

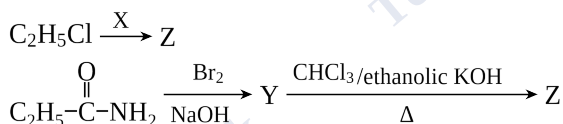
NEET HALOALKANES AND HALOARENES — PYQS

Max. Marks: 144

Questions: 36

Section A (MCQ) — 36 questions

Q.1 The following two reactions give the same foul smelling product Z.



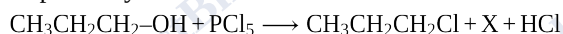
X and Z, respectively, are : [NEET (UG) 2026]

- (1) X = AgCN; Z = C₂H₅CN
- (2) X = AgCN; Z = C₂H₅NC
- (3) X = KCN; Z = C₂H₅CN
- (4) X = KCN; Z = C₂H₅NC

Scan or tap for the full solution



Q.2 In the following reaction sequence, X and Z, respectively are :



[NEET (UG) 2026]

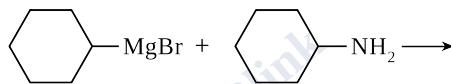


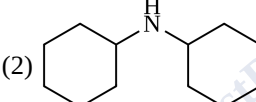
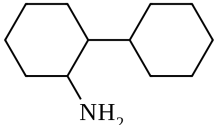
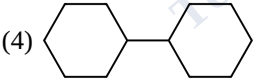
- (1) X = POCl₃; Z = $\text{CH}_3-\underset{\text{Br}}{\text{CH}}-\text{CH}_3$
- (2) X = POCl₃; Z = CH₃CH₂CH₂-Br
- (3) X = H₃PO₃; Z = $\text{CH}_3-\underset{\text{Br}}{\text{CH}}-\text{CH}_3$
- (4) X = H₃PO₃; Z = CH₃CH₂CH₂-Br

Scan or tap for the full solution



Q.3 One of the products formed in the following reaction is [RE-NEET (UG) 2026]

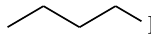
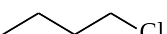


- (1) 
- (2) 
- (3) 
- (4) 

Scan or tap for the full solution



Q.4 Given below are two statements : one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**.

Assertion (A):  I undergoes S_N2 reaction faster than  Cl

Reason (R): Iodine is a better leaving group because of its large size.

In the light of the above statements, choose the correct answer from the options given below:

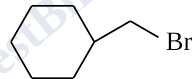
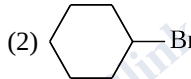
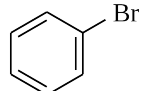
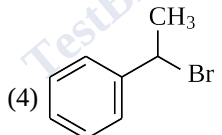
[NEET (UG) 2025]

- (1) A is true but R is false
- (2) A is false but R is true
- (3) Both A and R are true and R is the correct explanation of A
- (4) Both A and R are true but R is not the correct explanation of A

Scan or tap for the full solution



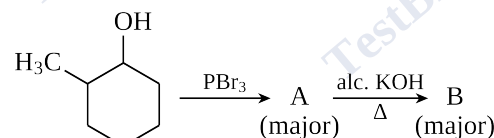
Q.5 The compound that will undergo S_N1 reaction with the fastest rate is [NEET (UG) 2024]

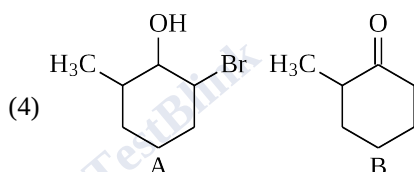
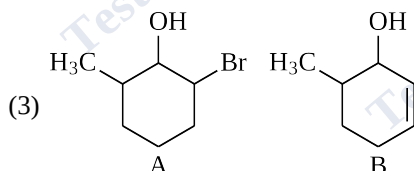
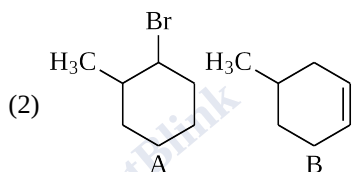
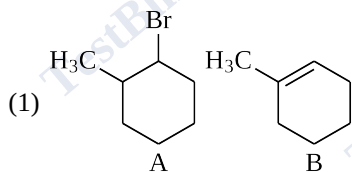
- (1) 
- (2) 
- (3) 
- (4) 

