

Rajiv Gandhi University of Health Sciences, Karnataka  
First Semester B. Pharm Degree Examination – 15-Mar-2021

Time: Three Hours

Max. Marks: 75 Marks

**HUMAN ANATOMY AND PHYSIOLOGY - I**

**Q.P. CODE: 5001**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary  
All the questions are compulsory

**LONG ESSAYS**

**2 x 10 = 20 Marks**

1. Define cardiac cycle. Explain various stages involved in cardiac cycle  
**OR**  
List out the factors involved in blood coagulation and write the mechanism of blood clotting
2. Classify tissue with examples. Discuss epithelial and connective tissue with examples

**SHORT ESSAYS**

**7 x 5 = 35 Marks**

3. Draw neat labelled diagram of reflex arc and write its physiology  
**OR**  
Classify joints with examples
4. Explain neuromuscular junction with neat labeled diagram  
**OR**  
Write the difference between sympathetic and parasympathetic nervous system
5. Define and write the regulation of blood pressure
6. Write the structure and functions of skin
7. Discuss the functions of lysosomes, Ribosome and Golgi complex
8. Draw a neat labeled diagram of ear
9. Write the physiology of vision

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

10. Write the transportation mechanism involved through the cell membrane
11. Write the functions of cell
12. What is anatomical positions of human body? Write its significance
13. Write the functions of bones of skeleton
14. Write the histology of bones
15. Write the composition of blood
16. Define a) Erythropoiesis b) Cardiac output
17. Name the organs involved in lymphatic system
18. Write the functions of Mitochondria
19. Write two differences between arteries and veins

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Rajiv Gandhi University of Health Sciences, Karnataka  
First Semester B. Pharm Degree Examination – 17-Mar-2021

Time: Three Hours

Max. Marks: 75 Marks

**PHARMACEUTICAL ANALYSIS - I**

**Q.P. CODE: 5002**

Your answers should be specific to the questions asked

Draw neat labeled diagrams wherever necessary

All the questions are compulsory

**LONG ESSAYS**

**2 x 10 = 20 Marks**

1. Explain the terms 'Molarity', 'Normality', 'parts per million', '% w/w' and 'equivalent weight of an acid'. If 2.45 grams of pure sulphuric acid is present 50 ml of solution, determine its strength in terms of molarity and normality

**OR**

Define non-aqueous titration and give its application. Classify the non-aqueous solvents with suitable example each. Explain the assay of ephedrine HCl.IP

2. Define and classify redox titrations with suitable examples. Explain any one in detail

**SHORT ESSAYS**

**7 x 5 = 35 Marks**

3. Explain the terms 'absolute error', 'relative error', 'accuracy' and 'precision'

**OR**

Explain quinonoid theory of neutralization indicator.

4. What are alkalimetric determinations? How will you prepare 250ml of 0.1N NaOH solution and standardize it?

**OR**

With suitable equation, explain the principle of assay of calcium gluconate I.P.

5. Explain Fajan's method of determination of halides.  
6. Explain the assay of barium sulphate by gravimetry.  
7. Explain the construction and working of a standard hydrogen electrode.  
8. Explain the terms 'conductance', 'conductivity', 'molar conductivity' and indicate their units.  
9. Give the construction and working of a dropping mercury electrode.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

10. Short note on significant figures.  
11. Mention two neutralization indicators, which work in alkaline pH along with their pH interval and respective colours.  
12. Differentiate between 'end point' and 'stoichiometric point'.  
13. Define the role of nitrobenzene in modified Volhard's method.  
14. Define and classify ligand with an example each.  
15. A note on screened indicator along with an example and use.  
16. Give the equation of reaction of sodium thiosulphate with iodine.  
17. Elaborate on the oxidizing properties of potassium permanganate.  
18. Illustrate the Nernst equation and elaborate the terms.  
19. Define polarography. Give its applications.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
**First Semester B.Pharm Degree Examination – 19-Mar-2021**

**Time: Three Hours**

**Max. Marks: 75 Marks**

**PHARMACEUTICS – I**

**Q.P. CODE: 5003**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary  
All the questions are compulsory

**LONG ESSAYS**

**2 x 10 = 20 Marks**

1. Define Posology. Discuss various factors which affect the dose of drug

**OR**

Give the different types of suppository bases. List out various qualities of an ideal suppository base. Describe any two types of bases used for the preparation of suppositories

