | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 13

B.Pharma (2017 Batch) (Sem. – 1)

PHARMACEUTICAL INORGANIC CHEMISTRY

M Code: 74647

Subject Code: BP-104T

Paper ID: [74647]

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES:

1. **Section A is COMPULSORY consisting of TEN Questions carrying TWO marks each.**
2. **Section B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**
3. **Section C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.**

SECTION A

1. Briefly write about the following:

   a) Sodium potassium tartrate as an emetic

   b) Buffered isotonic solutions

   c) Limit test for sulphates

   d) Assay of Sodium chloride

   e) Buffer system and buffer capacity

   f) Method of preparation of Sodium thiosulfate

   g) Dentifrices

   h) Magnesium sulphate as a cathartic

   i) Types of impurities in pharmaceuticals

   j) Half-life of radioactive substances

SECTION B

2. What are radiopharmaceuticals? Discuss the precautions to be taken while handli radioactive substances. Give pharmaceutical applications of Sodium iodide I^{131}
3. Give the properties, method of preparation, assay procedure and uses of the following-

   a) Hydrogen peroxide

   b) Copper sulphate

4. What are haematinics? Describe various compounds used as haematinics and their uses.

SECTION C

5. What are acidifiers? Give the methods of preparation and assay of ammonium chloride.
6. How will you classify various antimicrobial agents? Elaborate the antimicrobial action of potassium permanganate
7. What is a Buffer system? Explain how buffer system resists small changes in pH.
8. Write properties and medicinal uses of Sodium nitrite.
9. What are cathartics? Discuss the cathartic action of Bentonite giving its properties and uses
10. Describe briefly the chemistry and applications of Chlorinated lime.
11. Discuss the role of Zinc sulphate as an astringent.
12. How is Ferrous sulphate prepared, assayed and used?
13. Write a note on physiological acid base balance.

Roll No. [ ]

Total No. of Questions: 10

Total No. of Pages: 02

B.Pharma (2011 & Onwards) (Sem. – 1)

PHARMACEUTICAL ANALYSIS–I

M Code: 46203

Subject Code: BPHM-103

Paper ID: [D1104]

Time: 3 Hrs. **Max. Marks: 80**

INSTRUCTIONS TO CANDIDATES:

1. **SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.**

SECTION A

1. a) What is Gay Lussac method?

   b) Discuss the indicator selection in titration of HCl with NaOH.

   c) What is Henderson-Hasselbach equation?

   d) What are iodometric titrations?

   e) What is pH of a solution with hydronium ion concentration of 100.0 mol/l?

   f) Explain salt effect and its significance.

   g) What are determinate errors? Explain with an example.

   h) Give primary standards for iodine, sodium thiosulphate, hydrochloric acid and silver nitrate.

   i) Define colloidal state.

   j) Calculate and express the result to correct number of significant figures:

   $(100.5 + 20.050) \times 0.01$

   k) How will you assay sodium carbonate?

   l) What are self-indicating reagents? Explain with an example.

   m) How will you prepare 100 mL of 0.1N HCl?

   n) What is solubility product? What is its significance?

   o) What is ionic product of water?

SECTION B

2. Discuss the theoretical basis of potassium iodate titrations.
3. Explain three factors affecting solubility of precipitates.
4. Discuss the chemistry behind assay of boric acid.
5. Write a short note on buffer systems present in our body.
6. Give three methods for minimization of systematic errors.

SECTION C

7. What are neutralization curves? Explain their various types. What is the basis of selection of indicator in neutralization titrations?
8. What are precipitation titrations? Distinguish between Mohr's method and Volhard's methods. Give their pharmaceutical applications.
9. How will you prepare and standardize 0.1 N sodium thiosulphate solution? Give the chemistry involved and pharmaceutical applications. Why do solutions become turbid on storage? How can this be prevented?
10. What is the relevance of sampling in pharmaceutical analysis? Give a detailed account of various sampling procedures for different types of substances.