

[KM 701]

Sub. Code : 4161

FIRST B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY

Time : Three hours

Maximum : 90 marks

Sec. A & B : Two hours and
forty minutes

Sec. A & B : 70 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. (a) List out, with suitable examples, various sources of impurities. Describe in detail the limit test for lead. (6 + 4)

(b) Write a brief note on theory of acid base indicators. (5)

2. (a) What are coordination compounds? Discuss on the properties of ligands with suitable examples. (4 + 6)

(b) What are chelating agents? Explain with special reference to dimercaprol, dirod EDTA and penicillamine. (5)

3. (a) List the official compounds of calcium and give their molecular formula. How do you prepare and carry out the assay of calcium lactate? (6 + 4)

(b) Write the principle and procedure involved in the limit test for iron. Write chemical reactions. (5)

4. (a) Discuss the diagnostic and therapeutic applications of radio isotopes. (6 + 4)

(b) Write a note on :

(i) Setting property of plaster of Paris

(ii) Neutralising capacity of aluminium hydroxide.

SECTION B — (8 × 5 = 40 marks)

Answer any EIGHT questions.

5. Write the functions of the following : (5)

(a) Potassium iodide in Arsenic Limit test

(b) Glycerol in the assay of boric acid

(c) Alcohol in the limit test for chlorides in potassium permanganate

(d) Ferrion solution in the assay of ferrous sulphate

(e) Ferric iron in the assay of sodium chloride.

FEBRUARY - 2005

6. Write the method of preparation and uses of the following compounds/reagents. (5)
- (a) Nessler's reagent
 - (b) Boron tri fluoride
 - (c) Silica gel
 - (d) Lithium aluminium hydride
 - (e) Benedict's reagent.
7. (a) What is Karl-Fischer reagent? How it is prepared and standardised? (3 + 2)
- (b) Define the terms :
 - (i) Monograph
 - (ii) Pharmacopoeia.
8. How do you carry out the test for purity of the following compounds? (2½ + 2½)
- (a) Iodides and bromides in sodium chloride
 - (b) Cyanides in potassium permanganate.
9. What is precipitation titration? Explain Volhard's method of halide estimation. (5)
10. (a) Write a note on Redox indicators. (3 + 2)
- (b) Write the preparation of milk of magnesia and its uses.
11. Explain the preparation, assay and uses of the following : (2½ + 2½)
- (a) Oxygen
 - (b) Barium sulphate.
12. Write the preparation and uses of the following : (2½ + 2½)
- (a) Potassium antimony tartarate
 - (b) Sodium metabisulfite.
13. Write the preparation and assay of the following : (2½ + 2½)
- (a) Nitrous oxide
 - (b) Ammonium chloride.
14. Explain the Dithizone limit test for lead.

AUGUST - 2005

[KN 701]

Sub. Code : 4161

FIRST B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

**Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY**

Time : Three hours

Maximum : 90 marks

**Theory : Two hours and
forty minutes**

Theory : 70 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

I. Long Essay :

(2 × 15 = 30)

Answer any TWO questions.

1. (a) What are the sources of impurities in pharmaceutical substances? Explain with examples.

(b) Explain the limit test for Arsenic. (8 + 7 = 15)

2. (a) Explain the details about the typical monograph of drugs in I.P.

(b) Give a monograph of I. P. of lead compound.

(10 + 5 = 15)

AUGUST - 2005

3. (a) List the official compounds of Boron and give the preparation, properties and uses of any one compound.

(b) Describe the method of preparation and uses of sodium thiosulphate. (8 + 7 = 15)

4. (a) Explain the principle involved in the official limit test for Iron.

(b) Explain the principle involved in Redox-titration with suitable example. (8 + 7 = 15)

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Give the preparation, assay and uses of copper sulphate.

2. How will you test the following?

(a) Sucrose and reducing sugar in calcium gluconate.

(b) Setting property of plaster of paris.

