

FIITJEE INTERNAL TEST

C.B.S.E. TEST – II

CHEMISTRY Class – XII

**Forthcoming
Exam – FTRE on
06th Oct. 2024.**

Maximum Marks: 30

Time Allowed: 1 hour

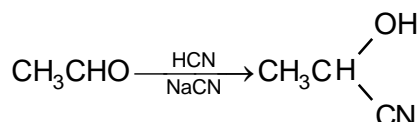
General Instructions:

- (i) There are 11 questions in all. All Questions are compulsory.
- (ii) This question paper has four sections: Section A, Section B, Section C and Section D.
- (iii) Section A contains four questions of two marks each, Section B contains two questions of three marks each, Section C contains two question of five marks each. Section D contains one paragraph having 3 objective single correct type questions, of two marks each.
- (iv) You may use log tables if necessary but use of calculator is not allowed.

SECTION-A

Very short answer type

1.

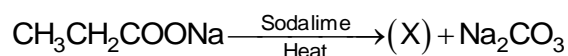


Which type of reaction is it? What is the role of HCN in above reaction?

2.

What is $\text{S}_{\text{N}}2$ reaction? Give an example of it.

3.



Which is 'X'?

4.

HCOOH , CH_3COOH , $\text{CH}_3\text{CH}_2\text{COOH}$, $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$

Arrange the above compounds in

- (i) decreasing order of acidic strength.
- (ii) decreasing order of reaction with NaOH .

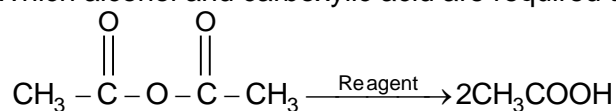
SECTION-B

Short answer type

5.

(i) Which alcohol and carboxylic acid are required to form the ester $\text{CH}_3\text{CH}_2\text{COOCH}_3$.

(ii)



Which reagent is used for above reaction.

(iii) $\text{CH}_3\text{CONH}_2 \xrightarrow{\text{Acidic medium}(\text{H}^+)} \text{CH}_3\text{COOH} + (\text{X})$

In above reaction, (X) is

6. What is aldol condensation reaction? Which carbonyl compounds from the following response to the test?
 HCHO , CH_3CHO , PhCHO , CH_3COCH_3 , $\text{CH}_3\text{COC}_2\text{H}_5$, $(\text{CH}_3)_3\text{CCHO}$

SECTION-C

Long answer type

7. Answer the following questions
 (a) Mention the heating products of oxalic acid.
 (b) $\text{CH}_3\text{COOH} \xrightarrow{\text{Br}_2/\text{P}}$ Product
 (c) Mention the different tests to distinguish 1° , 2° and 3° alcohols.
 (d) State the products of the following reactions
 $\text{CH}_3\text{CH}_2\text{COOH} \xrightarrow{\text{LiAlH}_4}$
 $\text{CH}_3\text{CHO} \xrightarrow{\text{NaBH}_4}$
 (e) Which reagents can displace the H atom of an acid RCOOH ?
8. State the products when each of the following acids is treated with aqueous NaOH .
 (i) 2-bromobutanoic acid
 (ii) 3-bromobutanoic acid
 (iii) 4-bromobutanoic acid
 (iv) 5-bromopentanoic acid
 (v) What is the product from reaction of 2-bromobutanoic acid with alc.KOH?

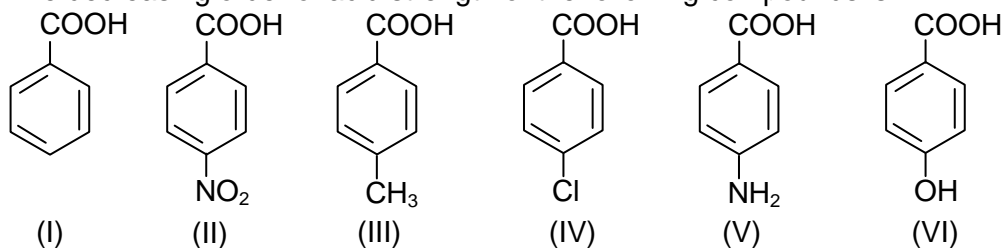
SECTION-D

Comprehension Type

Paragraph for question nos. 9 - 11

In general, electron withdrawing groups increases acidity, whereas electron releasing groups increases basicity. But irrespective of the nature of the effect of substituent, ortho substituted benzoic acids are stronger acid than benzoic acid. However, an ortho substituent aniline is always weaker base than aniline. The net result of I-effect and R-effect will decide the acidic or basic strength. The I-effect is exerted from all positions, but the R-effect is exerted only if the substituent is either at ortho or para position.

9. The decreasing order of acid strength of the following compounds is



- | | |
|--|--|
| (A) (II) > (IV) > (I) > (III) > (VI) > (V) | (B) (II) > (I) > (IV) > (V) > (III) > (VI) |
| (C) (II) > (IV) > (I) > (V) > (III) > (VI) | (D) (II) > (I) > (IV) > (III) > (VI) > (V) |

10. CO_2 gas evolves when CH_3COOH reacts with
 (A) Na (B) NaOH
 (C) NaHCO_3 (D) Na_2SO_4

11. $\text{CH}_3 - \overset{\text{O}}{\parallel}{\text{C}} - \text{Cl} + \text{CH}_3\text{NH}_2 \longrightarrow (\text{X}) + \text{HCl}$
 Product(X) is
 (A) $\text{CH}_3\text{COOCH}_3$ (B) $\text{CH}_3\text{CONHCH}_3$
 (C) $\text{CH}_3\text{COONHCH}_3$ (D) CH_3CONH_2