

# QUESTION BANK

## PHARMACEUTICAL INORGANIC CHEMISTRY

**Subject Code: - BP-104T**

**Semester- I**

**Session-2019-20**

### **UNIT-I (Pharmacopoeia and Limit Tests)**

1. What do you mean by the term impurity? Name the types of glasses used in pharmacy. (AKTU 2015-16)
2. Define limit test of iron in detail. ( AKTU 2015-16)
3. Write down the principle, procedure and apparatus for limit test of Arsenic. (AKTU 2015-16)
4. Write the chemical formula of dithizone.....and it is used in the limit test of .....(UPTU 2014-15)
5. Enlist various sources of impurities in pharmaceutical substances with suitable examples? Write a descriptive note on chemical instabilities and particulate, non particulate, microbial contaminations in pharmaceutical substances. (UPTU,2014-15)
6. The standard and test solutions used for Limit test are prepared in .....(UPTU 2013-14)
7. Thioglycollic acid used in the Limit test of Iron as oxidizing agents true/false(UPTU 2013-14).

8. Why dilute nitric acid used in the Limit test of Chloride ? (UPTU 2013-14).
9. Give principle, reaction and procedure involved in the Limit test of Chloride and Sulphate. (UPTU 2013-14).
10. Nessler cylinder is used for ----- (MTU 2012-13)
11. Glasses consists of -----(MTU 2012-13)
12. Thioglycolic acid is used in the limit test of -----(MTU 2012-13)
13. What are various sources of impurities in pharmaceutical substances? Explain physical and chemical instabilities in detail. (MTU 2012-13)
14. Write the reactions involved in the limit test of chloride.(MTU 2012-13)
15. Give the detail of limit test for sulphate (MTU, 2012-13) (MTU, 2011-12)
16. Write a detail note on sources of impurities in pharmaceuticals (MTU,2012-13,2011-12)
17. Write in detail including diagram for limit test for Arsenic (MTU, 2012-13,2011-12 & UPTU 2007-08)
18. Write the reaction for the limit test for lead. (MTU, 2011-12)
19. Discuss the principle and procedure for the limit test for chloride (MTU,2011-12)
20. Write the limit test of Iron. (UPTU, 2007-08)

21. Explain with suitable examples where the storage conditions of pharmaceutical is one of the source of impurities.
22. What do you understand by the terms purity, limit test, test for purity and assay. What is the importance of various purity test in pharmaceuticals?
23. Define limit test. Give the importance of the limit test in pharmacy.
24. Give principle, procedure and reactions involved in the limit test for lead(IP method)
25. Explain why stannous HCl is used in limit test for Arsenic.
26. Describe the limit test for Heavy metals.
27. Explain why stannous HCl acid is used in limit test for Arsenic
28. Explain the use of Silver nitrate solution in the limit test of chloride.
29. Explain the use of Hydrochloric acid in the limit test of sulphate.
30. Discuss the limit test in which Thioglycolic acid reagents is used.
31. Explain why Thioglycolic acid solution is added to the ammonical solution of ferrous sulphate in the limit test of Iron.

## **UNIT-II (Topical agents, Dental products & Antioxidants)**

1. Why Povidone-Iodine is superior to iodine? ( AKTU 2015-16)
2. What are dentrifices? Give composition of calamine. ( AKTU 2015-16)

3. Define cathartics with suitable examples. ( AKTU 2015-16)
4. What are anticaries agents? Discuss the role of fluoride. ( AKTU 2015-16)
5. Write down the preparation and uses of potassium permanganate. ( AKTU 2015-16)
6. What are antioxidants? Give the preparation and uses of Sodium metabisulphite. ( AKTU 2015-16)
7. What are topical agents? Classify them and give the mechanism of action of anti-infective agents. ( AKTU 2015-16)
8. Define protectives and adsorbents. Give the preparation and uses of Aluminium Sulphate. ( AKTU 2015-16)
9.  $\text{TiO}_2$  acts as .....(UPTU 2014-15)
10. In povidone-iodine lotion, chemically povidone is .....( UPTU 2014-15)
11. Pink colour of calamine is due to the presence of .....( UPTU 2014-15)
12. Give any two examples of dentrifices. ( UPTU 2014-15)
13. Make a statement on astringents. write about the methods of preparation and identification test of zinc sulfate. ( UPTU 2014-15)
14. Give the method of preparation and uses of any two of the following: ( UPTU 2014-15)
  - a. Calamine
  - b. KI