3. List the official compounds of Magnesium and Mercury.

4. How are the following impurities are detected?

(a) Iron in sodium metabisulphate

(b) Lead in Zinc chloride.

5. Give the preparation and assay of lead sub acetate solution.

6. Comments on the use of the following :

(a) Nitrobenzene in the assay of ammonium chloride.

(b) Glycerol/mannitol in assay Boric acid.

7. How are the following reagents prepared and give its uses?

(a) Nessler's reagent.

(b) Karl Fischer's reagent.

8. Explain pharmaceutical application of radiopharmaceutical, [cyanocobalamin (^{58}CO)]

9. Explain principle involved in the assay calcium chloride, based on complexometric titration.

10. Discuss the theory of valency in brief.

AUGUST - 2005

3. (a) Write a note on major intra and extra cellular electrolytes with reference to their important physiological role. (7)

(b) Mention Dental products used in dental care. What is the role of fluoride as anti caries? (8)

II. Short notes on : (8 × 5 = 40)

Answer any EIGHT questions.

1. How is Carbon dioxide obtained for medicinal use? How it is stored and what are its applications?

2. Explain the mechanism of action of antimicrobial astringent agents. How do you carry out assay of Chlorinated lime?

3. What is an expectorant? Write the preparation and assay of Ammonium Chloride.

4. Write the applications of the following in pharmaceutical analysis :

(a) disod EDTA

(b) 1, 10 phenanthro line.

5. Write a note on Pharmaceutical Aids.

6. What is an antidote? How Sodium Nitrite and Charcoal are useful in some specific poisoning.

7. Write the method of preparation and uses of the following :

(a) Lithium Aluminium Hydride.

(b) Periodic acid.

8. What is the physiological importance of copper and Zinc in the body? How do you prepare ferrous gluconate?

9. Write mechanism of action of Saline Cathartics. Write the assay of Magnesium Sulphate.

10. Write a note on :

(a) Calamine

(b) Povidone iodine.

FEBRUARY - 2006

[KO 701]

Sub. Code : 4161

FIRST B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY

Time : Three hours

Maximum : 90 marks

Theory : Two hours and
forty minutes

Theory : 70 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

I. Long Essay : (2 × 15 = 30)

Answer any TWO questions.

1. (a) What is radio pharmaceuticals? Describe the uses in pharmaceuticals.

(b) Write the applications of Ferric Citrate (^{59}Fe) and Sodium Phosphate (^{32}P).

2. Give the method of assay of following :

- (a) Nitrous oxide
- (b) Magnesium oxide
- (c) Aluminium hydroxide
- (d) Potassium iodide
- (e) Barium chloride.

3. Give the method of preparation and uses of

- (a) Silica gel
- (b) Sodium edetate
- (c) Periodic acid
- (d) Benedict's reagent
- (e) Perchloric acid.

4. What are the sources of impurities in pharmaceuticals? Describe how you perform limit tests for chloride and heavy metals.

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Give the method of preparation and uses of

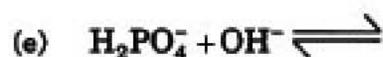
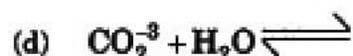
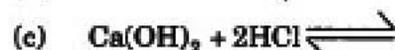
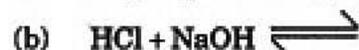
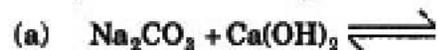
- (a) Mayer's reagent
- (b) Karl Fisher's reagent
- (c) Lithium aluminium hydride
- (d) Benedict's reagent
- (e) Zinc oxide.

2. Give the examples each of the following category of compounds

- (a) Laxative
- (b) Antimicrobial
- (c) Expectorant
- (d) Adsorbent
- (e) Antacid.

FEBRUARY - 2006

3. Complete the following reactions :



4. Give the formula and uses of the following

(a) Light kaolin

(b) Zinc oxide

(c) Bleaching powder

(d) Aluminium hydroxide

(e) Milk of magnesia.

