

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)**

**CLASS: B.PHARM  
BRANCH: PHARMACY**

**SEMESTER: I  
SESSION: MO/2022**

**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.
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**PART-I**

**Objective types questions (Instruction: Answer all questions)**

- Q1. (10 x 2 = 20 Marks)
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|--|-----|
| A. What do you mean by monograph?  | CO1 |
| B. Write the significance of pharmacopoeia.  | CO1 |
| C. Define organic impurities with suitable examples.                                 | CO1 |
| D. Define conjugate acid-base pair with suitable examples.                           | CO1 |
| E. Define & differentiate between ICF & ECF.   | CO1 |
| F. Why fluoride is used as anticaries agent?   | CO1 |
| G. What are caustics, adsorbents and demulcents?                                     | CO1 |
| H. Define and differentiate between systemic and nonsystemic antacids.               | CO1 |
| I. Define and differentiate between expectorants and emetics with suitable examples. | CO1 |
| J. Define radioisotopes with suitable examples.                                      | CO1 |

**PART-II**

**Short Answers**

**(Instruction: Answer seven out of nine questions)**

(7 x 5 = 35 Marks)

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|---|--------------|
| Q2. Write the limit test for chloride & sulphate. Justify the role of limit test in pharmaceutical products.                    | CO2 &<br>CO3 |
| Q3. What is buffer capacity? Write the classification, factors for selection of buffers and applications of buffers in pharmacy | CO2          |
| Q4. Justify the role of ORS & electrolyte combination therapy? Write the composition of ORS.                                    | CO3          |
| Q5. Write the causes of dental caries and discuss about the prevention of it. Write a note Sodium fluoride.                     | CO1 &<br>CO2 |
| Q6. Define antacids. Justify the combination of antacids. Write the monograph of sodium bicarbonate                             | CO2 &<br>CO3 |
| Q7. Explain the monograph of aluminium hydroxide gel & magnesium sulphate   | CO2          |
| Q8. Write a detail note on the role on the monograph of boric acid & hydrogen peroxide  | CO2          |
| Q9. Explain about antidotes. Justify the role of sodium nitrite as an antidote.   | CO2 &<br>CO3 |
| Q10. What are astringents? Explain in detail about potash alum.   | CO2          |

**PTO**

**PART-III**  
**Long Answers**  
**(Instruction: Answer two out of three questions)**

(2 x 10 = 20 marks)

- Q11. Define impurities. Explain about different sources of impurities in pharmaceuticals with suitable examples & role of impurities in pharmaceuticals. CO2 & CO3
- Q12. Explain about acid base theory. Derive Henderson-Hasselbalch Equation for acidic buffers & note on buffer tonicity. CO3
- Q13. What is radioactivity? Define & differentiate between  $\alpha$ ,  $\beta$  &  $\gamma$  rays. Justify the role of radioisotopes in pharmacy. CO3

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