2. Define emulsion. Explain stability problems of emulsion and methods to overcome

**7 x 5 = 35 Marks**

**SHORT ESSAYS**

3. Define simple and compound powder with example

**OR**

What's incompatibility? Discuss the reasons for physical incompatibility

4. List out methods of increasing the solubility, explain any one method

**OR**

Define prescription. Write about the sources of errors in prescription

5. What are suspensions? Differentiate flocculated and deflocculated suspensions

6. Define ointment. Brief about methods of preparation of ointment

7. Differentiate syrup and elixir

8. Define displacement value. How it is calculated

9. Define lotion. With an example explain preparation of a lotion

**10 x 2 = 20 Marks**

**SHORT ANSWERS**

10. Write various editions of Indian Pharmacopoeia

11. How many grams of a drug is required to make 120ml of a 25% w/v solution?

12. What are isotonic solutions?

13. Define stabilizers. Give example

14. Differentiate between mouth wash and gargle

15. What is herapathite incompatibility?

16. Define enema give an example

17. Give primary emulsion formula for fixed oil and volatile oil

18. Define eutectic powder with example

19. Define paste and cream

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Time: Three Hours

Max. Marks: 75 Marks

**PHARMACEUTICAL INORGANIC CHEMISTRY**

**Q.P. CODE: 5004**

Your answers should be specific to the questions asked

Draw neat labeled diagrams wherever necessary

All the questions are compulsory

**LONG ESSAYS**

**2 x 10 = 20 Marks**

1. Define limit test. Explain various sources of impurities. Describe the principle involved in the limit test for sulphate

**OR**

What are buffers? Explain the mechanism of buffer action with an example. Briefly discuss the role of buffers in pharmacy

2. Describe the procedure and principles with reactions for the assay of a) Ferrous sulphate and b) Copper sulphate.

**SHORT ESSAYS**

**7 x 5 = 35 Marks**

3. Write a neat labeled diagram of Gutzeit's apparatus

**OR**

Discuss the various electrolytes used in replacement therapy

4. What are Antacids? Give its classification with examples

**OR**

Explain the procedure and principle involved in the assay of the Ammonium chloride

5. What are antidotes? Give the method of preparation assay principle and medicinal uses of Sodium thiosulphate.
6. Write a note on Handling and storage of radioactive materials.
7. Write the procedure and principle with reactions for the limit test for iron.
8. Give the assay principle and medicinal uses of Chlorinated lime.
9. Write a short note on Measurement of Radioactivity.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

10. Dentifrices.
11. What are acidifiers? Give examples.
12. Expectorants and Emetics.
13. Discuss the pharmaceutical importance of bentonite.
14. Write a note on physiological acid base balance.
15. Define antimicrobial agents. List out antimicrobial agents with formula.
16. Cyanide poisoning.
17. Define radioactivity.
18. Discuss the pharmaceutical importance of activated charcoal.
19. What is the importance of buffers in pharmacy?

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
**First Semester B. Pharm Degree Examination – 01-Dec-2020**

**Time: Three Hours**

**Max. Marks: 75 Marks**

**HUMAN ANATOMY AND PHYSIOLOGY - I**

**Q.P. CODE: 5001**

Your answers should be specific to the questions asked.  
Draw neat labeled diagrams wherever necessary.

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Explain the structure of Eye and physiology of vision.
2. Explain the internal Anatomy of heart with a neat labelled diagram and explain pulmonary circulation.
3. Describe the composition and functions of blood.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Explain the divisions and functions of ANS.
5. Classify skeletal system and write bones of skull.
6. Explain the structure and functions of skin.
7. Classify WBC and mention the functions.
8. Explain the structure and functions of spleen.
9. Explain with a neat labelled diagram conducting system of heart.
10. Explain the factors which regulate blood pressure.
11. Explain the structure of muscular tissues with one example.
12. Explain blood grouping? Write its significance in blood transfusion.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Write the difference between smooth muscle and cardiac muscle.
14. Mention the bones of the lower limb.
15. Define anemia and leukemia.
16. Define active and passive transport.
17. What is synaptic cleft? State its function.
18. Define myocardial infarction and hypertension.
19. Name different cell junctions.
20. Write about rods and cones.
21. Mention the differences between artery and vein.
22. Define Rickets and Gout.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
**First Semester B.Pharm Degree Examination – 04-Dec-2020**

**Time: Three Hours**

**Max. Marks: 75 Marks**

**Pharmaceutical Analysis - I**

**Q.P. CODE: 5002**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**1 x 10 = 20 Marks**

1. What are the different methods of expressing concentration? How will you prepare and standardise 250ml of 0.1N potassium permanganate
2. Differentiate between alkalimetry and acidimetry with an example. Explain the selection of indicators in the titration between weak acid with a strong base using neutralization curve.
3. Define and classify Redox titrations. Explain titration with potassium iodate.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Define and classify error. Explain two methods of minimizing errors.
5. Explain the principle involved in the complexometric titration and how will you assay magnesium sulphate I.P.
6. Mention the different theories of neutralization indicators and explain any one.
7. Give the principle and procedure involved in assay of ephedrine hydrochloride I.P.
8. Explain the conductometric titration curve of strong acid with strong Alkali. Mention applications of conductometry.
9. Write the principle and applications of polarographic analysis.
10. Explain the principle and procedure in the Volhard's method and modified Volhard's method.
11. Explain what is co-precipitation and post-precipitation with an example each. What is the effect of washing with an electrolyte in each of the above cases?
12. Give the construction, working and application of calomel electrode.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Explain effect of temperature in non-aqueous titrations.
14. Define molar conductance and specific conductance.
15. Define the terms accuracy and precision.
16. Give two examples each for self indicator and internal indicator in redox titration.
17. What is the difference between 'chelates' and 'complexes'?
18. What is standard hydrogen electrode?
19. Define mixed indicators and universal indicators.
20. Differentiate 'qualitative' and 'quantitative' analysis.
21. What is the importance of common ion effect in gravimetry?
22. Mention an advantage and a disadvantage of dichrometric determination.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
**First Semester B.Pharm Degree Examination – 07-Dec-2020**