Scan or tap for the full solution



Q.6 Major products A and B formed in the following reaction sequence, are [NEET (UG) 2024]





Scan or tap for the full solution



Q.7 The major product C in the below mentioned reaction is:



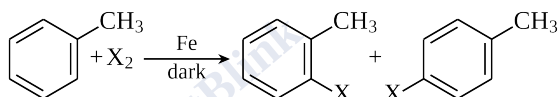
[RE-NEET (UG) 2024]

- (1) Propan-1-ol (2) Propan-2-ol
(3) Propane (4) Propyne

Scan or tap for the full solution



Q.8 The following reaction method



is not suitable for the preparation of the corresponding haloarene products, due to high reactivity of halogen, when X is :

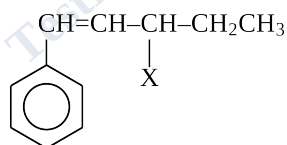
[RE-NEET (UG) 2024]

- (1) F (2) I (3) Cl (4) Br

Scan or tap for the full solution



Q.9 The given compound



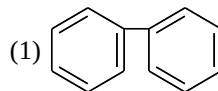
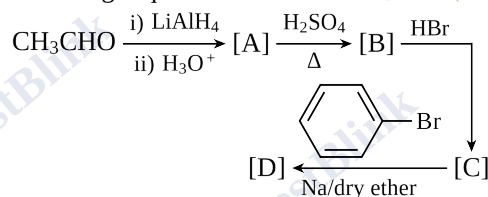
is an example of _____. [NEET (UG) 2023]

- (1) aryl halide (2) allylic halide
(3) vinylic halide (4) benzylic halide

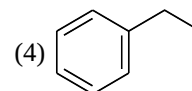
Scan or tap for the full solution



Q.10 Identify the final product [D] obtained in the following sequence of reactions. [NEET (UG) 2023]



(2) C₄H₁₀



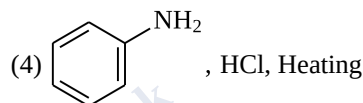
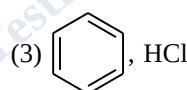
Scan or tap for the full solution



Q.11 Which of the following sequence of reactions is suitable to synthesize chlorobenzene?

[NEET (UG) 2022]

- (1) Benzene, Cl₂, anhydrous FeCl₃
(2) Phenol, NaNO₂, HCl, CuCl



Scan or tap for the full solution



Q.12 Given below are two statements : one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**.

Assertion (A): Chlorine is an electron withdrawing group but it is ortho, para directing in electrophilic aromatic substitution.

Reason (R): Inductive effect of chlorine destabilises the intermediate carbocation formed during the electrophilic substitution, however due to the more pronounced resonance effect, the halogen stabilises the carbocation at ortho and para positions.

In the light of the above statements, choose the most appropriate answer from the options given below :

[NEET (UG) 2022 (Phase 2)]

- (1) (A) is not correct but (R) is correct
(2) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(3) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(4) (A) is correct but (R) is not correct

Scan or tap for the full solution



Q.13 Predict the order of reactivity of the following four isomers towards S_N2 reaction.

- (I) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$
 (II) $\text{CH}_3\text{CH}_2\text{CH}(\text{Cl})\text{CH}_3$
 (III) $(\text{CH}_3)_2\text{CHCH}_2\text{Cl}$
 (IV) $(\text{CH}_3)_3\text{CCl}$

[NEET (UG) 2022 (Phase 2)]

- (1) (IV) > (II) > (III) > (I)
 (2) (IV) > (III) > (II) > (I)
 (3) (I) > (II) > (III) > (IV)
 (4) (I) > (III) > (II) > (IV)

Scan or tap for the full solution



Q.14 The major product formed in dehydrohalogenation reaction of 2-bromopentane is pent-2-ene. This product formation is based on?