5. Comment on the following :

(a) NH_4Cl is added in the assay of boric acid

(b) Starch mucilage is used as indicator towards the end in the assay of copper sulfate

(c) Potassium cyanide is used in the limit test for lead

(d) Sodium thiosulfate is prepared only in boiled water

(e) Water is not directly added to Conc H_2SO_4 .

6. Give the procedure for the test of

(a) Acid Adsorption of magnesium trisilicate

(b) Iodides and chlorides in potassium bromide.

7. Write a note on co-ordination compounds and give the method of preparation and uses of dimercaprol.

8. Write the method of preparation and uses of following chemicals

(a) Flemina

(b) Sodium edetate

(c) Ferric sulfate

(d) Sodium thiosulfate

(e) Thianyl chloride.

9. What is the pH of a 3.43×10^{-5} N solution of hydro-chloric acid? Since hydrogen chloride is virtually totally ionized in water, the above solution contains 3.43×10^{-5} gram-equivalents of H_3O^+ .

10. Give the test for purity of the following :

(a) Coarse particles in light Kaolin.

(b) Cyanides in potassium permanganate.

FEBRUARY - 2006

[KO 735]

Sub. Code : 4228

FIRST B.Pharm. DEGREE EXAMINATION.

(Modified Regulations)

Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY

Time : Three hours

Maximum : 90 marks

Theory : Two hours and
forty minutes

Theory : 70 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

I. Long Essay :

(2 × 15 = 30)

Answer any TWO questions.

1. (a) What are the impurities commonly found in medicinal preparations? Discuss the sources of impurities in pharmaceutical substances. (8)

(b) Give the principles for the limit test for lead. (7)

2. Present a general account of inorganic radiopharmaceuticals giving details of their clinical applications, dosage hazards and precautions that should be taken in their use. (15)

3. (a) Write a note on the important diluents and excipients used as pharmaceutical aids in pharmaceutical industry. (8)

(b) Explain the role of electrolytes in the replacement therapy. (7)

II. Short notes on :

(8 × 5 = 40)

Answer any EIGHT questions.

1. Describe the preparation and uses of any two anti-oxidants.

2. What are antacids and how do they act?

3. Write the role of fluorides as anti-caries agents.

4. Give the method of preparation, assay and uses of hydrogen peroxide.

5. What are saline cathartics? Explain the method of preparation and assay of magnesium sulphate.

6. What is complexing agent? Discuss the role and importance of EDTA as a complexing agent.

7. Write short notes on Poisons and their antidotes.

FEBRUARY - 2006

8. Describe the preparation and uses of any two gastrointestinal agents.
 9. Discuss the physiological importance of iron in the body. How do you prepare ferrous gluconate?
 10. What is an expectorant? Write the preparation and assay of Ammonium chloride.
-

AUGUST - 2006

[KP 701]

Sub. Code : 4161

FIRST B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY

Time : Three hours

Maximum : 90 marks

Theory : Two hours and
forty minutes

Theory : 70 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

I. Long Essay :

(2 × 20 = 40)

Answer any TWO questions.

1. (a) Enumerate the sources of impurities in pharmacopoeial substances. Explain the principles involved in the limit tests for iron and lead giving suitable equations. (5 + 5 + 5 = 15)

(b) Explain the principle involved in the limit test for Arsenic with a neat labelled diagram of Gutzeit's apparatus and chemical equations involved. (5)

2. (a) Give an account of radiopharmaceuticals with special reference their applications in therapy and diagnosis. (10)

(b) Discuss the techniques involved in the Gravimetric analysis. Add a note on post precipitation and co-precipitation. (10)

3. (a) Enlist the official compounds of magnesium with their molecular formulae and uses. Add a note the method of preparation and assay of Milk of Magnesia.

(b) How do you carry out the acid absorption capacity of Magnesium trisilicate? (20)

4. (a) Explain with examples the precipitation titrations.