**Time: Three Hours**

**Max. Marks: 75 Marks**

**PHARMACEUTICS – I**

**Q.P. CODE: 5003**

Your answers should be specific to the questions asked  
Draw neat labelled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Define prescription give an example for prescription and explain the handling of prescription.
2. Define emulsion. Give their types. Explain identification tests for emulsions.
3. Define suppositories. Write the ideal properties of suppository bases. Explain any one suppository base.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Write a short note on physical incompatibility.
5. Define powders. Write their advantages and disadvantages.
6. Differentiate between flocculated and deflocculated suspension.
7. How many parts of 20% and 60% alcohol to be mixed to get 500ml of 40% alcohol.
8. Define elixir. Explain formulation of elixir.
9. Explain the evaluation of semi-solid dosage forms.
10. Write a note on pharmacopoeia.
11. Give two formulae to calculate child dose. How to calculate child dose if the child age is 5 years and adult dose is 100mg.
12. Write a note on stabilizers used in liquid DF.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Define synergism and antagonism.
14. Define proof spirit.
15. Define gargle and mouthwash.
16. Name the instabilities of emulsion.
17. List any four sources of errors in a prescription.
18. Define dusting powder and their types.
19. What are emulsifying agents give examples.
20. Name the excipients used in semi-solid dosage forms.
21. Define dosage form with example.
22. Define hygroscopic and eutectic powder.

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Rajiv Gandhi University of Health Sciences, Karnataka  
First Semester B.Pharm Degree Examination – 09-Dec-2020

Time: Three Hours

Max. Marks: 75 Marks

**PHARMACEUTICAL INORGANIC CHEMISTRY**  
**Q.P. CODE: 5004**

Your answers should be specific to the questions asked.  
Draw neat labeled diagrams wherever necessary.

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Discuss in detail the limit test for Iron and Sulphate.
2. Define and classify antacid and give the method of preparation and assay for sodium bicarbonate.
3. Discuss clinical and therapeutic application of radio pharmaceuticals.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Discuss the effect of impurities, on the properties of pharmaceutical substances.
5. Discuss the important functions of sodium ions in the body.
6. Write the preparation, properties, assay and category for copper sulphate.
7. What are antimicrobial agents and write a note on Iodine and its preparations.
8. Define Poison and classify antidote with suitable examples.
9. What are dental products and add a note on role of fluoride in preventing the dental caries.
10. Write the preparation, properties and assay for ferrous sulphate.
11. Define expectorants and write the assay of ammonium chloride.
12. Write a short note on acidifying agents and cathartics.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Why nitric acid is used in the limit test for chloride.
14. Define the term astringent and bactericidal.
15. What are emetics?
16. What do you mean by decay constant?
17. Define buffers.
18. What is test for purity?
19. Give the examples of protective and adsorbents.
20. Why is simethicone added in antacid preparation?
21. Define Limit test and monograph.
22. Write composition and uses of Ringer's solution.

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Rajiv Gandhi University of Health Sciences, Karnataka  
First Semester B. Pharm Degree Examination – 02-Jan-2020

Time: Three Hours

Max. Marks: 75 Marks

**HUMAN ANATOMY AND PHYSIOLOGY - I**

**Q.P. CODE: 5001**

Your answers should be specific to the questions asked.  
Draw neat labeled diagrams wherever necessary.

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. What is cardiac cycle? Explain the various events of cardiac cycle.
2. What are the divisions of ANS? Write the structure and functions of sympathetic and para sympathetic nervous system.
3. Discuss various stages of erythropoiesis and explain the factors influencing erythropoiesis.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Name different factors required in coagulation. Discuss the mechanism of clotting.
5. What are joints? Classify joints with examples.
6. Explain the structure of eye with neat labelled diagram.
7. Explain pulmonary and systemic circulation with diagram.
8. Classify epithelial tissues with examples. Explain their functions.
9. Explain the structure and functions of skin.
10. Explain the physiology of skeletal muscle contraction.
11. What is homeostasis? Explain the general mechanism of action of regulation of homeostasis.
12. Draw a neat labelled diagram of ear. Write the physiology of hearing.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Define passive and active transport.
14. Draw a labelled diagram of neuron.
15. Angina pectoris and CHF.
16. Functions of nucleus and mitochondria.
17. Write the normal value of RBC and WBC.
18. Name any four cranial nerves with functions.
19. Write the functions of reflex activity.
20. Name the bones of upper limb.
21. Write the composition of lymph.
22. Write the functions of spleen.

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Rajiv Gandhi University of Health Sciences, Karnataka  
First Semester B. Pharm Degree Examination – 04-Jan-2020

Time: Three Hours

Max. Marks: 75 Marks

**PHARMACEUTICAL ANALYSIS - I**

**Q.P. CODE: 5002**

Your answers should be specific to the questions asked.  
Draw neat labeled diagrams wherever necessary.