c. Sodium thiosulfate

15. Give the method of preparation, identification tests and uses of Kaolin. ( UPTU 2014-15)
16. What do you understand from anti-infective agents? Explain various mechanisms of action of inorganic anti-microbial agents. Give the methods of preparation and identification tests for hydrogen peroxide. ( UPTU 2014-15)
17. What are anti-caries agents? Give method of preparation and mechanism of action of sodium fluoride. ( UPTU 2014-15)
18. Give chemical formula for Talc.(UPTU 2013-14)
19. Give examples of Anticaries agents. (UPTU 2013-14)
20. Boric acid used as ..... (UPTU 2013-14)
21. Explain antioxidant with suitable examples. (UPTU 2013-14)
22. Give Preparation and Reaction of: Sodium Flouride, Potassium permanganate, Zinc sulphate, Titanium dioxide, Iodine (UPTU 2013-14)
23. What is the use of titanium dioxide ? (MTU 2012-13)
24. Potassium permangnate, used as an anti-infective agent acts through which mechanism ? (MTU 2012-13)
25. Give any two examples of dentifrices. (MTU 2012-13)
26. Give the method of preparation identification tests and uses of Kaolin and Boric acid. (MTU 2012-13)
27. Give identification test for Boric acid (MTU, 2012-13)

28. Give method of preparation of hydrogen peroxide solution (MTU, 2012-13)
29. Define the term astringents with example (MTU, 2012-13)
30. Give method of preparation, identification test and use of hydrogen peroxide (MTU, 2012-13)
31. Give the detail of Light Kaolin and Talc (MTU, 2012-13)
32. Give method of preparation, identification test and use of Povidone Iodine and Silver Nitrate (MTU, 2012-13)
33. How do astringent act? Give the identification test for zinc sulphate. (UPTU, 2007-08)
34. Discuss the preparation and uses of boric acid (UPTU, 2007-08)
35. Write the basic principle of the assay of Boric acid with chemical reaction.
36. What are protectives? Give example.
37. Explain in detail Calamine and Titanium dioxide
38. Why calamine is of pink color?
39. Give preparation, properties and uses of Alum.
40. What are Anti-infectives ? Give example
41. Give preparation, properties and uses of Iodine and Potassium permanganate
42. Explain in detail about Silver nitrate.
43. Write a note on Dentrifice or anti-caries agents 18. Discuss the preparation and uses of Sodium fluoride.

44. Write a note on Gases and vapors
45. Explain Inhalants. Write a detail note on Oxygen
46. Explain anesthetics Write a detail note on Nitrous oxide.
47. What are the colors of cylinder for carrying oxygen and nitrous oxide?

### **UNIT-III (Gastrointestinal agents)**

1. Explain combination antacid therapy. ( AKTU 2015-16)
2. What are antacids? Give the properties of an antacid. ( AKTU 2015-16)
3. Ammonium chloride is used as ....( UPTU 2014-15)
4. Define hyperchlorohydria and achlorhydria? Write a note on antacid therapy. ( UPTU 2014-15)
5. Write a note on combination therapy. ( UPTU 2014-15)
6. Give the method of preparation, identification tests and uses of  $\text{MgCO}_3$ ,  $\text{CaCl}_2$  and  $\text{NaHCO}_3$ . ( UPTU 2014-15)
7. What are the major physiological ions? Describe metabolic acidosis, alkalosis and respiratory acidosis, alkalosis. Write a comprehensive note on physiological acid base balance at the level of tissues and kidneys. ( UPTU 2014-15)
8. Classify cathartics and write an explanatory note on saline cathartics taking example of phosphate. ( UPTU 2014-15)

