HALOALKANES AND HALOARENES

CHAPTER-10

TEST-A

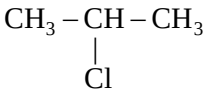
SOLVED

Time: 1 hr. **Max. Marks: 30**

SECTION-A

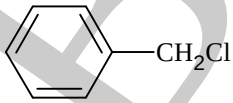
Tick the correct option:

1. The most easily hydrolysable halide in S_N1 reaction is **[1]**

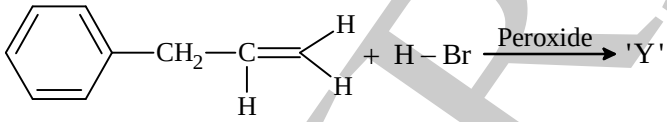
(i) 

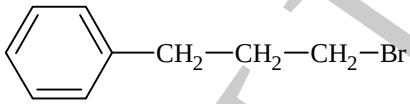
(ii) $CH_2 = CH - CH_2Cl$

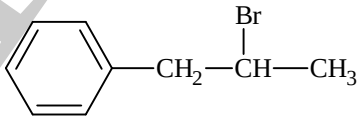
(iii) $CH_2 = CH - Cl$

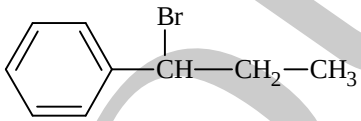
(iv) 

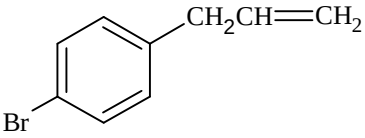
2. The compound Y in the following reaction is **[1]**



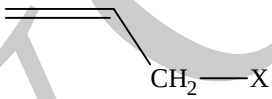
(i) 

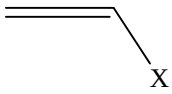
(ii) 

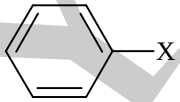
(iii) 

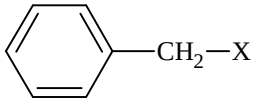
(iv) 

3. Which of the following is an allylic halide? **[1]**

(i) 

(ii) 

(iii) 

(iv) 

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Assertion-Reason type Questions:

(i) If assertion and reason both are correct and reason is the correct explanation of assertion.

(ii) If assertion and reason both are correct and reason is not the correct explanation of assertion.

(iii) If assertion is correct and reason is wrong.

(iv) If assertion is wrong and reason is correct.

4. Assertion: A sample of sec-butyl bromide is a resolvable sample. **[1]**

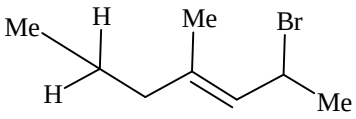
   Reason: sec-butyl bromide does not have a chiral centre.

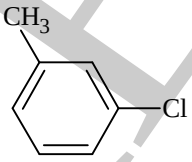
5. Assertion: Nitration of chlorobenzene on reaction with conc. HNO_3 and H_2SO_4 mixture gives an ortho and para nitro chloro benzene. **[1]**

   Reason: The ortho and para positions are more electron rich than meta due to +R effect of Cl.

One word /One Sentence type Questions.

6. Write IUPAC name of the following compounds: **[1]**

(i) 

(ii) 

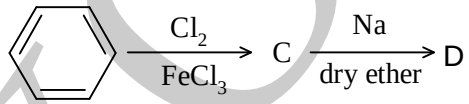
7. Explain the following name reaction with example: **[1]**

   Finkelstein reaction.

SECTION-B

8. Write the structures of A to D: **[2]**

(i) $CH_3 - CH = CH_2 \xrightarrow[\text{Peroxide}]{HCl} A \xrightarrow{\text{eth.NaCN}} B$

(ii) 

9. Give reason: **[2]**

(i) S_N1 reaction gives a resolvable product.

(ii) Chlorobenzene is more reactive towards nucleophilic substitution reactions in the presence of NO_2 group.

10. How will you convert the following? **[2]**

(i) tert-Butyl bromide to isobutyl bromide

(ii) Benzene to diphenyl

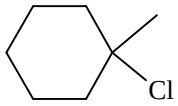
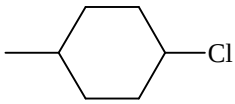
11. In the following reaction, identify the compound 'Z'. **[2]**

$$CH_2 = CH_2 \xrightarrow[\text{(ii) Na / dry ether}]{\text{(i) HCl}} \text{'Z'}$$

How many enantiomeric pairs are formed on monochlorination of Z?

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12. (a) Which one is more reactive in each of the following pairs and why? **[2+1]**

(i)  or  (S_N2)

(ii) $CH_2 = CH - Cl$ or $CH_2 = CH - CH_2 - Cl$ (S_N1)

(b) Write a short note on Wurtz-Fittig reaction.

13. Account for the following: **[3]**

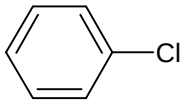
(i) Grignard reagent is prepared under anhydrous conditions.

(ii) Chloroform is always stored in dark colourd bottles.

(iii) Chlorobenzene has a lower value of the dipole moment than chloroethane.

14. (a) Complete the following reactions by writing down the structure of the major product. **[2+1]**

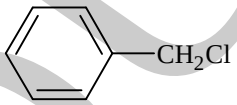
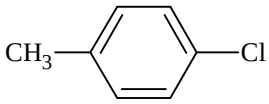
(i) $CH_3 - CH_2 - CH_2 - CH_2 - Cl \xrightarrow[\text{Heat}]{KOH/C_2H_5OH}$

(ii)  $\xrightarrow[300\ atm]{NaOH,\ 623\ K}$

(b) Convert propene into 1-Fluoropropane.

15. (a) Primary alkyl halide A(C_4H_9Cl) on reaction with hot and ethanolic potash gives a compound B(C_4H_8). (B) on reaction with HCl gives C which is an isomer of A. (A) on reaction with Na/dry ether gives (D) which is different from the product form when n-butyl chloride reacts with Na/dry ether. What are the structure of (A) of (D)? Explain all the reactions involved. **[3+1+1]**

(b) Give one chemical test to distinguish between

 and 

(c) State one use each of carbon tetrachloride and chlorofluoro carbons.

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