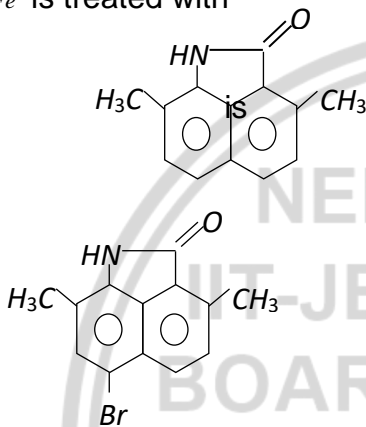
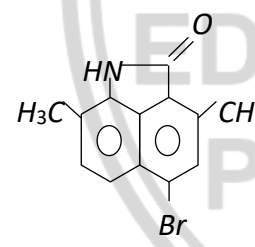
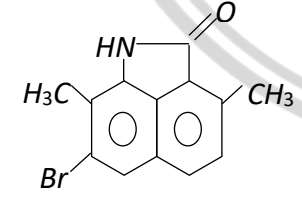
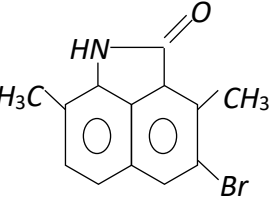


Organic reactions and their mechanism

21. Strongest nucleophile is

- (a) RNH_2 (b) ROH
(c) $C_6H_5O^-$ (d) CH_3O^-

22. The major product obtained when Br_2 / Fe is treated with

- (a) 
- (b) 
- (c) 
- (d) 

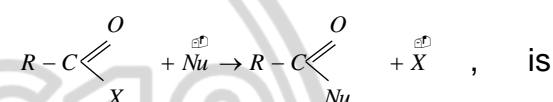
23. Which one of the following is least reactive in a nucleophilic substitution reaction

- (a) CH_3CH_2Cl (b) $CH_2=CHCH_2Cl$
(c) $(CH_3)_3C-Cl$ (d) $CH_2=CHCl$

24. Among the following the strongest nucleophile is

- (a) C_2H_5SH (b) CH_3COO^-
(c) CH_3NH_2 (d) $NCCH_2^-$

25. The reaction

fastest when X is

- (a) Cl (b) NH_2
(c) OC_2H_5 (d) $OCOR$

26. Elimination of bromine from 2-bromobutane results in the formation of

- (a) Equimolar mixture of 1 and 2-butene
(b) Predominantly 2-butene
(c) Predominantly 1-butene
(d) Predominantly 2-butyne

27. Examine the following statements pertaining to an SN^2 reaction

- (1) The rate of reaction is independent of the concentration of the nucleophile



- (2) The nucleophile attacks the C^- atom on the side of the molecule opposite to the group being displaced
- (3) The reaction proceeds with simultaneous bond formation and bond rupture/cleavage
- Amongst the following which of the above were true
- (a) 1, 2 (b) 1, 3
(c) 1, 2, 3 (d) 2, 3
28. What is the decreasing order of reactivity amongst the following compounds towards aromatic electrophilic substitution
- I. Chlorobenzene II. Benzene
III. Anilinium chloride IV. Toluene
- (a) $I > II > III > IV$
(b) $IV > II > I > III$
(c) $II > I > III > IV$
(d) $III > I > II > IV$
29. Which of the following applies in the reaction,
- $$CH_3CHBrCH_2CH_3 \xrightarrow{alc. KOH}$$
- (i) $CH_3CH=CHCH_3$ (major product)
(ii) $CH_2=CHCH_2CH_3$ (minor product)
- (a) Markovnikov's rule
(b) Saytzeff's rule
(c) Kharasch effect
(d) Hofmann's rule
30. Bromination of alkanes involves
- (a) Carbanions
(b) Carbocations
(c) Carbenes
(d) Free radicals
31. Which of the following cannot undergo nucleophilic substitution under ordinary conditions
- (a) Chlorobenzene
(b) *tert*-butylchloride
(c) Isopropyl chloride
(d) None of these
32. Which of the following alkyl groups has the maximum + I effect
- (a) CH_3- (b) $(CH_3)_2CH-$
(c) $(CH_3)_3C-$ (d) CH_3CH_2-