9. An ..... is any substance, generally a base, which counteracts stomach acidity. ( UPTU 2013-14)
10. .... is the condition of the absence of hydrochloric acid in the gastric secretion( UPTU 2013-14).
11. Give molecular formula for Epsom salt. ( UPTU 2013-14).
12. Give example of Bulk Forming Laxatives. ( UPTU 2013-14).
13. Which compound used as Antidiarrheal agents ? (UPTU 2013-14).
14. Classify antacids with suitable examples. (UPTU 2013-14).
15. Define Expectorants. Give preparation and reactions of Ammonium chloride. (UPTU 2013-14).
16. Give Preparation and Reaction of: Milk of Magnesia, (UPTU 2013-14)
17. Write the name of two important physiological buffers. (MTU 2012-13)
18. What is the main side effect of magnesium containing antacid ? (MTU 2012-13)
19. Classify cathartics and write a descriptive note on saline cathartics taking example of phosphates. (MTU 2012-13)
20. Give method of preparation, identification test and use of Aluminium sulphate (MTU, 2012-13)
21. Define the term antacids. Give method of preparation, identification test and use of any two antacids. (MTU, 2012-13)
22. Give the detail of Ferrous sulphate. (MTU, 2012-13)



23. What is an expectorant. Give two example. (MTU, 2011-12)
24. Distinguish between light and heavy Magnesium oxide. (MTU, 2011-12)
25. Write note on the following: magnesium sulphate and magnesium carbonate. (MTU, 2011-12)
26. What are antacids? Classify them. Discuss Aluminium hydroxide and magnesium hydroxide. (MTU, 2011-12)
27. Classify cathartics and explain how they act. Discuss the magnesium compounds used as cathartics. (UPTU 2007-08)
28. What are the requirements of an ideal cathartic? Write a note on combination cathartics. (UPTU 2007-08)
29. What are Expectorants? Give the preparation and the uses of Ammonium chloride.
30. What are Acidifying agents. Explain dilute hydrochloric acid
31. Give the preparation, identification test and use of Bismuth sub-carbonate.
32. What are protectives, adsorbent, antacids and purgatives? Explain giving two examples from each class.
33. Explain Disodium hydrogen phosphate and Magnesium sulphate in detail.
34. How Activated charcoal act as adsorbent.
35. Give the preparation, properties and use of Potassium iodide.

## **UNIT-IV (Major intra and extracellular electrolytes & Essential and trace elements)**

1. What are minerals. ( AKTU 2015-16)
2. Write the composition of ORS. ( AKTU 2015-16)
3. Define electrolyte replacement and combination therapy. ( AKTU 2015-16)
4. Write down the preparation and uses of Calcium Gluconate and Ferrous Fumarate. ( AKTU 2015-16)
5. Discuss the role of various mineral supplements in human body. ( AKTU 2015-16)
6. Wilson's disease is associated with.....( UPTU 2014-15)
7. Write the composition of ORS. ( UPTU 2014-15)
8. Write the examples of any two extracellular anions.(UPTU 2014-15)
9. Explain Haematinics with suitable examples. .(UPTU 2013-14)
10. Explain mineral supplements with their sources, requirement and deficiency.(UPTU 2013-14)
11. Write the name of any two intracellular cations. (MTU 2012-13)
12. Which essential element is required for the activity of enzymes, dehydrogenases and carboxypeptidases ? (MTU 2012-13)
13. What is normal saline ? (MTU 2012-13)
14. Describe briefly about haematinics and also give the method of preparation of ferric ammonium citrate. (MTU 2012-13)
15. What is composition of Ringer's solution? (MTU, 2012-13)