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Define error; classify determinate error with suitable examples. Explain the terms 'accuracy' and 'precision'.
2. Write a note on solvents used in non-aqueous titrations. Explain the preparation and standardization of 0.1N perchloric acid.
3. Define oxidizing and reducing agents with a suitable example each. Discuss the principle of redox titrations. Explain standardization of 0.1N sodium thiosulphate solution.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Define 'normal solution'. Explain preparation and standardization of 0.1N potassium permanganate solution (Mol. Wt: 158)
5. Explain the titration curve of strong acid versus strong base. How are these curves useful in titrimetric analysis?
6. Write a note on universal indicators and mixed indicators with examples and their uses.
7. Explain Mohr's method of determination of halides.
8. With a suitable example each, explain the terms 'masking', 'demasking', 'ligand' and 'chelate' in complexometric determinations.
9. Define gravimetry. Mention two compounds assayed by gravimetry. Explain the advantages and disadvantages of this technique.
10. Explain the construction and working of a glass membrane electrode.
11. Explain any two conductometric titration curves.
12. Define polarography and indicate its applications. Enumerate the Ilkovic equation.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. With an example, define primary standard substance. Give its significance.
14. Mention two neutralization indicators, which work in acidic pH along with their pH interval respective colours.
15. Define equivalent weight of: 'base' and 'reducing agent' with an example each.
16. Illustrate effect of temperature in non-aqueous titrations.
17. Name four complexometric indicators.
18. Differentiate between 'iodometric' and 'iodimetric determinations'.
19. Short note on 'ignition' and 'peptization'.
20. How does starch act as an indicator in iodimetric titrations?
21. Differentiate between reference electrode and indicator electrode.
22. Define molar conductivity.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
**First Semester B.Pharm Degree Examination – 06-Jan-2020**

**Time: Three Hours**

**Max. Marks: 75 Marks**

**Pharmaceutics – I**

**Q.P. CODE: 5003**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Define prescription. What are the sources of errors in a prescription? Give an example of prescription showing the parts.
2. Define and classify incompatibility. Explain therapeutic incompatibility with example.
3. Define and classify emulsion. Explain different methods of preparation of emulsion.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Define dosage form and classify with examples.
5. Define Posology. Explain four factors affecting dose of a drug.
6. What are monophasic liquid dosage forms? Explain its advantages and disadvantages.
7. Explain any two methods to improve solubility of drug with example.
8. Differentiate between flocculated and deflocculated suspension.
9. Define suppository. Explain preparation of cocoa butter suppository by moulding method.
10. Define ointment. Explain any one method of preparation of ointment.
11. What are eutectic mixtures? What is the problem associated with it. How it can be corrected.
12. Write a note on liniment.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Enlist various pharmacopoeias.
14. Give the metric equivalents for the following a) one grain b) one ounce c) one teaspoonful d) one tablespoonful
15. Define isotonic and paratonic solutions
16. Define gargle with examples.
17. Define preservatives with examples.
18. Define geometric dilution.
19. Define displacement value.
20. Name any four examples of gelling agents.
21. Define Biphasic liquid dosage form.
22. Define the term synergism.

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Rajiv Gandhi University of Health Sciences, Karnataka  
First Semester B.Pharm Degree Examination – 21-Jan-2020

Time: Three Hours

Max. Marks: 75 Marks

**PHARMACEUTICAL INORGANIC CHEMISTRY**

**Q.P. CODE: 5004**

Your answers should be specific to the questions asked.  
Draw neat labeled diagrams wherever necessary.

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Define and classify limit test. Explain the procedure, principle and reactions involved in iron limit test I.P elaborating on the specific uses of each reagent used.
2. Define saline cathartic with examples and elaborate its mechanism of action. With suitable equation, explain the preparation of milk of magnesia.
3. Explain the function of major physiological ions. Write a note on electrolyte replacement therapy. Explain with suitable equation, the principle involved in the assay of NaCl I.P

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Describe in detail storage conditions as source of impurity in pharmaceuticals.
5. Explain the principle and reaction involved in the chloride limit test.
6. What are isotonic solutions? How it is measured? Enumerate the methods to adjust tonicity.
7. Classify dental products. Define each class with a suitable example.
8. Differentiate between the terms 'antiseptic' and 'disinfectant' with a suitable example each. Explain preparation of any one antiseptic compound.
9. Explain principle of assay of ammonium chloride I.P Why is formaldehyde previously neutralized before use in the assay.
10. Define antidote. Give two examples. Explain treatment of cyanide poisoning.
11. What is the chemical name and formula of 'green vitriol'? Indicate its used and explain principle of its assay.
12. Define isotopes. What are the properties of radioisotopes? Give two examples and indicate their uses.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Enumerate the final equation of arsenic limit test and define role of KI in the test.
14. Explain the role of alcohol and barium chloride in sulphate limit test.
15. Mention any four effect of impurities in pharmaceuticals.
16. Define buffer. Give two examples.
17. Composition and use of ORS.
18. Define expectorant with examples.
19. Short note on combination therapy of electrolytes.
20. Method of preparation and use of blue vitriol.
21. Define astringent. Give two examples.
22. How is radioactivity measured? Explain half life of radiopharmaceuticals.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
**First Semester B.Pharm Degree Examination – May-2019**

**Max. Marks: 75 Marks**

**Time: Three Hours**

**Human Anatomy and Physiology - I**

**Q.P. CODE: 5001**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**2 x 10 = 20 Marks**

**LONG ESSAYS (Answer any Two)**

1. Draw a neat labeled diagram of ear and explain the physiology of hearing.
2. Write the composition and functions of blood.
3. Describe systemic and coronary blood circulation.