(b) Why NH_4Cl can't be assayed by Mohr's method?

(c) Add a note on adsorption indicators.

II. Short notes :

(6 × 5 = 30)

Answer any SIX questions.

1. Define the terms :

(a) Normality

(b) Antacid

(c) Expectorant

(d) Astringent

(e) Assay.

AUGUST - 2006

2. Give reasons for the following :
- (a) dil HCl is used in the limit test for sulphates
 - (b) KI is used in the limit test for Arsenic
 - (c) A test for purity for the presence of reducing sugars is recommended in calcium gluconate
 - (d) KI is used in the preparation of iodine solutions
 - (e) $MgSO_4$ is used in the assay of calcium gluconate.

3. Explain the method of preparation and uses of (any two) :

- (a) Sodium edetate
- (b) Periodic acid
- (c) $LiAlH_4$.

4. Give the molecular formulae and uses of

- (a) Thionyl chloride
- (b) Hypo
- (c) Alumina
- (d) Perchloric acid
- (e) Titanus chloride.

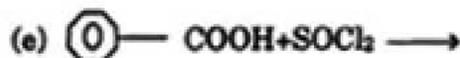
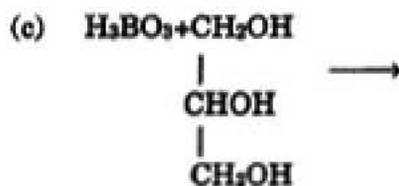
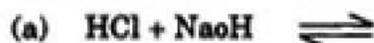
5. How do you carryout the test for purity for the following (any two) :

- (a) Iodides and chlorides in potassium bromide
- (b) Lead in Zinc chloride
- (c) Chlorides and sulfates in $KMnO_4$.

6. Write the method of preparation and assay of :

- (a) Boric acid or copper sulfate
- (b) Discuss the theory of Valency.

7. Complete the following equations :



AUGUST - 2006

[KP 735]

Sub. Code : 4226

FIRST B.Pharm. DEGREE EXAMINATION.

(Modified Regulations)

**Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY**

Time : Three hours

Maximum : 90 marks

Theory : Two hours and

Theory : 70 marks

forty minutes

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

I. Long Essay :

(2 × 20 = 40)

Answer any TWO questions.

1. (a) What are antimicrobials? Write the preparation, assay and uses of hydrogen peroxide and chlorinated lime.

(b) What are dental products? What is the role of fluorides in dental products?

2. (a) Write a note on radio pharmaceuticals and explain its applications. (10)

(b) Discuss the different sources of impurities in pharmaceutical substances. (10)

3. (a) Classify gastro intestinal agents with examples. (5)

(b) Write notes on the method of preparation, assay and uses of aluminium hydroxide gel, ammonium chloride and magnesium sulphate. (15)

4. (a) Explain Werner's coordination theory with example. (8)

(b) Write the structure and pharmaceutical applications of dimercaprol, pencillamine, EDTA and 1, 10 phenanthroline. (12)

II. Short notes on:

(6 × 5 = 30)

Answer any SIX questions.

1. Give the method of preparation and uses of the following :

(a) Aluminium isopropoxide

(b) Diazomethane.

2. Write a note on the physiological role of iron and copper.

3. Give reasons for the following :

(a) Use of dilute nitric acid in the limit test for chloride

(b) Use of glycerin in the assay of boric acid

AUGUST - 2006

(c) Use of borosilicate glass containers in the limit test for lead

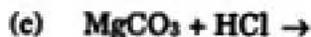
(d) Use of thioglycollic acid in the limit test for iron

(e) Use of alcohol in the limit test of chlorides for potassium permanganate.

4. Explain the principle involved in the limit test for arsenic with equation.

5. Name the medicinal gases. Explain the assay of carbon dioxide.

6. Complete and balance the following equations :



7. Explain the mechanism of action of astringents and describe how to carry out the assay of potassium permanganate.

8. Write the uses of the following compounds :

(a) Potassium bromide

(b) Ammonium chloride

(c) Sodium thiosulphate

(d) Ferrous sulphate

(e) Povidone iodine.