[NEET (UG) 2021]

- (1) Hückel's Rule (2) Saytzeff's Rule
 (3) Hund's Rule (4) Hofmann Rule

Scan or tap for the full solution



Q.15 The correct sequence of bond enthalpy of 'C-X' bond is :

[NEET (UG) 2021]

- (1) $\text{CH}_3\text{-Cl} > \text{CH}_3\text{-F} > \text{CH}_3\text{-Br} > \text{CH}_3\text{-I}$
 (2) $\text{CH}_3\text{-F} < \text{CH}_3\text{-Cl} < \text{CH}_3\text{-Br} < \text{CH}_3\text{-I}$
 (3) $\text{CH}_3\text{-F} > \text{CH}_3\text{-Cl} > \text{CH}_3\text{-Br} > \text{CH}_3\text{-I}$
 (4) $\text{CH}_3\text{-F} < \text{CH}_3\text{-Cl} > \text{CH}_3\text{-Br} > \text{CH}_3\text{-I}$

Scan or tap for the full solution



Q.16 Elimination reaction of 2-Bromopentane to form pent-2-ene is :

- A. β -Elimination reaction
 B. Follows Zaitsev rule
 C. Dehydrohalogenation reaction
 D. Dehydration reaction

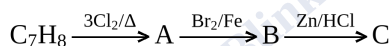
[NEET (UG) 2020]

- (1) A, C and D only (2) B, C and D only
 (3) A, B and D only (4) A, B and C only

Scan or tap for the full solution



Q.17 The compound C_7H_8 undergoes the following reactions :



The product 'C' is

[NEET 2018]

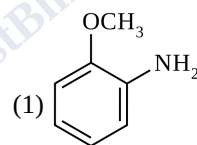
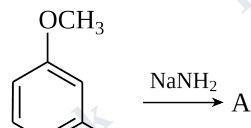
- (1) m-bromotoluene
 (2) o-bromotoluene
 (3) 3-bromo-2,4,6-trichlorotoluene
 (4) p-bromotoluene

Scan or tap for the full solution

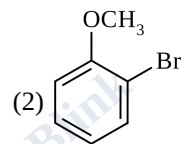


Q.18 Identify A and predict the type of reaction.

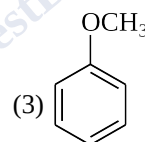
[NEET 2017]



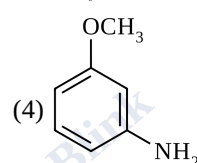
and elimination addition reaction



and cine substitution reaction



and cine substitution



and substitution reaction

Scan or tap for the full solution



Q.19 Consider the reaction,
 $\text{CH}_3\text{CH}_2\text{CH}_2\text{Br} + \text{NaCN} \longrightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{CN} + \text{NaBr}$
 The reaction will be the fastest in

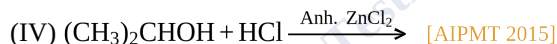
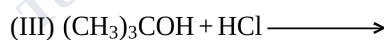
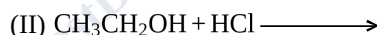
[NEET 2016 (Phase 2)]

- (1) ethanol
 (2) methanol
 (3) N,N-dimethylformamide (DMF)
 (4) water

Scan or tap for the full solution



Q.20 Which of the following reaction(s) can be used for the preparation of alkyl halides?

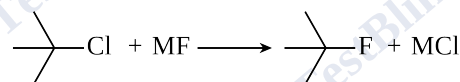


- (1) (I) and (II) only (2) (IV) only
 (3) (III) and (IV) only (4) (I), (III) and (IV) only

Scan or tap for the full solution



Q.21 In the replacement reaction



The reaction will be most favourable if M happens to be

[AIPMT 2012 (Mains)]

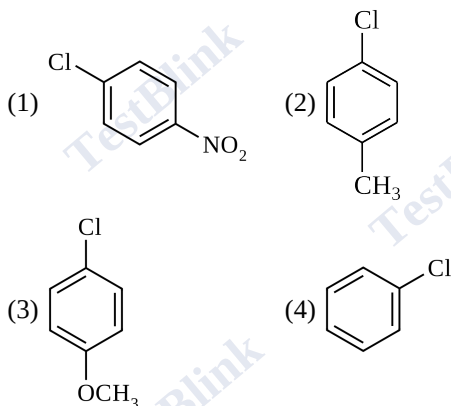
- (1) Na (2) K (3) Rb (4) Li

Scan or tap for the full solution



Q.22 Which of the following compounds undergoes nucleophilic substitution reaction most easily?