16. Define the term haematinics with example. (MTU, 2012-13)
17. Write a note on any three mineral supplements. (MTU, 2012-13)
18. Explain the physiological significance of major physiological ions.  
(MTU, 2012-13) (UPTU 2007-08)
19. Discuss the role of mineral supplements with example. (MTU, 2011-12)
20. What are iron supplements? Discuss any one compound in detail.  
(MTU, 2011-12)
21. Discuss the role of physiological ions and electrolytes used for replacement therapy giving suitable examples. (MTU, 2011-12)
22. What is ORS? Give the preparation and uses of calcium gluconate and sodium bicarbonate. (UPTU 2007-08)
23. Discuss the importance of essential and trace element in pharmacy(UPTU 2007-08)
24. Explain how sodium bicarbonate acts to correct systemic acidosis.
25. Explain why glucose is used in combination with sodium chloride in oral rehydration therapy.
26. Explain In detail potassium chloride and Magnesium chloride
27. Write a note on Calcium gluconate and Calcium lactate.
28. How Sodium dihydrogen phosphate regulate physiological balance of the body?
29. Write a note on sodium acetate.
30. Give preparation, properties and uses of Ferrous sulphate and

Ferric ammonium citrate.

31. What are Haematinics? Explain the role of iron in the body. Give the preparation, uses and test for purity of ferrous gluconate
32. Explain the importance of sodium and calcium in human body.
33. Give the necessity and importance of iron and iodine in our body.
34. Give the cationic and anionic components of inorganic drugs useful for systemic effects.
35. Enumerate the biological role of Cu, Zn, Cr, Mn, Sb, S, I (four points each)

### **UNIT-V (Inorganic radiopharmaceuticals & Co-ordination compounds and complexation)**

1. Write the poison antidote. ( AKTU 2015-16)
2. Define the terms isotopes and isobars. ( AKTU 2015-16)
3. Describe Werner's theory of co-ordination. ( AKTU 2015-16)
4. Write a detailed note on poison antidote. Give preparation and uses of Sodium Thiosulphate. ( AKTU 2015-16)
5. Explain novel applications of metals in pharmacy. ( AKTU 2015-16)
6. K-Capture is associated with the release of.....( UPTU 2014-15)
7. Write a note on biological hazards produced by radiopharmaceuticals? ( UPTU 2014-15)
8. Comment on poison antidotes with a brief discussion on cyanide

- poisoning. ( UPTU 2014-15)
9. Comment on radiation dosimetry. ( UPTU 2014-15)
  10. Describe chelates with suitable examples and enumerate their pharmaceutical importance. ( UPTU 2014-15)
  11. What are the radiopharmaceuticals? Give the principle and working of Gieger-Muller Counter. Discuss the role of  $I^{131}$ ,  $Tc^{99}$  and  $Co^{60}$  in diagnosis/treatment of diseases. ( UPTU 2014-15)
  12. In SI system, the unit of radioactivity is .....(UPTU 2013-14)
  13. Define antidote. Give preparation and reaction of sodium thiosulphate. (UPTU 2013-14)
  14. Explain diagnostic application of Radioisotopes. . (UPTU 2013-14)
  15. Werner's co-ordination number is also known as -----(MTU 2012-13)
  16. Write the name of any two methods used for the measurement of radioactivity. (MTU 2012-13)
  17. Write any four precautions to be taken while handling Radiopharmaceuticals (MTU, 2012-13)
  18. What are uses of cobalt containing radiopharmaceuticals (MTU, 2012-13)
  19. Explain the hazards associated with radiopharmaceuticals (MTU, 2012-13) (MTU, 2011-12) (UPTU, 2007-08)

20. What is clinical importance of radiopharmaceuticals having iodine and phosphorous. (MTU, 2012-13) (UPTU, 2007-08)
21. What is the unit of radioactivity? Name two radioisotopes with medicinal uses. (MTU, 2011-12)
22. Discuss about the measurement and clinical application of Radiopharmaceuticals? (MTU, 2011-12) (UPTU, 2007-08)
23. Explain coordination and complexation. Give the preparation and use of sodium thiosulphate (UPTU 2007-08)
24. Explain Werner Coordination theory. Write the structure and uses of Disodium edentate.
25. Discuss the application of the coordination compounds in pharmaceuticals.
26. Explain calcium folinate, sodium thiosulphate w.r.to poison antidote.
27. Explain the term Radioactivity and Half life.
28. What are Radiopharmaceuticals?
29. Write short note on a) Scintillation counter b) Geiger muller counter
30. Comment on Radiopharmaceuticals as diagnostics agents.

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