FEBRUARY - 2007

[KQ 701]

Sub. Code : 4161

FIRST B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY

Time : Three hours

Maximum : 90 marks

Theory : Two hours and
forty minutes

Theory : 70 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

I. Long Essay : (2 × 20 = 40)

Answer any TWO questions.

- (a) Explain radioactivity and radioisotopes.
(b) What are the medical and pharmaceutical applications of radioisotopes? Give examples.
(c) Write notes on the preparation, properties, dose and uses of any two radio pharmaceuticals.
2. Explain in detail the theories of indicators used in neutralisation titration.

3. List down the calcium compounds of pharmaceutical interest along with their chemical formulae and uses. Write the preparation and assay of any two of them.

4. Name the official magnesium compounds and write their chemical nature and use. Explain the preparation and assay of any two of them.

II. Short notes : (6 × 5 = 30)

Answer any SIX questions.

1. Explain the principle and the technique involved in the limit test for Iron.
2. How will you detect the presence of CO₂ and CO in oxygen?
3. How will you detect the following :
(a) Iodide and Bromide in sodium chloride
(b) Iron in sodium metabisulphite.
4. Explain the synthesis of hydrogen peroxide and add a note on its stability.
5. Write notes on the limit test for lead.

FEBRUARY - 2007

6. Explain the synthesis and assay of ammonium chloride.
7. How are the following reagents prepared? Mention their use.
 - (a) Nessler's reagent
 - (b) Mayer's reagent.
8. Write the preparation and use of dimercaprol.

FEBRUARY - 2007

[KQ 735]

Sub. Code : 4226

FIRST B.Pharm. DEGREE EXAMINATION.

(Modified Regulations)

Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY

Time : Three hours Maximum : 90 marks

Theory : Two hours and Theory : 70 marks
forty minutes

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

I. Long Essay : (2 × 20 = 40)

Answer any TWO questions.

1. (a) Give an account on various sources of impurities in Pharmaceutical substances.

(b) Explain the principle and procedure for the limit test for Arsenic.

2. Present a general account on measurement of radio activity. Mention the clinical applications of ^{131}I , CO^{58} . What are the precautions that should be taken in their use.

3. (a) What is an antidote? How sodium nitrite and charcoal are useful in some specific poisoning.

(b) Write the mechanism of action of saline cathartics. Write the assay of Magnesium sulphate.

(c) Discuss the role and importance of EDTA as a complexing agent.

4. (a) Write a note on the important diluents and excipients used as Pharmaceutical aids in Pharmaceutical industry.

(b) Give the principles for the limit test for lead.

II. Short notes : (6 × 5 = 30)

Answer any SIX questions.

1. Give the preparation and uses of any two antioxidants.

2. Describe the method of preparation assay and uses of Hydrogen Peroxide.

3. Write the method of preparation assay and uses of Ferrous Sulphate.

4. Write briefly an anti-caries agents.

5. What are antacids? How do they act?

6. Describe the preparation and uses of any two gastrointestinal agents.

7. Expectorants.

8. Buffer solutions.

August-2007

[KR 735]

Sub. Code : 4226

(Candidates admitted from 2004-05 onwards)

FIRST B.Pharm. DEGREE EXAMINATION.

(Modified Regulations)

Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY

Time : Three hours

Maximum : 90 marks

Theory : Two hours and
forty minutes

Theory : 70 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

I. Long Essay :

(2 × 15 = 30)

Answer any TWO questions.

1. (a) Define limit test. Explain the importance of limit test in the pharmaceutical preparations. Explain about the limit test for chloride in potassium permanganate with the special procedures followed.

(b) Write the clinical applications of I^{131} , Co^{58} and barium sulphate. (5)

2. (a) Explain about pharmaceutical aids with the help of five different examples.

