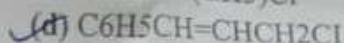
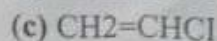
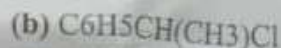
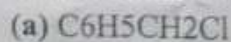


General Instructions:

1. The question paper has 11 questions. All questions are compulsory.
2. Q. No. 1 and 2 are MCQs of 1 mark each.
3. Q. No. 3 and 4 are Assertion & Reasoning based questions of 1 mark each.
4. Q. No. 5 to 7 are Very Short answer type questions of 2 marks each.
5. Q. No. 8 and 9 are Long answer type questions of 3 marks each.
6. Q. No. 10 is Case Based question of 4 marks.
7. Q. No. 11 is Long answer type question of 5 marks.

Q1. Which of the following is allyl halide :

(1)



Q2. Which of the following is suitable test to detect Phenol :

(1)

(a) Sodium-bicarbonate Test

(b) Sodium carbonate Test

(c) Lucas Test

(d) Neutral Ferric Chloride Test

Q. No. 3 and 4 are **ASSERTION & REASONING** based questions. Mark the correct choice as:

(a) Both A and R are True, and R is the correct explanation for A.

(b) Both A and R are True, but R is not the correct explanation for A.

(c) A is True, but R is False.

(d) A is False, but R is True.

Q3. Assertion(A): Nucleophilic substitution of iodoethane is easier than chloroethane.

(1)

Reason(R): Bond enthalpy of C-I bond is less than C-Br bond.

Q4. Assertion(A): Presence of methoxy group on para-position of Phenol decreases its acidic character

(1)

Reason(R): Methoxy group gives more stability to phenoxide ion.

Q5. Draw resonating structure of chlorobenzene or phenol.

(2)

Q6. Give suitable test to distinguish 1° , 2° and 3° alcohols. Give chemical reaction also.

(2)

Q7. How will you prepare salicylic acid from phenol? Give chemical reaction also.

(2)

Q8. What happens when (give chemical reaction only):

(3)

(a) Phenol is treated with Zn dust

(b) Phenol is treated with Br_2 , in aqueous medium

(c) Phenol is treated with conc. HNO_3

Q9. Give chemical reactions to show what happens when isopropyl chloride reacts with:

(3)

(a) Aqueous KOH

(b) Alcoholic KOH

(c) $SOCl_2$

CASE - STUDY

(1x4=4)

Q10. The nucleophilic substitution in alkyl halides can take place through two different mechanisms, SN_1 and SN_2 . The SN_1 mechanism involves carbocation as intermediate while SN_2 reaction occurs through a single-step concerted mechanism involving a transition state. Based on above information, answer the following:

(a) What is the order of reactivity of 1° , 2° , 3° alkyl halides towards SN_1 mechanism?

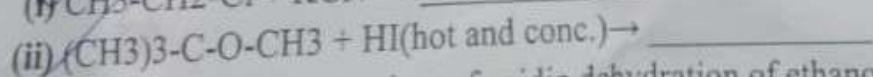
(b) What is the order of reactivity of 1° , 2° , 3° alkyl halides towards SN_2 mechanism?

(c) Out of SN_1 and SN_2 , which mechanism involves inversion of configuration?

(d) Out of SN_1 and SN_2 , which mechanism involves racemization?

(2+3=

Q11. (a) Fill in the blanks:



(b) Write three steps mechanism of acidic dehydration of ethanol to form ethene.