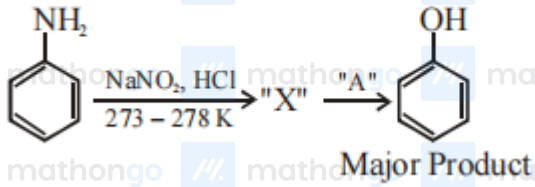
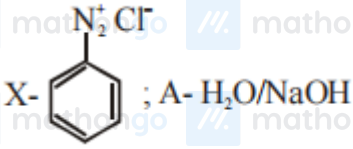
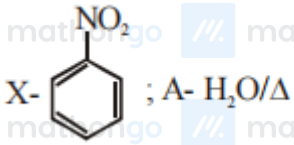
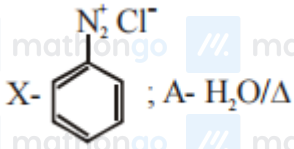
Q1: 16 March (Shift 1) - Single Correct

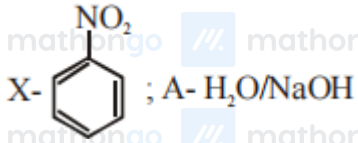


In the above chemical reaction, intermediate "X" and reagent/condition "A" are :

(1) 

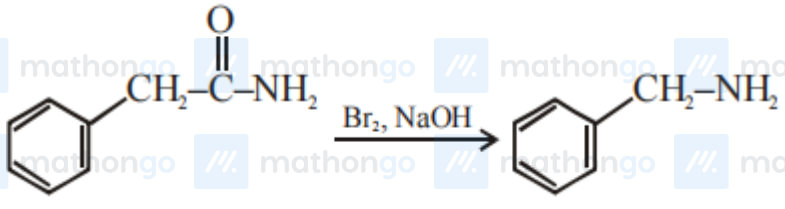
(2) 

(3) 

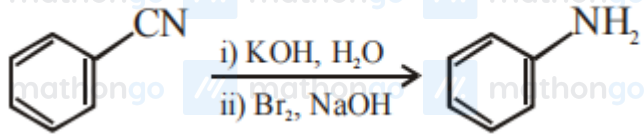
(4) 

Q2: 16 March (Shift 1) - Single Correct

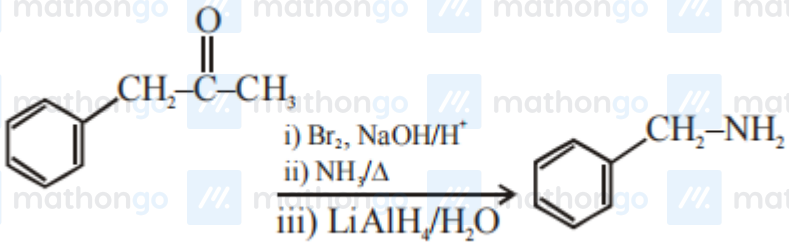
Which of the following reaction DOES NOT involve Hoffmann Bromamide degradation?

(1) 

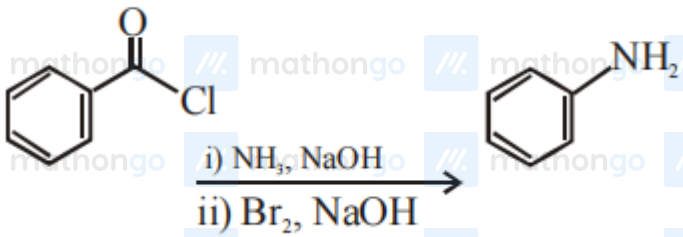
(2)



(3)



(4)



Q3: 16 March (Shift 2) - Single Correct

Which of the following is least basic?

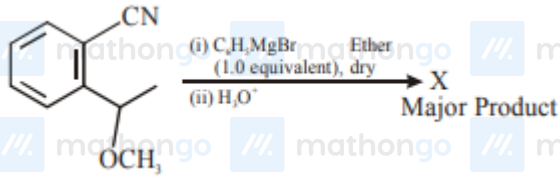
(1) $(CH_3CO)\ddot{N}HC_2H_s$

(2) $(C_2H_5)_3\ddot{N}$

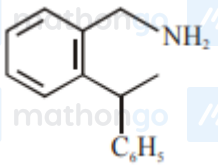
(3) $(CH_3CO)_2\ddot{N}H$

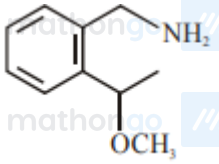
(4) $(C_2H_5)_2\ddot{N}H$

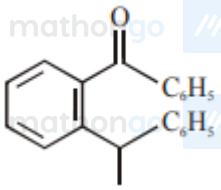
Q4: 16 March (Shift 2) - Single Correct

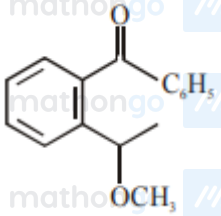


The structure of X is:

(1) 

