Self Practice Paper (SPP)





16. For the given reaction, rate of substitution $(S_N 2)$ is studied for different R-X. The rate is expected to be in this order (for different R-group).



(4) All are correct.

(4) Carbene

CH-Br

22. Ethyl alcohol is heated with conc. H_2SO_4 . The product formed is :

$$\begin{array}{c} O \\ \parallel \\ (1) \ CH_3 - C - OC_2H_5 \end{array} (2) \ C_2H_6 \end{array} (3) \ C_2H_4 \qquad (4) \ C_2H_2 \end{array}$$

23. Which one of the following compound undergoes E1 reaction most readily ? CH₃

(1)
$$CH_3 - CH_2 - CH_2 - CH_3$$

Br
(2) $CH_3 - CH_2 - CH_2 - Br$
(3) $CH_3 - CH_2 - CH_2 - I$
(4) $CH_3 - CH_2 - CH_2 - CH_3$

- 24.Correct statement for E1 Reaction is :
(1) It is a two step process.
(3) Good leaving group favours(2) Rearrangement is possible.
(4) All of these
- 25.Intermediate formed during E1 reaction is –
(1) Carbocation(2) Carbanion

28.

31.

26. Alkyl halide having maximum rate of reaction towards unimolecular elimination reaction is : CH_3

İ

(3) Free radical

(1)
$$CH_{3}$$
-C-Br (2) CH_{3} -CH-Br (3) CH_{3} -CH₂-CH₂-Br (4) CH_{2} =
CH₃ CH₃ CH₃

- 27. Which among the following compounds can give elimination reaction ? (1) CH_3-CH_2-Br (2) CH_2Br_2
 - (3) $CH_3-CH_2-CH_2-\overset{\oplus}{N}(CH_3)_3$ (4) All of these Dehydrohalogenating agent is : (1) alc. KOH/ Δ (2) NaH/ Δ (3) RONa/ Δ (4) All of these
- **29.** Dichlorocarbene is generated by the action of potassium t-butoxide on chloroform. This is an example of
 - (1) α-Elimination reaction
 (2) β-Elimination reaction
 (3) Addition reaction
 (4) Rearrangement reaction
- **30.** An alkyl chloride produces only a single alkene on reaction with sodium ethoxide and ethanol. The alkene further undergoes hydrogenation to yield-2-methylbutane. Identify the alkyl chloride from amongst the following :

(1)
$$CICH_2C(CH_3)_2CH_3$$
 (2) $CICH_2CH_2CH_2CH_3$
(3) $CICH_2CH(CH_3)CH_2CH_3$ (4) $CH_3C(CI)$ $(CH_3)CH_2CH_3$
Ph
H₃C $+$ H $\xrightarrow{alc. KOH, \Delta \text{ or}}_{NaNH_2,\Delta}$ major product is :
H $+$ Br

$$(1) \begin{array}{c} Ph \\ Ph \\ Ph \\ H \\ C = C \\ CH_{3} \end{array} (2) \begin{array}{c} Ph \\ Ph \\ H \\ C = C \\ Ph \end{array} (3) \begin{array}{c} Ph \\ Ph \\ Ph \\ C = C \\ H \end{array} (3) \begin{array}{c} Ph \\ Ph \\ Ph \\ C = C \\ H \end{array} (4) \begin{array}{c} Ph \\ Ph \\ Br \\ C = C \\ Ph \end{array}$$







	SP	P A	nsv	/ers									
1.	(1)	2.	(4)	3.	(3)	4.	(2)	5	(1)	6.	(3)	7.	(4)
8.	(1)	9.	(2)	10.	(3)	11.	(3)	12.	(4)	13.	(2)	14.	(2)
15.	(4)	16.	(3)	17.	(3)	18.	(2)	19.	(1)	20.	(1)	21.	(4)
22.	(3)	23.	(4)	24.	(4)	25.	(1)	26.	(1)	27.	(4)	28.	(4)
29.	(1)	30.	(3)	31.	(2)	32.	(1)	33.	(3)	34.	(2)	35.	(3)
36.	(4)	37.	(3)	38.	(4)	39.	(4)	40.	(3)	41.	(4)	42.	(3)
43.	(1)	44.	(4)	45.	(3)								

SPP Solutions

- **4.** e– releasing group increases nucleophilicity.
- 5 weak bases are best leaving group.
- **6.** It is a $S_{N}1$ reaction, so rearrangement takes place at carbocation .
- 8. In Bromo benzene and vinyl bromide halogen atom can show + M mesomeric effect. So C X bond have partial double bond character while in case of benzyl bromide and benzyl chloride the weaker bond is C Br than C Cl.
- **9.** Chlorobenzene does not react with alcoholic AgNO₃ because C–Cl acquire partial double bond character due to resonance.

15. CI
$$\xrightarrow{O^{-}}$$
 Intramolecular S_N2

17. It is a S_N^2 reaction & inversion takes place at α -carbon but reaction is not possible at 3° carbon atom due to steric hinderance.



22.
$$CH_3-CH_2-OH \xrightarrow{Conc.H_2SO_4/\Delta} CH_2 = CH_2$$

- **27.** 1 and 3 give β -elimination reaction while 2 give α -elimination.
- 28. All are strong base so all are Dehydrohalogenating agent.
- 29. Both CI and H atoms are eliminated from same carbon atom.

30.
$$\begin{array}{c} \text{CICH}_2\text{CHCH}_2\text{CH}_3 \xrightarrow{\text{C}_2\text{H}_5\text{O}^-} \text{CH}_2 = \text{C}(\text{CH}_3)\text{CH}_2\text{CH}_3 \xrightarrow{\text{Ni/H}_2} \text{CH}_3 \text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_3 \end{array}$$



36. For E1 cB reaction electron withdrawing group and bad leaving group should be present.



39.
$$(\bigcirc -\text{OCH}_2\text{CH}_3 \longrightarrow \bigcirc -\text{OH} \text{ and } \text{CH}_3\text{CH}_2\text{Br}$$

40. Ether have lone pair on oxygen atom. So ether are lone pair donor or basic in nature.

41.
$$CI_{3}C-H+HO-NO_{2} \longrightarrow CI_{3}C-NO_{2}$$
 chloropicrin.

- **44.** $CH_2 CH_2 CH_2 CH_2$ has maximum boiling point due to more hydogen bonding. | $H_2 - CH_2 - CH_2 - CH_2$ has maximum boiling point due to more hydogen bonding.
- **45.** Oxygen is more electronegative thus form stronger hydrogen bonding.