**7 x 5 = 35 Marks**

**SHORT ESSAYS (Answer any Seven)**

4. Define and explain the stages of erythropoiesis.
5. Describe the stages of cell division.
6. Explain physiology of muscle contraction.
7. Classify joints with examples.
8. Describe structure and functions of spleen.
9. Describe ABO system of blood grouping.
10. Describe the physiological effects of sympathetic stimulation.
11. What is ECG? Briefly explain each component of ECG.
12. Describe the factors regulating blood pressure.

**10 x 2 = 20 Marks**

**SHORT ANSWERS**

13. Write the functions of nucleus.
14. Classify epithelial tissue.
15. Write the functions of plasma membrane.
16. Define neuro muscular junction.
17. Write the functions of skin.
18. Name the bones of cranium.
19. Write the composition of lymph.
20. Name different cell junctions.
21. Write the functions of bone.
22. Define atherosclerosis and congestive cardiac failure.

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# Rajiv Gandhi University of Health Sciences, Karnataka

## First Semester B.Pharm Degree Examination – June-2019

Time: Three Hours

Max. Marks: 75 Marks

### Pharmaceutical Analysis - I

Q.P. CODE: 5002

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

#### LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. With suitable examples, define primary standard substances and secondary standard substances. What are the requirements for a substance to be designated as a primary standard? How will you prepare 250 ml of 0.5N HCl solution and standardize it? (Sp.gravity of conc HCl=1.18 g/ml and concentration 37% w/w).
2. Explain the theories of neutralization indicators. Write a note on mixed indicators.
3. What is cerimetry? How is it useful? Explain the preparation, standardization of 0.1N ceric ammonium sulphate solution and assay of ferrous sulphate I.P

7 x 5 = 35 Marks

#### SHORT ESSAYS (Answer any Seven)

4. Enumerate the techniques of minimizing errors.
5. Define non-aqueous titration and give its application. Write a note on 'effect of temperature' and 'levelling solvents'.
6. Explain the titration curve of strong acid versus weak base. Mention the choice of indicator for the titration with suitable reasons.
7. Define and explain the principle of complexometric titrations.
8. With suitable equations, explain the principles of assay of NaCl I.P
9. What is gravimetric analysis? Explain the precautions during washing of a precipitate.
10. Explain the working of a calomel electrode. Give its uses.
11. Define conductometry. Mention its applications. Explain conductometric titration curve of strong acid versus strong base.
12. Give the construction and working of a dropping mercury electrode.

10 x 2 = 20 Marks

#### SHORT ANSWERS

13. Define the terms 'titrand' and 'titrant'.
14. Name any four indicators used in non aqueous titrations.
15. Define acidimetry. Mention two compounds assayed by this technique.
16. Explain 'masking' and 'demasking' in complexometry.
17. What are the limitations of Mohr's method?
18. Explain the terms 'molarity' and '% w/w'.
19. Short note on Iodimetry.
20. Why is starch not used as an indicator in redox titrations having high acid concentrations?
21. What is a reference electrode? Name two.
22. Define molar conductivity, its equation and describe the terms.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
**First Semester B.Pharm Degree Examination – JUNE-2019**

**Time: Three Hours**

**Max. Marks: 75 Marks**

**Pharmaceutics – I**

**Q.P. CODE: 5003**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Define prescription. With the help of an ideal example describe the importance of all the parts of a prescription.
2. What are suspensions? Give two advantages and two disadvantages of suspension. Differentiate flocculated and deflocculated suspensions.
3. What are the advantages of liquid dosage form? Write a note on excipients used in liquid dosage form.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Define Posology. Give two formulae to calculate child dose.
5. Define dosage form and classify with examples.
6. Calculate the volume of 95% alcohol required to prepare 400ml of 70% alcohol by allegation method.
7. Write the identification tests of emulsion.
8. Define and classify powders. Give two advantages and disadvantages.
9. Briefly explain excipients used in formulation of semisolid dosage form.
10. Write a note on any two suppository bases.
11. Define physical incompatibility with two examples.
12. Define and classify dusting powder. Give the differences between types of dusting powder.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Define Pessaries.
14. List out reasons for creaming.
15. Define Proof spirit.
16. What is geometric dilution?
17. Define tolerated and adjusted chemical incompatibility.
18. Define hygroscopic and eutectic powder.
19. Name any four demerits of suppositories.
20. Calculate quantity of sodium chloride required to prepare 600ml of 2% solution.
21. Define liniment with example.
22. Define creams and ointment.