[AIPMT 2011 (Mains)]

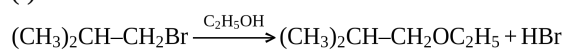


Scan or tap for the full solution

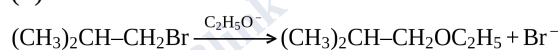


Q.23 Consider the reactions.

(i)



(ii)



The mechanisms of reactions (i) and (ii) are respectively

[AIPMT 2011 (Mains)]

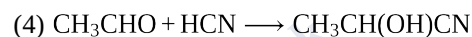
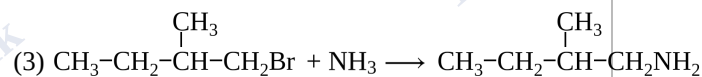
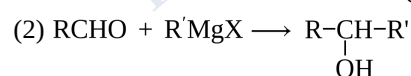
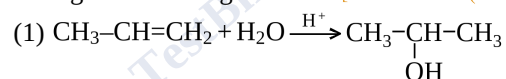
- (1) $\text{S}_{\text{N}}1$ and $\text{S}_{\text{N}}2$ (2) $\text{S}_{\text{N}}1$ and $\text{S}_{\text{N}}1$
 (3) $\text{S}_{\text{N}}2$ and $\text{S}_{\text{N}}2$ (4) $\text{S}_{\text{N}}2$ and $\text{S}_{\text{N}}1$

Scan or tap for the full solution



Q.24 Which one is a nucleophilic substitution reaction among the following ?

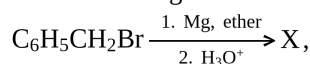
[AIPMT 2011 (Prelims)]



Scan or tap for the full solution



Q.25 In the following reaction



the product 'X' is

[AIPMT 2010 (Mains)]

- (1) $\text{C}_6\text{H}_5\text{CH}_2\text{OCH}_2\text{C}_6\text{H}_5$ (2) $\text{C}_6\text{H}_5\text{CH}_2\text{OH}$
 (3) $\text{C}_6\text{H}_5\text{CH}_3$ (4) $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{C}_6\text{H}_5$

Scan or tap for the full solution



Q.26 The reaction of toluene with Cl_2 in presence of FeCl_3 gives X and reaction in presence of light gives Y. Thus, X and Y are

[AIPMT 2010 (Prelims)]

- (1) X = Benzal chloride, Y = o-chlorotoluene
 (2) X = m-chlorotoluene, Y = p-chlorotoluene
 (3) X = o- and p-chlorotoluene, Y = Trichloromethyl benzene
 (4) X = Benzyl chloride, Y = m-chlorotoluene

Scan or tap for the full solution



Q.27 Which one is most reactive towards $\text{S}_{\text{N}}1$ reaction?

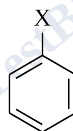
[AIPMT 2010 (Prelims)]

- (1) $\text{C}_6\text{H}_5\text{CH}(\text{C}_6\text{H}_5)\text{Br}$
 (2) $\text{C}_6\text{H}_5\text{CH}(\text{CH}_3)\text{Br}$
 (3) $\text{C}_6\text{H}_5\text{C}(\text{CH}_3)(\text{C}_6\text{H}_5)\text{Br}$
 (4) $\text{C}_6\text{H}_5\text{CH}_2\text{Br}$

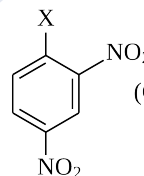
Scan or tap for the full solution



Q.28 The correct order of increasing reactivity of



I



II



III

IV

C-X bond towards nucleophile in the following compounds is

[AIPMT 2010 (Prelims)]

- (1) $\text{I} < \text{II} < \text{IV} < \text{III}$ (2) $\text{II} < \text{III} < \text{I} < \text{IV}$
 (3) $\text{IV} < \text{III} < \text{I} < \text{II}$ (4) $\text{III} < \text{II} < \text{I} < \text{IV}$

Scan or tap for the full solution



Q.29 Which of the following reactions is an example of nucleophilic substitution reaction?

