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MANIPAL ACADEMY OF HIGHER EDUCATION
MANIPAL COLLEGE OF PHARMACEUTICAL SCIENCES
B Pharm I Semester - End Semester Theory Examination (Make up)- January 2023

Course: PCH-BP104T: Pharmaceutical Inorganic Chemistry

Date: 24.01.2023

Duration: 3hrs

Max. Marks: 75

Instructions: Answer ALL questions.

I Multiple Choice Questions (MCQs)

20 Q × 1 mark = 20 marks

- International Pharmacopoeia is published by
 - United States Pharmacopoeial Convention
 - European Pharmacopoeial Commission
 - Indian Pharmacopoeial Commission
 - World health organization
- _____ is the major source of impurities in process of inorganic pharmaceuticals
 - acetic acid
 - water
 - benzene
 - d) Hydrochloric acid
- The colour of the solution of diphenyl thiocarbazono-lead complex in chloroform is
 - Yellow
 - Green
 - Violet
 - Blue
- Lead acetate cotton in the tube traps
 - Sulphuric acid fumes
 - Arsine gas
 - Arsenous gas
 - Hydrogen sulphide gas.
- Bromide impurity produces following colour opalescence in limit test for chlorides
 - Red colour
 - pale red colour
 - Intense yellow colour
 - pale yellow colour
- Thyroid deficiency treated using
 - iodine
 - sodium chloride
 - milk of magnesia
 - none of these
- The Mandals paint is
 - 1.25% w/v of iodine in glycerine.
 - 1.25% w/v of iodine in water.
 - 2.5%w/v each of iodine and KI in alcohol.
 - 2.5%w/v each of iodine and KI in water
- Hydrogen peroxide is used as
 - antiseptic
 - acidifying agent
 - protective
 - antioxidant
- Ferrous Sulphate is assayed by
 - Iodimetry
 - Iodometry
 - Cerimetry
 - Iodate titration
- Magnesium hydroxide confers its antacid action by
 - Magnesium ion
 - Hydroxide ion
 - Neutral
 - Whole molecule

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- 11 Which of the following statements is not true?
- Buffer capacity changes as the ratio $\log\left(\frac{[\text{Salt}]}{[\text{Acid}]}\right)$ increases with added base
 - Buffer capacity is not a fixed value for a given buffer system
 - Buffer capacity does not depend on the amount of base added.
 - Influenced by the total concentration of the buffer constituents
- 12 Which of the following is not a component of Zinc Ugenol cement?
- Zinc sulphate
 - Zinc acetate
 - Zinc stearate
 - Zinc oxide
- 13 Identify the wrong statement. In the assay of Ammonium chloride,
- Color changes to pink at the equivalence point.
 - Liberated sodium hydroxide is estimated
 - Dilute phenolphthalein solution is used as an indicator
 - Formalin is added
- 14 Identify the correct statement with regard to Ferrous fumarate
- It is freely soluble in water
 - It is a reddish orange to reddish brown colored compound
 - Fumarate component of the compound has hydrogens cis to each other.
 - It is estimated by complexometry
- 15 Identify the wrong statement with regard to Astringents
- They precipitate proteins
 - They constrict blood vessels
 - They possess strong local antiseptic action
 - They provide protection from external irritation
- 16 Nitrous acid is an example for
- Weak acid
 - Strong acid
 - Very Strong acid
 - Very Weak acid
17. Equation for White-Vincent Method is
- $V = W \times E + 111.1$
 - $E = W \times V \times 111.1$
 - $V = W \times E \times 111.1$
 - $W = V \times E \times 111.1$
18. Compound assayed by Argentometry is
- Sodium acetate
 - Sodium citrate
 - Sodium chloride
 - Sodium bicarbonate
19. Carnallite contains
- Sodium chloride
 - Sodium fluoride
 - Magnesium carbonate
 - Potassium chloride
20. Which of the following statements is not true with regard to Calcium chloride?
- It is colorless solid
 - It is available in anhydrous form as well as dihydrate form.
 - It is not hygroscopic
 - Used as an antidote to magnesium intoxication

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II Long Answers

2 Q × 10 marks = 20 marks

Question

- A. What are antacids? Classify them with suitable examples. Explain the preparation and assay of boric acid. 7M
B. Name the various iodine preparations and giving their compositions and uses. 3M
- A. Define a) Isotonic solution b) buffer c) isotonic value. 3M
B. Explain with equations, the principle involved in the assay of sodium chloride and Calcium gluconate 5M
C. Explain Lewis theory of acids and bases 2M

III Short Answers

7 Q × 5 marks = 35 marks

Question

- Explain with reactions, the method of preparation, and assay of zinc chloride. Give its physical property and uses. 5M
- Explain with chemical equation the principle involved in the Limit test for Chloride and Iron (2+3)
- What information should be included on the label of the primary container containing radiopharmaceutical? 5M
- Explain with reactions, the method of preparation, and assay of, ferrous sulphate. Give its physical property and uses. 5M
- Explain with reactions, the method of preparation of potash alum. Give its physical property and uses 5M
- List down the various sources of impurities in pharmaceutical preparations 5M
- Explain with reactions, the method of preparation, and uses of a) sodium fluoride b) Calcium carbonate