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Rajiv Gandhi University of Health Sciences, Karnataka  
First Semester B.Pharm Degree Examination – JUNE-2019

Time: Three Hours

Max. Marks: 75 Marks

Pharmaceutical Inorganic Chemistry

Q.P. CODE: 5004

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. With the help of a neat labelled diagram explain the principle procedure involved in the Arsenic limit test.
2. What are anti microbials? Explain their mechanism. Write the preparation and uses of  
A) Chlorinated lime B) Hydrogen peroxide.
3. Write the principle reaction and procedure involved in the assay of copper sulphate and Ammonium chloride.

SHORT ESSAYS (Answer any Seven)

7 x 5 = 35 Marks

4. Define astringent. Write the preparation of Zinc sulphate.
5. Define buffers. Derive Henderson-Hasselbatch equation for buffers.
6. Write a note on physiological acid base balance.
7. Write the principle and the reaction for iron limit test. Give the role of ammonia and citric acid.
8. What is saline cathartic? Write its mechanism of action. Give the preparation of any one cathartic.
9. Write a note on radio pharmaceuticals.
10. Write a note on antidotes.
11. Define dentifrices. Discuss the role of fluoride in dentistry
12. Write a note on storage and handling of a radiopharmaceuticals.

SHORT ANSWERS

10 x 2 = 20 Marks

13. Give the method of preparation of kaolin.
14. Write the reaction for lead limit test.
15. Composition of ORS.
16. Write the preparation of calcium carbonate.
17. Combination of antacids.
18. Define haematinics with example.
19. Write the use of Thioglycolic acid in iron limit test.
20. Define Expectorant with example.
21. Write the limit test for sulphate.
22. Define emetics with example.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
First Semester B.Pharm Degree Examination – DEC-2018

**Time: Three Hours**

**Max. Marks: 75 Marks**

**Human Anatomy and Physiology - I**

**Q.P. CODE: 5001**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Describe the constituents of blood and their functions.
2. Explain the anatomy of spinal cord and mention the cranial nerves.
3. What is blood pressure? Explain the regulation of blood pressure.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Explain about meiosis.
5. Write the functions of bones.
6. Explain conduction system of heart.
7. What is haemopoiesis? Explain its stages.
8. Explain the lymphatic circulation and functions of lymphatic system.
9. Draw a neat labelled diagram of neuron and write the functions.
10. Write the functions of RBC and factors affecting the synthesis of haemoglobin.
11. Write the differences between sympathetic and parasympathetic nervous system.
12. What is blood grouping? Write its significance in blood transfusion.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Write cytoskeletal structure and their functions.
14. Mention the bones of vertebral column.
15. Write the functions of nucleus.
16. What is iron deficiency anaemia and factors influencing it?
17. What is synaptic cleft? State its function.
18. Define Myocardial infarction and Angina pectoris.
19. Write the normal count RBC and WBC.
20. Write about rods and cones.
21. Mention the bones of the lower limb.
22. What is Neuro muscular junction?

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
First Semester B.Pharm Degree Examination – DEC-2018

**Time: Three Hours**

**Max. Marks: 75 Marks**

**Pharmaceutical Analysis - I**

**Q.P. CODE: 5002**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Define and classify determine errors with examples. List the methods of minimising errors.
2. Classify acid base titrations. Explain the Quinonoid theory of indicators with example.
3. Define oxidizing and reducing agents with suitable examples. Explain the principle involved in the iodometric titrations.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. How do you prepare and standardise the following compounds – a) 500ml of 0.1N hydrochloric acid b) 250ml of 0.1N sodium hydroxide.
5. What is usefulness of mixed and universal indicators?
6. Explain the uses of the following in non aqueous titrations – a) perchloric acid b) acetic acid c) acetic anhydride d) crystal violet.
7. Explain the principle and procedure involved in Volhards method and modified Volhards method.
8. Explain the principle and procedure involved in the estimation of Calcium Gluconate.
9. Explain what is co-precipitation and post-precipitation with example.
10. Explain the titrimetric curves obtained in conductometric titration a) strong acid Vs weak base b) strong base Vs strong acid.
11. Explain the construction and working of glass electrode. What are the advantages of glass electrode?
12. Give the construction and working of DME.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Give the pH range of phenolphthalein and methyl orange indicators.
14. Give the role of starch as an indicator in redox titrations.
15. Give a list of methods of expressing concentration.
16. How do you calculate stiochiometric end point in acid base titrations.
17. Name the solvents used in non-aqueous titrations.
18. What is the difference between chelates and the complexes?
19. List the optimum conditions for precipitation in gravimetric analysis.
20. Calculate equivalent weight of Hydrogen peroxide and Oxalic acid.
21. Name two compounds which can be estimated by conductometry.
22. Write the importance of Nernst equation.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
First Semester B.Pharm Degree Examination – DEC-2018

**Time: Three Hours**

**Max. Marks: 75 Marks**

**Pharmaceutics – I**

**Q.P. CODE: 5003**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Define prescription. Explain the handling of prescription. (2+8)
2. Discuss the stability problems in suspensions. Explain methods to overcome. (6+4)
3. Define and classify incompatibilities. Explain physical incompatibility. (1+3+6)

