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

CLASS: B. PHARM. **SEMESTER: I**
BRANCH: PHARMACY **SESSION: MO 2023**

SUBJECT: BP102T PHARMACEUTICAL ANALYSIS

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)

A. Define normality and molarity.

B. Recall the sources of error in pharmaceutical analysis.

C. Calculate the amount of H_2SO_4 required to prepare 40 ml of 50% (v/v) H_2SO_4 solution.

D. Define monodentate, bidentate and multidentate ligand with examples.

E. Define metal-ion indicators with examples.

F. Mention the number of significant figures in the followings: 2.0090; 0.001067.

G. State the principle of conductimetric titration.

H. Define Primary & secondary standards with examples.

I. Find out the molarity of 0.1N HCl solution.

J. Draw the structures of two weakly basic and weakly acidic compounds which can be analysed through Non-aqueous titration.

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

(7 x 5 = 35 Marks)

Q2. Write a note on accuracy and precision.
Q3. Write a note on masking and demasking agents.
Q4. Mention the properties of an ideal primary standard.
Q5. Explain the procedure to standardize 0.1N sodium hydroxide solution.
Q6. Write a note on Iodometric & Iodimetric titration.
Q7. Find out the molarity of a 100 ml solution containing 0.85 g NH_3. Note that the density of solution is 1.2g/ml.
Q8. Discuss the various techniques used in pharmaceutical analysis.
Q9. Enumerate the applications of conductometric titration.
Q10. What are Visual Indicators? Discuss the theory of Indicator.

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

(2 x 10 = 20 marks)

Q11. Classify the errors in pharmaceutical analysis and discuss each type of errors.
Q12. Write a note on- Fajan's method and Volhard's method.
Q13. Discuss the method of preparation and standardization of 500 ml approx. 0.1N $KMNO_4$ solution.

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