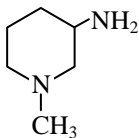


12TH – JEE/NEET

TOPIC :- AMINES (DPP)

- Q.1** Compound is a
- 
- (1) 1° and 3° amine
 (2) Only primary amine
 (2) 2° and 3° amine
 (4) Only secondary amine
- Q.2** The third member of homologous series of dimethyl amine -
 (1) CH₃-CH₂-NH-CH₂-CH₃
 (2) CH₃-NH-CH₂-CH₂-CH₃
 (3) CH₃-NH-CH(CH₃)₂
 (4) (2) and (3) are correct
- Q.3** Tertiary butyl amine is a -
 (1) 1° Amine (2) 2° Amine
 (3) 3° Amine (4) Quaternary salt
- Q.4** Aliphatic amines are basic than NH₃, but aromatic amines are basic than NH₃ -
 (1) More, less (2) Less, more
 (3) Both (1) and (2) (4) None of these
- Q.5** Suitable explanation for the order of basic character (CH₃)₃N < (CH₃)₂NH is -
 (1) Steric hindrance by bulky methyl group
 (2) Higher volatility of 3° amine
 (3) Decreased capacity for H-bond formation with H₂O
 (4) Decreased electron- density at N atom
- Q.6** The basic character of amines can be explained -
 (1) In terms of Lewis and Arrhenius concept
 (2) In terms of Lowry and Bronsted concept
 (3) In terms of Lewis and Lowry Bronsted concept
 (4) Only by Lewis concept
- Q.7** The number of π bonds present in CN-CH=CH-CN -
 (1) 5 (2) 4 (3) 3 (4) 2
- Q.8** Hinsberg's reagent is -
 (1) Diethyl oxalate
 (2) Benzyl chloride
 (3) Benzene sulphonyl chloride
 (4) None of these
- Q.9** Hydrolysis of alkyl isocyanide yields -
 (1) Primary amine (2) Tert. amine
- (3) Alcohol (4) Aldehyde
- Q.10** How many isomeric amines can have the formula C₄H₁₁N -
 (1) Five (2) Six
 (3) Seven (4) Eight
- Q.11** C₂H₅NH₂ cannot be prepared by the reduction of -
 (1) C₂H₅NO₂ (2) CH₃CH = NOH
 (3) C₂H₅NC (4) CH₃CN
- Q.12** A mixture of 1°, 2° and 3° amine is formed in the reaction -
 (1) 1° Amine + caustic potash + bromine
 (2) Methyl halide and ammonia
 (3) Cyclic imide + H₃O⁺
 (4) Alkyl isocyanide + H₂
- Q.13** The presence of primary amines can be confirmed by -
 (1) Reaction with HNO₂
 (2) Reaction with CHCl₃ and alc. KOH
 (3) Reaction with Grignard reagent
 (4) Reaction with acetyl chloride
- Q.14** Ammonolysis of alcohol, i.e. -
 xCH₃OH + yNH₃ Products
 (1) CH₃NH₂
 (2) (CH₃)₂NH₂
 (3) (CH₃)₃N
 (4) A mixture of amines
- Q.15** The compound obtained by the reaction between primary amine and aldehyde is -
 (1) An amide (2) Imine
 (3) Nitrite (4) Nitro
- Q.16** Which one of the following behaves both as nucleophile and as an electrophile ?
 (1) CH₃C≡N (2) CH₃-OH
 (3) H₂C=CH-CH₃ (4) CH₃-NH₃
- Q.17** Acetonitrile has the structure :
 (1) C₂H₅NC (2) C₂H₅CN
 (3) CH₃NC (4) CH₃CN
- Q.18** Which of the following method is generally not employed for the separation of primary, secondary and tertiary amines ?

- (1) fractional distillation
- (2) Hinsberg's method
- (3) Hofmann's method
- (4) Filtration

Q.19 How many primary amines are possible for the formula $C_4H_{11}N$?

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

Q.20 $CH_3NH_2 + CHCl_3 + 3KOH \rightarrow X + Y + 3H_2O$; compounds X and Y are -

- (1) $CH_3CN + 3KCl$
- (2) $CH_3NC + 3KCl$
- (3) $CH_3CONH_2 + 3KCl$
- (4) $CH_3NC + K_2CO_3$

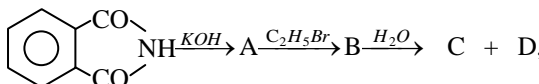
Q.21 $-CONH_2 \xrightarrow{\text{Reduction}} -CH_2NH_2$

In above reaction hybridisation state of carbon changes from \rightarrow

- (1) $sp \rightarrow sp^2$
- (2) $sp \rightarrow sp^3$
- (3) $sp^2 \rightarrow sp^3$
- (4) $sp^2 \rightarrow sp$