(b) Mention five different products used in dental care and explain about its relevance.

3. (a) What are antacids? Classify antacids. How the acid neutralising capacity of aluminium hydroxide gel is determined.

(b) Explain the theory of co-ordination compounds giving importance to its application in pharmacy and pharmaceutical analysis. (8)

II. Short notes on :

(8 × 5 = 40)

Answer any EIGHT questions.

1. Describe the modern periodic table. Write its merits and demerits. (5)

2. Explain the mechanism of action of

(a) Ammonium chloride as acidifier

(b) Magnesium sulphate as saline cathartic.

(2 × 2½ = 5)

3. (a) Write a note on adsorbents and protectives giving one each examples.

(b) Write a short note on calamine. (3 + 2 = 5)

4. (a) Write the chemical nature and uses of potash alum.
- (b) Write the principle involved in the assay of boric acid. (2 + 3 = 5)
5. (a) Explain the physiological role of manganese and chromium.
- (b) What is oral rehydration salt and explain its importance. (2 + 3 = 5)
6. (a) Write the method of preparation and uses of sodium nitrite.
- (b) Explain the principle involved in the assay of chlorinated lime. (2 × 2½ = 5)
7. Explain the method of preparation and assay of oxygen. (5)
8. Write a short note on the electrolytes used for replacement therapy. (5)
9. List out the official compounds of iron and give the method of preparation of any two. (5)

10. Give reasons for the following : (4 × 1¼ = 5)
- (a) Lead acetate cotton wool is kept in the arsenic apparatus.
- (b) Stagnated hydrochloric acid is used in the arsenic limit test.
- (c) Potassium iodide is added in the assay of iodine solution.
- (d) Citric acid is added in the limit test for iron.
-

February-2008

[KS 701]

Sub. Code : 4161

FIRST B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY

Q.P.Code : 564161

Time : Three hours

Maximum : 90 marks

Theory : Two hours and
forty minutes

Theory : 70 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

I. Long essay :

(2 × 15 = 30)

Answer any TWO questions.

1. (a) Explain the salient features of modern periodic table (long form) and its superiority over Mandeleev's table. (10)

(b) Describe in detail the limit test for Arsenic with reactions. (5)

2. (a) Why limit test are carried out? Discuss the sources of impurities in pharmaceutical substances. (2 + 8)

(b) Explain the principle and procedure involved in the limit test for chlorides. (5)

3. (a) What are precipitation titrations? How will you estimate chloride by Mohr's method? (5)

(b) Write a note on Redox indicators. (5)

(c) Give the preparation and assay of oxygen gas. (5)

4. (a) Define and classify antacid with example. Give the preparation and assay of Aluminium hydroxide gel. (10)

(b) Write a note on Radio opaque contrast media. (5)

II. Write short notes on : (8 × 5 = 40)

Answer any EIGHT questions.

I. Write the name of indicators and its colour change at the end point, in the assay of following compounds.

(a) Iodine.

(b) Sodium chloride.

(c) Hydrogen peroxide.

(d) Zinc sulfate.

(e) Sodium carbonate.

2. Define the terms
- Assay
 - Test for purify
 - Molarity
 - Normality
 - Pharmacopoea.
3. Write the method of preparations and uses of the following compounds
- Karl Fischer's reagent.
 - Benedict's reagent.
4. Write the Molecular formula and uses of the following
- Thionyl chloride.
 - Lithium Aluminium hydride.
 - Sodium thiosulfate.
 - Titanous chloride.
 - Boron trifluoride.
5. Give the preparation assay and uses of the following
- Copper sulphate
 - Sodium Citrate
6. Write the principle involved in the limit test of lead as per I.P. with suitable reaction
7. (a) How do you prepare one litre of 0.1 N oxalic acid solution?
(b) How do you standardise 0.1 N sodium thiosulfate solution?
8. Write on the test for
- Sulfate and sulfite in $\text{Na}_2\text{S}_2\text{O}_3$
 - Lead in Zinc chloride.
9. Carry the test for purity of the following compounds.
- Oxidizing substance in oxygen.
 - Sucrose and reducing sugars in calcium gluconate.
10. Write the chemical formula and complete the following reaction
- Potassium permanganate + Iodine \rightleftharpoons
 - Sodium hydroxide + Hydrochloric acid \rightarrow
 - Sodium thiosulfate + Iodine \rightarrow
 - Sodium bicarbonate + sulfuric acid \rightarrow
 - Calcium Hydroxide + Hydrochloric acid \rightarrow

