

Duration: 3 Hours

Total Marks: 75

- N.B.: 1. All questions are compulsory.
2. Figures to right indicate full marks.

Q. 1 Choose the appropriate option for following multiple choice based questions. 20

- 1 In the limit test of chloride _____ is added to get precipitate.
 - a Silver Nitrate
 - b Barium Chloride
 - c Thioglycolic acid
 - d Silver chloride

- 2 _____ is the unit of measurement of ionising effect of radiation by measuring damage effect on biological matter
 - a Curie
 - b Rad
 - c Roentgen
 - d Millicurie

- 3 _____ containing antacid is contraindicated in patients with renal impairment
 - a Mg
 - b Na
 - c Al
 - d Ca

- 4 _____ is used in the treatment of Hyperthyroidism and used as an expectorant.
 - a Potassium iodide
 - b Copper sulphate
 - c Potassium sulphate
 - d Sodium thiosulphate

- 5 In Lowry Bronsted concept, base is
 - a Proton acceptor
 - b Electron pair donor
 - c Proton donor
 - d Electron pair acceptor

- 6 Select incorrect option for calcium gluconate
 - a Calcium gluconate is prepared from calcium carbonate and gluconic acid
 - b Calcium gluconate assay is Complexometric titration.
 - c Calcium gluconate is used in Calcium replacement Therapy.
 - d Calcium gluconate assay is a redox type of titration.

- 7 The maintenance of constant environment in various cells, tissue and body fluid physically as well as chemically is known as
- Electrolyte balance
 - Homeostasis
 - Hemostasis
 - Hemolysis
- 8 The given below is used for scanning of thyroid gland
- Phosphorus 32
 - Chromium 51
 - Cobalt 57
 - Iodine 131
- 9 Ferrous sulphate is used as _____
- Haematinic
 - Emetic
 - Expectorant
 - Astringent
- 10 Aluminium hydroxide is
- Systemic antacid
 - Complex antacid
 - Laxative
 - Non systemic antacid
- 11 Which of the following is used for the treatment of cyanide poisoning
- Sodium Chloride
 - Sodium Sulphate
 - Sodium Nitrite
 - Ferrous Sulphate
- 12 For solid Zinc Eugenol cement , the concentration of ZnO is
- 85 %
 - 69%
 - 29.3%
 - 28.3%
- 13 Assay of copper sulphates is _____ type of titration
- Redox titration
 - Precipitation Titration
 - Acid Base titration
 - Complexometric Titration
- 14 Povidone-Iodine is a member of a class compound referred to as
- Chelate
 - Acid
 - Iodophors
 - Salt

- 15 What is the pH of the solution containing 0.10 mole of ephedrine and 0.01 mole of ephedrine hydrochloride per liter of solution? the pK_b of ephedrine is 4.64
- 46.4
 - 10.36
 - 1.03
 - 15.36
- 16 Which of the following is an example of Astringent
- Zinc sulphate
 - Copper sulphate
 - Ferrous sulphate
 - Sodium Nitrate
- 17 Kaolin is hydrated ----
- aluminium silicate
 - potassium silicate
 - ammonium silicate
 - sodium silicate
- 18 _____ is the titrant used in assay of sodium chloride
- NaOH
 - HCl
 - Sodium thiosulphate
 - Silver Nitrate
- 19 8th Edition of IP is published in the year
- 2022
 - 2018
 - 2015
 - 2007
- 20 The Molecular formula for sodium orthophosphate is
- Na₂PO₄
 - NaHPO₄
 - Na₂HPO₄
 - Na₃PO₄

Q.2 Long Answers (Answer any 2 out of 3)

- | | | | |
|--|------------|--|-----------|
| | [A] | [i] Discuss in detail procedure, theory and principle involved in modified limit Test for Chloride. | 04 |
| | | [ii] Discuss the measurement of radioactivity using a Scintillation counter or | 04 |
| | | [iii] GM counter. | 02 |
| | | Calculate the number of mEq of NaCl in 1 liter of a 0.8% w/v solution. | |
| | [B] | [i] What is antacid? Classify antacids giving suitable examples. What are limitations of inorganic antacids? | 04 |
| | | [ii] Explain Achlorhydria. Describe the agents used to treat achlorhydria. | 03 |
| | | [iii] Explain the following terms with suitable examples: cathartics and adsorbents | 03 |

[C] Define and Classify antidotes based on mechanism of action along with the examples.(3M) Discuss about Heavy Metal poisoning and its treatment(3M). Discuss method of Preparation, assay procedure and uses of Sodium Thiosulphate. (4M). **10**

Q.3 Short Answers (Answer 7 out of 9) **35**

[A] Write a note on expectorants and give method of preparation and principle involved in the assay of Ammonium chloride. **05**

[B] **Justify the following:** **05**

- [i] Prolonged administration of Aluminium containing antacids causes phosphate depletion
- [ii] Dil HCl has a therapeutic value.
- [iii] Aluminium hydroxide antacid is combined in Mg containing antacids formulations.
- [iv] Boric acid is used in ophthalmic preparation.
- [v] Aluminium hydroxide antacid is known as buffer antacid.

[C] Give category and uses of: antimony potassium tartrate, potash alum, potassium iodide, Sodium Nitrite, ferrous gluconate. **05**

[D] Discuss method of preparation and assay of Ferrous Sulphate and Chlorinated lime **05**

[E] Write the category, mechanism of action and uses of hydrogen peroxide, magnesium sulphate and potassium permanganate. **05**

[F] Define Radioactivity and enlist various units. Describe the precautions for storage and handling of radioisotopes. **05**

[G] [i] Define and state Buffer Capacity and give its Equation. Is buffer capacity a constant value? Justify. **03**

[ii] Write the category and uses of Calcium carbonate and Potassium chloride. **02**

[H] Define limit tests and give its significance. Give principle behind limit tests of Lead **05**

[I] [i] What are the conditions related to changes in physiological pH? Enlist the inorganic compounds used for treatment of these physiological pH imbalances. **03**

[ii] Give significance of dental desensitizing agents with suitable examples. **02**