Q.22 A reaction used in descending a homologous series would be -

- (1) $RCONH_2 + Br_2 + KOH$
- (2) $RCH_2Cl + KCN$
- (3) $RNH_2 + CHCl_3 + KOH$
- (4) None of the above

Q.23 

C and D in the sequence are -

- (1) Benzoic acid + aniline
- (2) Phthalic acid + ethylamine
- (3) Phthalic acid + aniline
- (4) Benzoic acid + ethylamine

Q.24 Alkyl halide reacts with $AgCN$ to form -

- (1) Alcohol
- (2) Cyanide
- (3) Isocyanide
- (4) Both (2) and (3)

Q.25 Amide on heating with P_2O_5 gives -

- (1) Alkane nitrile
- (2) Alkyl halide
- (3) Amine
- (4) None of these

Q.26 Grignard reagent reacts with cyanogen chloride to form -

- (1) Alkane nitrile
- (2) Alkyl halide
- (3) Amine
- (4) None of these

Q.27 (A) $\xrightarrow{H_2/Pt} 1^\circ$ Amine

(B) $\xrightarrow{H_2/Pt} 2^\circ$ Amine :

(A) and (B) respectively are -

- (1) RNC, RNC
- (2) RCN, RCN
- (3) RCN, RNC
- (4) RNC, RCN

Q.28 Ethyl iodide on reaction with potassium nitrite gives -

- (1) Ethyl nitrite
- (2) Nitro ethane
- (3) Amine
- (4) Acid

Q.29 Which of the following is optically active primary amine-

- (1) CH_3NH_2
- (2) CH_3NHCH_3
- (3) $CH_3CH_2CH_2N(CH_3)C_2H_5$
- (4) $CH_3-CH(NH_2)-CH_2-CH_3$

Q.30 Which of the following would undergo Hoffmann bromide reaction to form primary amine-

- (1) $RCONHCH_3$
- (2) $RCOONH_4$
- (3) $RCONH_2$
- (4) $RCONHOH$

Q.31 The alkanenitriles are isomeric with-

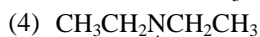
- (1) Primary alkanamines
- (2) Secondary alkanamines
- (3) Alkyl isocyanides
- (4) Nitroalkanes

Q.32 Which of the following is obtained by reducing methyl cyanide with $Na + C_2H_5OH$ -

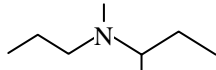
- (1) Methyl alcohol
- (2) Acetic acid
- (3) Ethyl amine
- (4) Methane

Q.33 Which of the following compounds possesses a chiral nitrogen atom ?

- (1) $CH_3CH_2CH(NH_3)CH_3$
- (2) $CH_3CH_2NHCH_2CH_3$



Q.34 The IUPAC name of the following compound is -



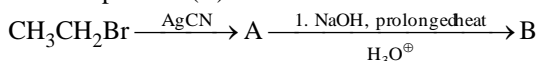
(1) N, 3-dimethyl-N-propyl-3-propanamine

(2) N-methyl-N-propyl-2-butanamine

(3) s-butylmethyl-n-propylamine

(4) N, 1-dimethyl-N-propyl-propanamine

Q.35 The end product (B) formed in the reaction



is -

(1) $\text{CH}_3\text{CH}_2\text{NHCH}_3$ (2) $\text{CH}_3\text{CH}_2\text{CH}_2\text{NH}_2$

(3) $\text{CH}_3\text{CH}_2\text{NH}_2$ (4) $\text{CH}_3\text{CH}_2\text{NHCOH}$

Q.36 $\text{CH}_3\text{CH}_2\text{NH}_2$ contains a basic NH_2 group, but CH_3CONH_2 does not, because :

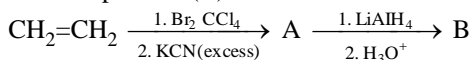
(1) Acetamide is amphoteric in character

(2) In $\text{CH}_3\text{CH}_2\text{NH}_2$ the electron pair on N-atom is delocalised by resonance

(3) In $\text{CH}_3\text{CH}_2\text{NH}_2$ there is no resonance, while in acetamide the lone pair of electrons on N-atom is delocalised and therefore less available for protonation

(4) None of these

Q.37 The end product (B) formed in the reaction



(1) $\text{CH}_2=\text{CHCH}_2\text{NH}_2$

(2) $\text{H}_2\text{N}(\text{CH}_2)_4\text{NH}_2$

(3) $\text{CH}_3\text{NH}(\text{CH}_2)_2\text{NHCH}_3$

(4) $\text{NC}(\text{CH}_2)_2\text{CN}$

Q.38 The major organic product in the reaction is



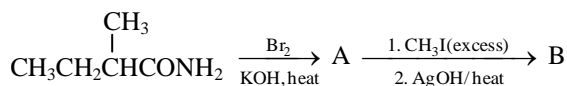
(1) $\text{H}_2\text{NCO}(\text{CH}_2)_3\text{NH}_2$