3. (a) What are topical agents? Classify them with examples. Write the principle involved in the assay of boric acid and chlorinated lime. (9)

(b) Write the Pharmaceutical Applications of pencillamine, EDTA and dimercaprol. (6)

II. Short notes on : (8 × 5 = 40)

Answer any EIGHT questions.

1. Write a note on the measurement of radioactivity. (5)

2. What are gastrointestinal agents? Classify with examples. What are the qualities of an ideal antacid? (5)

3. Write a short note on physiological acid base balance and its importance. (5)

4. Write the method of preparation of iron dextran injection and strong iodine solution. (5)

5. What are the uses of the following inorganic compounds : (5 × 1 = 5)

- (a) Sodiumthiosulphate
- (b) Potassium iodide
- (c) Ammonium carbonate
- (d) Calamine
- (e) Potassium bromide.

6. Explain the modified procedure for the limit test for sulphates in potassium permanganate. (5)

7. Explain on electrolyte combination therapy with examples. (5)

8. Write a note on dental products and explain the role of flourides as anticaries agents. (5)

9. Complete and balance the following equations : (5 × 1 = 5)



10. Give reasons for the following : (5 × 1 = 5)

(a) Use of formaldehyde in the assay of ammonium chloride.

(b) Use of borosilicate glass containers in the limit test for lead.

(c) Use of lead acetate cotton wool in the limit test for arsenic.

(d) Maintainance of pH in the assay of magnesium sulphate.

(e) Use of alcohol in the limit test of chlorides for potassium permanganate.

August 2008

[KT 701]

Sub. Code : 4161

FIRST B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY

Q.P. Code : 564161

Time : Three hours

Maximum : 90 marks

I. Long Essay : (2 × 20 = 40)

Answer any TWO questions.

1. (a) Describe the Periodic Trends in properties and What are the defects in Mendeleeff's Periodic table. (6 + 6)

(b) Explain the modified procedure for limit test of Sulphates in Potassium Permanganate. (8)

2. (a) What are the impurities commonly found in medicinal preparations? Explain the methods used to purify the inorganic substances. (10)

(b) Discuss the various steps in Gravimetric analysis and also give its applications. (10)

3. (a) Describe any two methods of detection of end point in precipitation titrations. (8)

(b) Write about the modified procedure for the Limit test of Chloride and Sulphate in Sodium bicarbonate. (6)

(c) How will you perform test for purity of Iodides and Bromides in Sodium Chloride? (6)

II. Short notes : (8 × 5 = 40)

Answer any EIGHT of the following.

1. Write a brief note on Hydrogen bonding and give any three properties of Hydrogen bond compounds.

2. What is artificial radioactivity? Give any two examples of artificial radionuclides used in medicine.

3. What are the uses of the following reagents in pharmaceutical analysis? (5 × 1 = 5)

(a) Karl Fischer's reagent

(b) Nessler's reagent

(c) Mayer's reagent

(d) Benedict's reagent

(e) Titanous chloride.

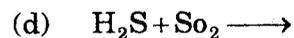
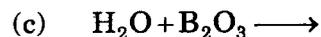
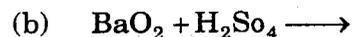
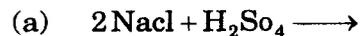
4. Write the method of preparation and uses of the following compounds

(a) Periodic acid

(b) Thionyl chloride.