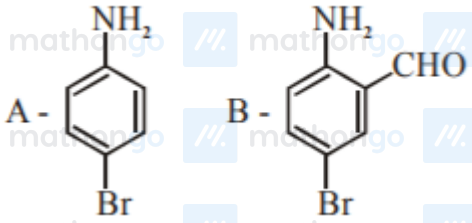
(2) 

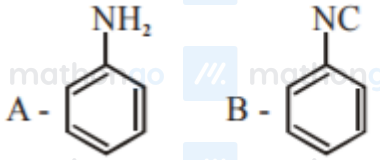
(3) 

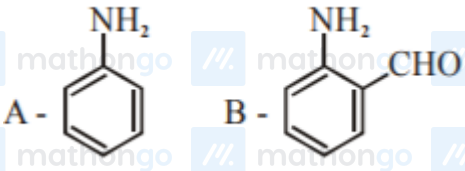
(4) 

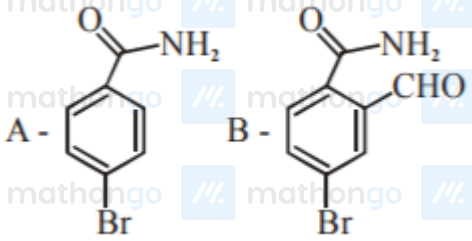
Q5: 17 March (Shift 1) - Single Correct

Hoffmann bromomide degradation of benzamide gives product A, which upon heating with $CHCl_3$ and NaOH gives product B. The structures of A and B are :

(1) 

(2) 

(3) 



(4)

Q6: 17 March (Shift 1) - Single Correct

Which of the following reaction is an example of ammonolysis?

(1) $C_6H_5COCl + C_6H_5NH_2 \longrightarrow C_6H_5CONHC_6H_5$

(2) $C_6H_5CN \xrightarrow{[H]} C_6H_5CH_2CH_2NH_2$

(3) $C_6H_5NH_2 \xrightarrow{HCl} C_6H_5NH_3Cl^-$

(4) $C_6H_5CH_2Cl + NH_3 \longrightarrow C_6H_5CH_2NH_2$

Q7: 17 March (Shift 2) - Single Correct

Primary, secondary and tertiary amines can be separated using :-

(1) Para-Toluene sulphonyl chloride

(2) Chloroform and KOH

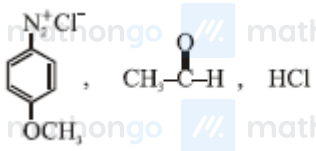
(3) Benzene sulphonic acid

(4) Acetyl amide

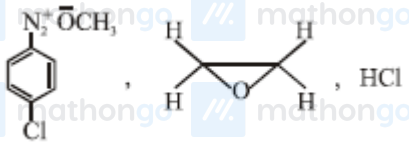
Q8: 17 March (Shift 2) - Single Correct

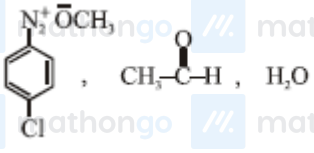
$C_7H_7\ N_2OCl + C_2H_3OH \rightarrow [O + N_2 + "X" + "Y"$

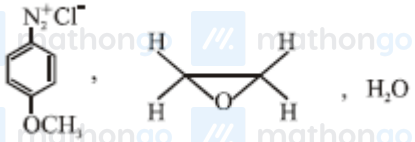
(A) In the above reaction, the structural formula of



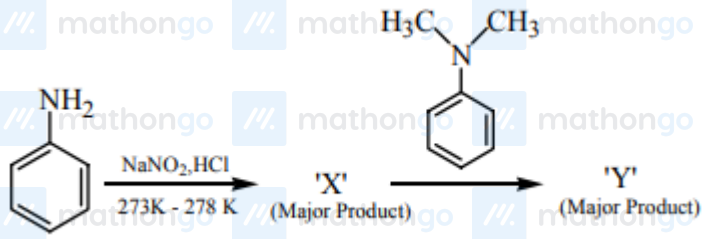
(1)

(2) 

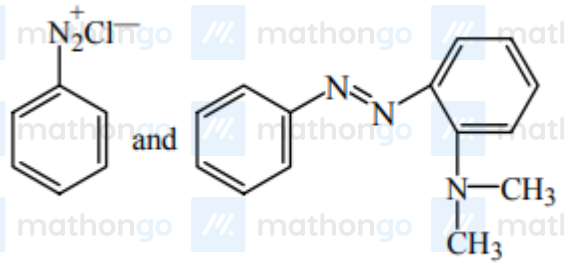
(3) 

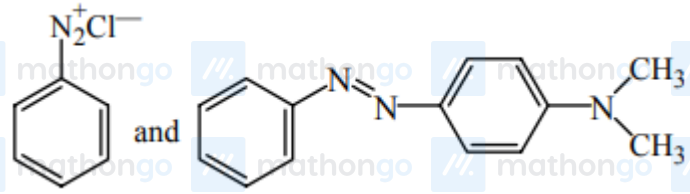
(4) 

