CLASS: BPHARM   SEMESTER: I
BRANCH: PHARMACY   SESSION: MO/2019
SUBJECT: BP104T PHARMACEUTICAL INORGANIC CHEMISTRY
TIME: 3.00 Hours   FULL MARK: 75
INSTRUCTIONS:
1. The missing data, if any, may be assumed suitably.
2. Before attempting the question paper, be sure that you have got the correct question paper.
3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
4. This question paper consists of (03) three parts. Read the part wise instructions before attempting the questions.

PART-I
Objective types questions (Instruction: Answer all questions)

Q1.   (10 x 2 = 20 Marks)

1. (a) Fill in the blanks:
   i. Lead-dithizone complex is extracted with ....
   ii. For buffer solution having weak acid and its conjugate base in the ratio of 1:2, the pH will be .... than pK_a
   iii. .... is used to prevent the ageing of precipitates in aluminium hydroxide gel
   iv. Hydrogen peroxide acts as antiseptic by generating ....
   v. .... counter may detect γ-radiation

   (b) State True or False:
   i. Impurities may be derived from solvents used in the preparation of a compound
   ii. Isotonic solution may be prepared using any substance
   iii. Antimony potassium tartrate is estimated by Iodometric method
   iv. Sodium thiosulphate is used as antifungal agent
   v. Radiopharmaceuticals are not to be used for diagnostic purpose

   (c) Match the following:

A. Monograph	I. Saline purgative
B. Hypokalemia	II. Astringent
C. Sodium orthophosphate	III. Thyroid
D. Potash alum	IV. Pharmacopoeia
F. Sodium Iodide ($I^1$31)	V. Low serum potassium level

   (d) One line answers.
   i. Write the structure of ferrous thioglycollate.
   ii. What are isotonic solutions?
   iii. Define anion gap?
   iv. Write the reaction involved in the preparation of ferrous sulphate
   v. Define radioactivity

PART-II
Short Answers
(Instruction: Answer seven out of nine questions)

                                    (7 x 5 = 35 Marks)

2. Draw a neat and labelled diagram of Gutzeit apparatus.

3. Discuss the principle involved in the test for purity of bromides in sodium chloride with appropriate equation.

4. Calculate the amount of boric acid required to make 100 mL of 0.5% w/v solution of sodium chloride, isotonic. (i-value for *NaCl* and H_3BO_3 is 1.8 and 1, respectively).

5. Discuss the principle involved in the assay of copper sulphate.

6. Explain the rationale for the antacid combinations.

7. Discuss the mode of action of antiseptics and disinfectants with suitable examples.

8. Elaborate on the test for purity and estimation of Ferrous sulphate.

9. Discuss the applications of radiopharmaceuticals.

10. Explain the working principle of GM counter with a neat and labelled diagram.

(2 x 10 = 20 marks)

11. Calculate the quantities of components required to prepare the following eye drop.

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Pilocarpine nitrate	0.3 g
Boric acid	q.s
Purified water	30 mL

   (Molecular weight & i-value of pilocarpine nitrate is 271 & 1.8, respectively)

12. Explain the principle involved in the identification test of the following with appropriate equations.

   (a) Aluminium ion
   (b) Magnesium ion
   (c) Cupric ion
   (d) Sodium ion

13. Discuss in detail the management of diarrhoea with different class of drugs.

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