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Define and classify dosage forms with examples.
5. Define powders. Write the advantages and disadvantages of powders.
6. How many parts of 16%, 10%, 4% and 2% alcohol to be mixed to prepare 600ml of 8% alcohol?
7. Define syrups. Write its advantages and disadvantages.
8. Define suppositories. Explain any two methods to prepare suppositories.
9. Classify ointment bases. Write its ideal properties.
10. Explain identification tests for emulsions.
11. Explain alkaloidal incompatibilities.
12. Define creams. Explain the formulation of creams.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Define the terms Synergism and Idiosyncrasy.
14. Convert 40% v/v alcohol into proof spirit.
15. What is geometrical dilution?
16. What are antioxidants? Give examples.
17. Define gargles. Give examples.
18. Define emulsions.
19. Define displacement value. Give examples.
20. Define enemas. Give examples.
21. Enlist any four solubility enhancement techniques.
22. Define pastes and gels.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
First Semester B.Pharm Degree Examination – JAN-2019

**Time: Three Hours**

**Max. Marks: 75 Marks**

**Pharmaceutical Inorganic Chemistry**

**Q.P. CODE: 5004**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. What are buffers? Explain the mechanism of buffer action with an example. Briefly discuss the role of buffers in pharmacy.
2. What are antacids? Give the ideal properties of antacids. Discuss the synonym, method of preparation, assay and uses of Sodium bicarbonate.
3. Explain the principle, reactions and procedure involved in the assay of  
a. Ammonium chloride      b. Copper sulphate.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Explain the diagnostic and therapeutic applications of radioisotopes in detail.
5. Explain the preparation and principle involved in the assay of calcium gluconate.
6. What are antimicrobials? Give the method of preparation and principle involved in the assay of Chlorinated lime.
7. What are Heamatinics? Write the preparation of i) Ferrous sulphate ii) Ferrous gluconate.
8. What are dental products? Discuss the role of fluoride in dental caries.
9. Write the principle, reaction and procedure involved in limit test for iron.
10. Give the assay principle and medicinal uses of Sodium thiosulphate.
11. Define antimicrobial agents. Write the principle involved in the preparation and assay of hydrogen peroxide.
12. What is saline cathartic? Write its mechanism of action. Give the preparation of any one catharatics.

**10 x 2 = 20 Marks**

**SHORT ANSWERS**

13. Define expectorant. Give examples.
14. What is achlorhydria? Give its treatment.
15. Define desensitizing agent. Give examples.
16. Why dilute nitric acid is used in the limit test for chloride?
17. Write the limitations of Arrhenius theory.
18. Write the uses of sodium iodide  $I^{131}$ .
19. Define term antidotes. Give examples.
20. Write the preparation of boric acid.
21. Define saline Cathartic give examples.
22. Write about zinc eugenol cement.

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Rajiv Gandhi University of Health Sciences, Karnataka  
First Semester B.Pharm Degree Examination – DEC-2017

Time: Three Hours

Max. Marks: 75 Marks

**Human Anatomy and Physiology - I**

**Q.P. CODE: 5001**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Mention coagulation factors and write the mechanism of blood coagulation.
2. Explain the structure of eye and physiology of vision.
3. Explain the cardiac cycle.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Draw a neat labelled diagram of a cell and mention one function of each organelle of a cell.
5. What is joint? Classify joints with examples.
6. What is ECG? Briefly explain each component of ECG.
7. Write a brief note on ABO system of blood grouping.
8. Explain the structure and functions of lymph nodes.
9. Classify epithelial tissues and explain the structures of epithelial tissues with one example each.
10. Write the composition and functions of blood.
11. Explain the functions of spinal cord and spinal nerves.
12. [Explain the composition and functions of blood.] *Anatomy & physiology of spleen*

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Define diffusion and osmosis.
14. Mention the bones of the cranium.
15. Functions of mitochondria.
16. What is erythroblastosis foetalis?
17. List out the cranial nerves and their functions.
18. Write the significance of heart sounds.
19. Mention the functions of thymus gland.
20. Write non auditory functions of ear.
21. Write difference between cartilage and bone.
22. Define osteoporosis and rheumatoid arthritis.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
**First Semester B.Pharm Degree examination Dec-2017**

Time: One and Half Hours

Max.Marks: 35 Marks

**Communication Skills (Home Exam)**

**LONG ESSAYS (Answer any One)**

1 X 10 = 10 Marks

1. What is communication? What are different barriers of communication and how will you eliminate them.
- Or
2. What are different elements of communication.