(2) $\text{BrNH}-\text{CO}-(\text{CH}_2)_3-\text{CO}-\text{NH}_2$

(3) $\text{BrNH}-\text{CO}-(\text{CH}_2)_3-\text{CO}-\text{NHBr}$

(4) $\text{H}_2\text{N}(\text{CH}_2)_2\text{NH}_2$

Q.39 Consider the following sequence of reactions



The major product (B) is -

(1) $\text{CH}_3\text{CH}_2\text{CH}=\text{CH}_2$



(2) $\text{CH}_3\text{CH}_2\overset{\text{CH}_3}{\underset{|}{\text{C}}}\text{HCON}(\text{CH}_3)_2$

(3) $\text{CH}_3\text{CH}=\text{CHCH}_3$



(4) $\text{CH}_3\text{CH}_2\overset{\text{CH}_3}{\underset{|}{\text{C}}}\text{HN}(\text{CH}_3)_2$

Q.40 A compound (X) having the molecular formula $\text{C}_3\text{H}_9\text{N}$ reacts with benzenesulphonyl chloride to form a solid that is insoluble in alkalis. The compound (X) is -

(1) $\text{CH}_3\text{CH}_2\text{CH}_2\text{NH}_2$ (2) $(\text{CH}_3)_2\text{CHNH}_2$

(3) $\text{CH}_3\text{CH}_2\text{NHCH}_3$ (4) $(\text{CH}_3)_3\text{N}$

Q.41 The product (A) and (B) of the reaction $\text{CH}_3\text{CH}_2\text{NH}_2 + \text{CH}_3\text{MgBr} \rightarrow \text{A} + \text{B}$

are -

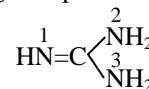
(1) $\text{CH}_3\text{CH}_2\text{CH}_3$ and NH_2MgBr

(2) $\text{CH}_3\text{CH}_2\text{NHCH}_3$ and MgBr_2

(3) $\text{CH}_3\text{CH}_2\text{N}(\text{CH}_3)_2$ and MgBr_2

(4) $\text{CH}_3\text{CH}_2\text{NHMgBr}$ and CH_4

Q.42 Which nitrogen is protonated readily in guanidine



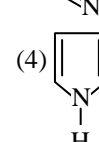
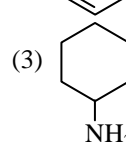
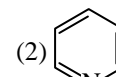
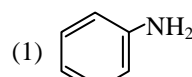
(1) 1

(2) 2

(3) 3

(4) All of these

Q.43 Which of the following is most basic ?



Q.44 In carbylamine reaction :

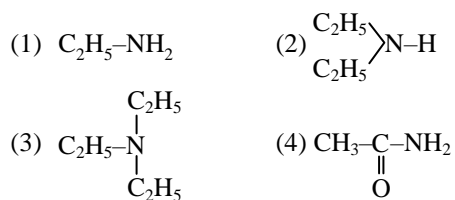
(1) the nucleophile is a RNH_2 and electrophile is : CCl_2

(2) the nucleophile is primary amine and electrophile is CCl_3^-

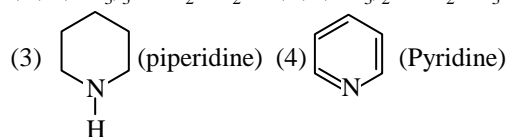
(3) the nucleophile is : CCl_2 and the electrophile is primary amine

(4) the attacking reagent is electrophile

Q.45 Which one of the following will not react with the Grignard reagent ($\text{C}_2\text{H}_5\text{MgBr}$) ?



Q.46 One mole of an amine (A) consumes two moles of methyl bromide to give a quaternary ammonium salt. The amine (A) is -



ANSWER KEY

Q.No	1	2	3	4	5	6	7	8	9	10
Ans :	1	4	1	1	1	3	1	3	1	4
Q.No	11	12	13	14	15	16	17	18	19	20
Ans :	3	2	2	4	2	1	4	4	4	2
Q.No	21	22	23	24	25	26	27	28	29	30
Ans :	3	1	2	3	1	1	3	1	4	3
Q.No	31	32	33	34	35	36	37	38	39	40
Ans :	3	3	3	2	3	3	2	4	1	3
Q.No	41	42	43	44	45	46				
Ans :	4	1	3	1	3	3				