August 2008

5. Complete and balance the following equations :
(5 × 1 = 5)



6. What are neutralisation titrations? Explain briefly about acid – base titrations in non-aqueous solvents.
7. Write any five Limitations of gravimetric methods of assay.
8. Discuss briefly about the methods used to purify the inorganic substances.
9. Give the preparation assay and use of the following :
- (a) Oxygen
- (b) Calcium gluconate.
10. Write a brief note on Redox indicators.

- III. Short Answers : (5 × 2 = 10)

Answer any FIVE questions.

1. Write the uses of the following :
- (a) Ferric citrate (59_{Fe}).
- (b) Sodium phosphate (32_P).
2. Complete and balance the following :
- (a) $\text{CaO} + \text{H}_2\text{O} \rightleftharpoons$
- (b) $\text{BaCl}_2 + \text{Na}_2\text{SO}_4 \rightleftharpoons$.
3. List the official compounds of magnesium and give its uses.
4. Write the preparation and use of aluminium sulfate.
5. Define molarity and write the preparation of 1 Litre of 1M Sodium Hydroxide Solution.
6. What is E.D.T.A.? Give its use in Pharmaceutical analysis.
7. List the methods of separation of Radioisotopes.

August 2008

[KT 735]

Sub. Code : 4226

(Candidates admitted from 2004-05 onwards)

FIRST B.Pharm. DEGREE EXAMINATION.

(Modified Regulations)

Paper I — PHARMACEUTICAL INORGANIC
CHEMISTRY

Q.P. Code : 564226

Time : Three hours

Maximum : 90 marks

I. Long Essay : (2 × 20 = 40)

Answer any TWO questions.

1. (a) Explain the principle and procedure involved in the limit test for Arsenic. Give a neat labeled diagram of the apparatus used for limit test for arsenic.

(b) Explain about molecular formula and valency of elements. (12 + 8)

2. (a) What are gastro intestinal agents? Classify with examples. What are the side effects and advantages of antacids?

(b) Write the clinical applications and doses of Radio pharmaceuticals. (12 + 8)

3. (a) Describe the preparation and properties of Helium.

(b) Write note on periodic acid and Thionyl chloride. (8 + 12)

II. Short notes : (8 × 5 = 40)

Answer any EIGHT questions.

1. Describe the sources of impurities in pharmaceutical substances.

2. Write the pharmaceutical applications of 1, 10 - phenanthroline and Dimercaprol.

3. Write the method of preparation of zinc oxide and zinc stearate.

4. Give the preparation and specific uses of N-BromoSuccinimide and ozone.

5. Write note on respiratory stimulant and explain about Ammonium carbonate.

August 2008

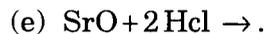
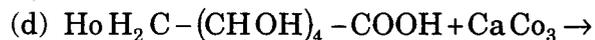
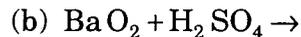
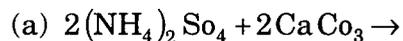
6. What are the uses of the following inorganic compounds?

- (a) Aluminium hydroxide gel.
- (b) Calamine.
- (c) Strontium chloride.
- (d) Iron Dextran Injection.
- (e) Charcoal.

7. Explain the modified procedure for the limit test for sulphates in sodium bicarbonate.

8. Write note on Electrolyte combination therapy.

9. Complete and balance the following equations :



10. Write notes on physiological Acid-Base Balance.

III. Short Answers : (5 × 2 = 10)

Write any FIVE questions.

1. Classify topical agents and give examples.
2. Define expectorants and give examples.
3. Give the assay of sodium bi carbonate.
4. Give the identification test for sulphates.
5. Give the uses of the following inorganic compounds.

(a) Cobalt - 58

(b) Lithium aluminium hydride.

6. What is the use of thioglycolic acid in the limit test for Iron?

7. Give the reason for mercuric chloride paper present in the limit test for Arsenic.