**SHORT ESSAYS (Answer any five)**

5 X 5 = 25 Marks

3. Writing skills in pharmacy practice. 5 M
4. Explain different types of interviews and different phases of interviews. 5 M
5. What communication skills assessed is a group discussion and evaluation method of group discussion. 5 M
6. What is Active listening? What are the goals of active listening and barriers to listening. 5 M
7. What is importance of group discussions and do's and don'ts of group discussions. 5 M
8. Explain objectives of listening and different types of listening. 5 M
9. Explain techniques of presentation & do's and don'ts of oral presentation. 5 M

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Rajiv Gandhi University of Health Sciences, Karnataka  
First Semester B.Pharm Degree Examination – DEC-2017

Time: Three Hours

Max. Marks: 75 Marks

**Pharmaceutical Analysis - I**

**Q.P. CODE: 5002**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. What are errors and classify them. Define accuracy and precision. Describe the steps to minimize errors.
2. What are Neutralization curves? Explain the selection of indicators in the titration between weak acid with strong base using neutralization curves.
3. Define oxidation and reduction. Explain the principle involved in titration with potassium dichromate. Give its applications with suitable examples.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. What is pharmaceutical analysis? Explain different types of analysis. What is its scope in pharmacy?
5. What are indicators? Explain the theory of indicators used in acid base titrations?
6. Explain the reason behind why water is not used in non-aqueous titration.
7. Give the mechanism of action of adsorption indicators with suitable examples.
8. Classify complexometric titrations. Explain each type with suitable examples.
9. What is gravimetry? Explain the following terms a) Digestion b) ignition c) Ash treatment d) Inceneration.
10. Write the principle, instrumentation and applications of conductometry.
11. Enumerate the various types of electrodes in potentiometry. Give the working of Calomel electrode.
12. What is polarography? Explain the terms a) limiting current b) polarographic maxima c) diffusion current d) supporting electrolytes.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. What are systematic errors and random errors? Give examples.
14. What is color change interval of an acid base indicator? Give its importance.
15. How do you prepare acetic Perchloric Acid?
16. Complete and balance the equation:  $\text{KMnO}_4 + \text{H}_2\text{C}_2\text{O}_4 \rightarrow$
17. What is masking agent? Give example for masking by precipitation.
18. Write the conditions for process of digestion in Gravimetry.
19. What is Specific conductance and Molar conductance?
20. What is standard hydrogen electrode?
21. Define Qualitative Analysis and Quantitative Analysis.
22. What is Cerimetry? Give its applications.

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**Rajiv Gandhi University of Health Sciences, Karnataka**  
First Semester B.Pharm Degree Examination – DEC-2017

**Time: Three Hours**

**Max. Marks: 75 Marks**

**Pharmaceutics – I**

**Q.P. CODE: 5003**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Define and classify dosage forms examples. List out the advantages and dosage forms. (1+5+4)
2. What are the various instability problems of emulsions? Explain causes and methods to overcome. (3+7)
3. Define suppositories. Write its advantages and disadvantages. Explain types of suppository bases. (1+4+5)

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Explain the development of profession of pharmacy in India.
5. Explain the additives used in monophasic liquid dosage forms with examples.
6. Define and classify powders.
7. Define and classify suspension. Write the ideal properties of suspensions.
8. Define incompatibility. Explain alkaloidal incompatibility with example.
9. Define and classify ointments. How they differ from pastes and creams?
10. Differentiate flocculated and deflocculated suspensions.
11. Describe various evaluation tests for suppositories.
12. Explain the factors affecting drug permeation through skin.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. Define prescription.
14. Enlist the solubility enhancement techniques.
15. How powders containing potent drug are dispensed?
16. In what ration 90% and 40% alcohol to be mixed to give 50% alcohol?
17. Define nasal drops. Give examples.
18. Define liniments. Give example.
19. Define tolerated and adjusted incompatibilities.
20. Define mouthwashes. Give examples.
21. What is proof strength of 45%v/v alcohol?
22. Name any four examples of gelling agents.

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Rajiv Gandhi University of Health Sciences, Karnataka  
First Semester B.Pharm Degree Examination - Dec-2017

Time: Three Hours

Max. Marks: 75 Marks

**Pharmaceutical Inorganic Chemistry**

**Q.P. CODE: 5004**

Your answers should be specific to the questions asked  
Draw neat labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Describe the various sources of impurities present in pharmaceutical substances.
2. Explain major buffers used in pharmaceutical preparations. What are the advantages and disadvantages of each?
3. Enlist in detail any one drug with their molecular formula, synonym (if any) method of preparation and use belongs to magnesium, aluminium and sodium containing antacid.

**SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. How do you carry out the limit test for chlorides in the given sample of potassium permanganate?
5. Define acids and basis according to various concepts.
6. Write the preparation and medicinal uses of calcium carbonate and sodium fluoride.
7. Give the method of preparation and uses of Aluminium hydroxide gel.
8. Describe the precautions for storage and handling of radioisotopes.
9. Write a note on physiological acid base balance.
10. Explain the method of preparation and assay of Ammonium chloride.
11. What are Haematinics? Write the preparation and assay of ferrous sulphate.
12. What are antimicrobials? Write a note on various iodine preparations.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

13. What is the role of thioglycollic acid in iron limit test?
14. State the meaning of the term opalescence and turbidity.
15. Ethanolic sulphate standard solution is used in limit test for sulphates. Give reason.
16. Define saline Cathartic. Give examples.
17. [What is the use of glycerine in boric acid assay] *Reaction involved in the assay of chlorinated lime.*
18. Write the molecular formula and medicinal uses of sodium thiosulphate.
19. Write a note on potash alum.
20. What is desensitizing agents? Give examples.
21. Define half life.
22. Define following terms i) Osmotic pressure ii) Isotonic solution.

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