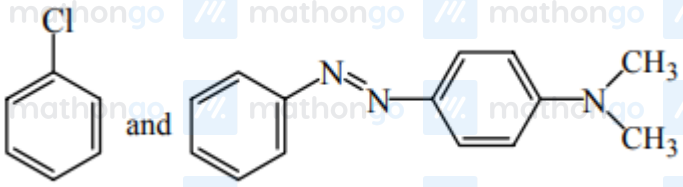
Q9: 18 March (Shift 1) - Single Correct



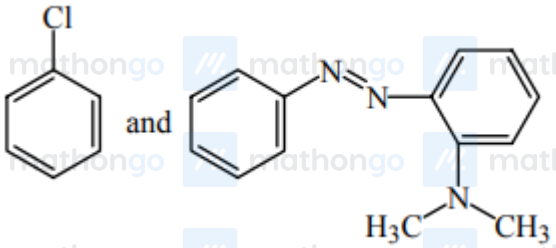
Considering the above reaction, X and Y respectively are

(1) 

(2) 



(3)



(4)

Q10: 18 March (Shift 1) - Single Correct

Reagent, 1 -naphthylamine and sulphanilic acid in acetic acid is used for the detection of

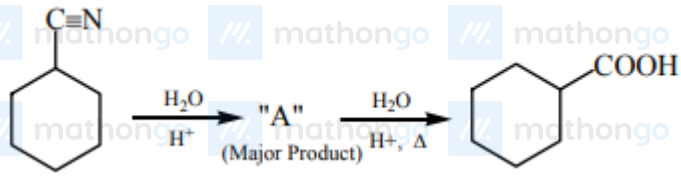
(1) N_2O

(2) NO_3^-

(3) NO

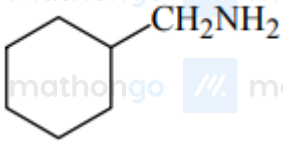
(4) NO_2^-

Q11: 18 March (Shift 1) - Single Correct

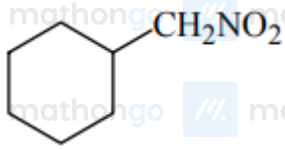


Consider the above chemical reaction and

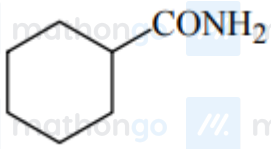
identify product "A



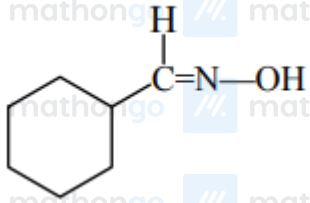
(1)



(2)



(3)



(4)

Q12: 18 March (Shift 1) - Numerical

A reaction of 0.1 mole of Benzylamine with bromomethane gave 23 g of Benzyl trimethyl ammonium bromide. The number of moles of bromomethane consumed in this reaction are $n \times 10^{-1}$, when $n = \ldots$ (Round off to the Nearest Integer).

(Given : Atomic masses: C: 12.0 u,

H : 1.0u, N : 14.0u, Br : 80.0u]

Q13: 18 March (Shift 2) - Single Correct

In the reaction of hypobromite with amide, the carbonyl carbon is lost as :

(1) CO_3^{2-}

(2) HCO_3^-

(3) CO_2

(4) CO

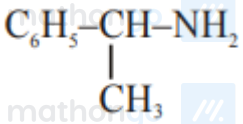
Q14: 18 March (Shift 2) - Single Correct

An organic compound "A" on treatment with benzene sulphonyl chloride gives compound B. B is soluble in dil. NaOH solution. Compound A is :

(1) $C_6H_5 - N - (CH_3)_2$

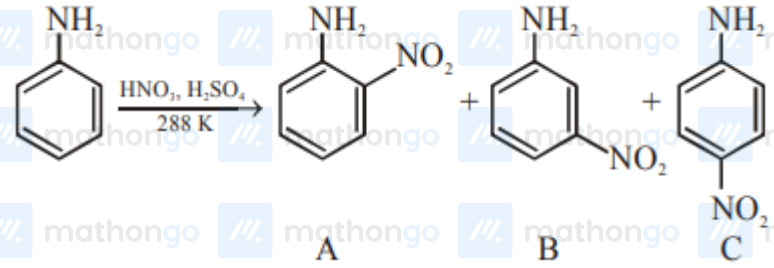
(2) $C_6H_5 - NHCH_2CH_3$

(3) $C_6H_5 - CH_2NHCH_3$

(4) 

s

Q15: 18 March (Shift 2) - Single Correct



(1) C > A > B

(2) B > C > A

(3) $A > C > B$

(4) C > B > A

Answer Key

Q1 (3)	**Q2** (3)	**Q3** (3)	**Q4** (4)
Q5 (2)	**Q6** (4)	**Q7** (1)	**Q8** (1)
Q9 (2)	**Q10** (4)	**Q11** (3)	**Q12** (3)
Q13 (1)	**Q14** (4)	**Q15** (4)	