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शर - 020

CHEMISTRY PAPER-II : CH-232
Organic Chemistry & Analytical Chemistry
(23136)

P. Pages : 3

Time : Two Hours

Max. Marks : 40

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions are compulsory.
5. Figures to the right indicates full marks.
6. Use of log table and non programmable calculator are allowed.

1. a) Choose the correct answer of the following.

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- i) Acidity of phenols increases due to the presence of
 - a) Electron withdrawing groups
 - b) Electron donating groups
 - c) Both a and b
 - d) None of the above
- ii) Nitration of benzene is ----- reaction.
 - a) Unimolecular
 - b) Bimolecular
 - c) Trimolecular
 - d) Tetramolecular
- iii) For titration of 0.1N HCl with 0.1N NaOH, the pH at equivalence point is -----.
 - a) 1
 - b) 3.7
 - c) 7
 - d) 10.3
- iv) Numerical difference between measured value and true value is known as -----.
 - a) Relative error
 - b) Relative accuracy
 - c) Standard deviation
 - d) Absolute error

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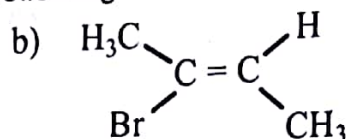
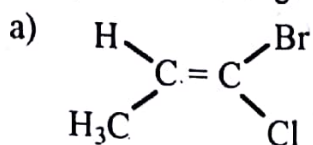
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b). Attempt **any two** of the following.

i) Give the preparation of benzaldehyde by the Gattermann-Koch reaction.

ii) Assign E or Z configuration of following.



iii) Find the number of significant figures in the following.

a) 200.40

b) 1.606×10^{-19}

iv) Why standardisation of AgNO_3 by Mohr's method is not carried out in acidic medium?

2. Attempt **any two** of the following.

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i) Explain operational errors and instrumental errors.

ii) Derive Henderson-Hasselbalch equation for pH of acid base indicators.

iii) What is the action of following on acetophenone

a) HCN

b) $\text{H}_3\text{C mgBr}$.

3. a) Answer any one of the following.

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i) Describe Volhard's method for estimation of chloride.

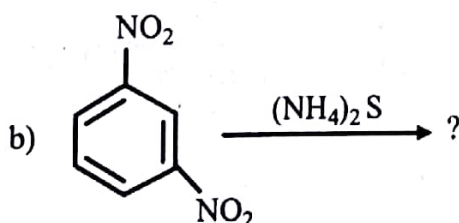
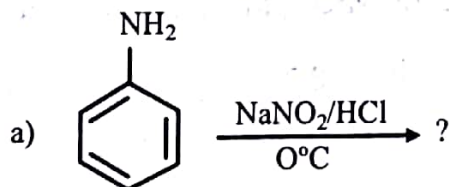
ii) Explain nitration of phenol.

b) Answer **any one** of the following.

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i) Explain the term accuracy and precession.

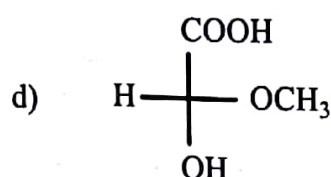
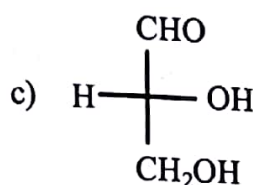
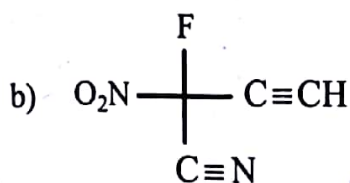
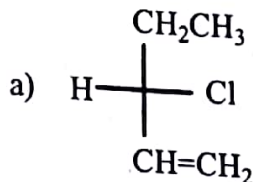
ii) Identify the product of following reactions.



4. Attempt **any two** of the following.

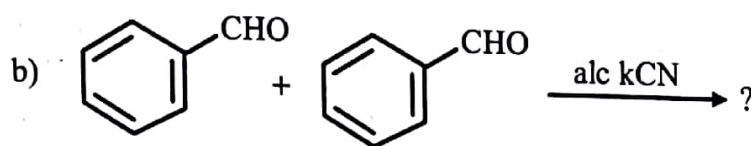
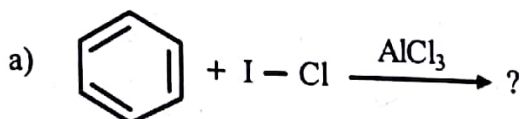
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i) Assign R or S configuration for the following.



ii) Discuss the theory of adsorption indicator.

iii) Identify the product of follow reactions.



5. a) Attempt **any one** of the following.

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i) Explain the nature of titration curve for titration of strong acid with strong base. Discuss the choice of indicator.

ii) Discuss the conformational isomers in n-butane using energy profile diagram.

b) Define.

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i) Universe or population.

ii) Gross sample.