[AIPMT 2009]

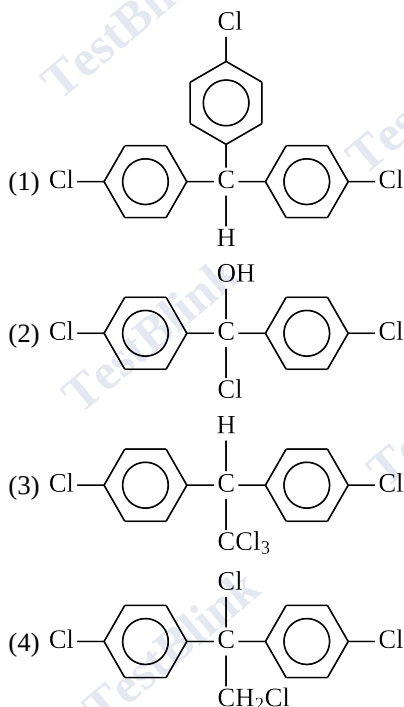
- (1) $2\text{RX} + 2\text{Na} \longrightarrow \text{R}-\text{R} + 2\text{NaX}$
 (2) $\text{RX} + \text{H}_2 \longrightarrow \text{RH} + \text{HX}$
 (3) $\text{RX} + \text{Mg} \longrightarrow \text{RMgX}$
 (4) $\text{RX} + \text{KOH} \longrightarrow \text{ROH} + \text{KX}$

Scan or tap for the full solution



Q.30 Trichloroacetaldehyde, CCl_3CHO reacts with chlorobenzene in presence of sulphuric acid and produces

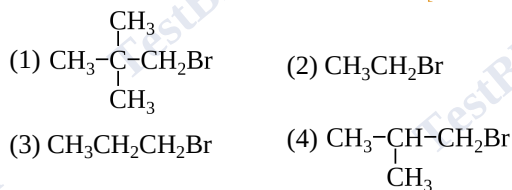
[AIPMT 2009]



Scan or tap for the full solution



- Q.31** In an S_N2 substitution reaction of the type
 $R-Br + Cl^- \xrightarrow{DMF} R-Cl + Br^-$
 which one of the following has the highest relative rate?
 [AIPMT 2008]



Scan or tap for the full solution



- Q.32** Which of the following undergoes nucleophilic substitution exclusively by S_N1 mechanism?
 [AIPMT 2005]
- (1) Ethyl chloride (2) Isopropyl chloride
 (3) Chlorobenzene (4) Benzyl chloride

Scan or tap for the full solution



- Q.33** Which of the following is least reactive in a nucleophilic substitution reaction?
 [AIPMT 2004]
- (1) $(CH_3)_3C-Cl$ (2) $CH_2=CHCl$
 (3) CH_3CH_2Cl (4) $CH_2=CHCH_2Cl$

Scan or tap for the full solution



- Q.34** Chloropicrin is obtained by the reaction of
 [AIPMT 2004]

- (1) steam on carbon tetrachloride
 (2) nitric acid on chlorobenzene
 (3) chlorine on picric acid
 (4) nitric acid on chloroform

Scan or tap for the full solution



- Q.35** Reactivity order of halides for dehydrohalogenation is
 [AIPMT 2002]

- (1) $R-F > R-Cl > R-Br > R-I$
 (2) $R-I > R-Br > R-Cl > R-F$
 (3) $R-I > R-Cl > R-Br > R-F$
 (4) $R-F > R-I > R-Br > R-Cl$

Scan or tap for the full solution



- Q.36** An organic compound A (C_4H_9Cl) on reaction with Na/diethyl ether gives a hydrocarbon which on monochlorination gives only one chloro derivative, then A is
 [AIPMT 2001]

- (1) t-butyl chloride (2) s-butyl chloride
 (3) iso-butyl chloride (4) n-butyl chloride

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	2	2	1	3	4	1	2	1	2	4	1
Ques.	12	13	14	15	16	17	18	19	20	21	22
Ans.	4	4	2	3	4	1	4	3	4	3	1
Ques.	23	24	25	26	27	28	29	30	31	32	33
Ans.	1	3	3	3	3	1	4	3	2	4	2
Ques.	34	35	36								
Ans.	4	2	1								