

# AMINES & POLYMERS

## I. AMINES

- A secondary amine is
  - An organic compound with two  $-NH_2$  groups
  - A compound with two carbon atoms and a  $-NH_2$  groups
  - A compound with a  $-NH_2$  group on the carbon atom in number 2 position
  - A compound in which two of the hydrogen of  $NH_3$  have been replaced by organic groups
- $C_3H_9N$  represents
  - Primary amine
  - Secondary amine
  - Tertiary amine
  - All of these
- The reaction  $C_6H_5NH_2 + CHCl_3 + 3KOH \rightarrow C_6H_5NC + 3KCl + 2H_2O$  is known as
  - Carbylamine reaction
  - Reimer-Tiemann reaction
  - Kolbe reaction
  - Hofmann's degradation
- Hydrolysis of acetonitrile in acidic medium produces
  - $CH_3CH_2OH$
  - $CH_3COOH$
  - $CH_3NC$
  - $CH_3COOCH_3$
- Identify the product  $Z$  in the series  $CH_3CN \xrightarrow{Na+C_2H_5OH} X \xrightarrow{HNO_2} Y \xrightarrow[H_2SO_4]{K_2Cr_2O_7} Z$ 
  - $CH_3CHO$
  - $CH_3CONH_2$
  - $CH_3COOH$
  - $CH_3CH_2NHOH$
- The compound which on reaction with aqueous nitrous acid or  $HNO_2$  at low temperature produces an oily nitrosoamine is
  - Diethylamine
  - Ethylamine
  - Aniline
  - Methylamine

7. Amines behave as

- (a) Lewis acids (b) Lewis bases  
(c) Aprotic acids (d) amphoteric compounds

8. Which of the following is the correct increasing order of basicity of amines in gaseous phase?

- a)  $(\text{CH}_3)_2\text{NH} > \text{CH}_3\text{NH}_2 > (\text{CH}_3)_3\text{N} > \text{NH}_3$   
b)  $(\text{CH}_3)_3\text{N} > (\text{CH}_3)_2\text{NH} > \text{CH}_3\text{NH}_2 > \text{NH}_3$   
c)  $(\text{CH}_3)_2\text{NH} > (\text{CH}_3)_3\text{N} > \text{CH}_3\text{NH}_2 > \text{NH}_3$   
d)  $(\text{CH}_3)_3\text{N} > \text{CH}_3\text{NH}_2 > (\text{CH}_3)_3\text{NH} > \text{NH}_3$

9. The strongest base in aqueous solution among the following amine is

- a) N,N-diethylethanamine (b) N-ethylethanamine  
c) N-methylmethanamine (d) ethanamine

10. Which of the following reacts with  $\text{NaNO}_2 + \text{HCl}$  to give phenol

- (a)  $\text{C}_6\text{H}_5\text{CH}_2\text{NHCH}_3$  (b)  $(\text{CH}_3)_2\text{NH}$  (c)  $\text{CH}_3\text{NH}_2$  (d)  $\text{C}_6\text{H}_5\text{NH}_2$

11. The fusion of sodium with amine gives mainly

- (a)  $\text{NaCN}$  (b)  $\text{NaN}_3$  (c)  $\text{NaSCN}$  (d)  $\text{NaNO}_2$

12. The Hinsberg's method is used for

- (a) Preparation of primary amines  
(b) Preparation of secondary amines  
(c) Preparation of tertiary amines  
(d) Separation of amine mixtures

13. Amides can be converted into amines by

- a) Hoffmann's reaction (b) Carbylamine reaction (c) Sandmeyer's

14. A gaseous carbon compound is soluble in dilute HCl. The solution on treating with  $\text{NaNO}_2$  gives off nitrogen

leaving behind a solution which smells wood spirit. The carbon compound is,

a)CO b)HCHO c)CH<sub>3</sub>-NH<sub>2</sub>d)C<sub>2</sub>H<sub>5</sub>-NH<sub>2</sub>

15. The maximum number of methyl iodide that can react with a molecule of p

a)2 b)1 c)4 d)3

16. Which one of the following does not undergo acetylation

a)primary amine b)Secondary amine c)tertiary amine

17. Compound 'X' is treated with benzene sulphonyl chloride (Hinsberg reagent), white solid is formed which dissolves in excess of sodium

a) a primary amine b) a sec. amine  
c) Tertiary amine d)a quaternary salt

## II. POLYMERS

1. Natural rubber is basically a polymer of **or**

The monomer of natural polymer rubber is

(a) Neoprene (b) Isoprene (c) Chloroprene (d) Butadiene

2. Polymerization of glycol with dicarboxylic acids is

(a) Addition polymerization (b) Condensation polymerization  
(c) Telomerisation (d) Any of these

3. Terylene is

(a) An addition polymer with a benzene ring in every repeating unit

- (b) A condensation polymer with a benzene ring in every repeating unit
- (c) An addition polymer with two carbon atoms in every repeating unit
- (d) A condensation polymer with two nitrogen atoms in every repeating unit

4. Nylon '66' is not a

- (a) Thermoplastic
- (b) Condensation polymer
- (c) Homopolymer
- (d) Polyamide

5. **Terylene** is the polyester of

- (a) Ethylene glycol and terephthalic acid
- (b) Melamine and formaldehyde
- (c) Vinyl chloride and formaldehyde
- (d) Hexamethylenediamine and adipic acid

6. Buna-S is a polymer of

- (a) Butadiene and styrene
- (b) Butadiene
- (c) Styrene
- (d) Butadiene and chloroprene

7. Which is a naturally occurring polymer

- (a) Polythene
- (b) PVC
- (c) Acetic acid
- (d) Protein

8. Which of the following fibers are made of polyamides

- (a) Dacron
- (b) Orlon
- (c) Nylon
- (d) Rayon

9. Bakelite is a product of the reaction between

- (a) Formaldehyde and  $NaOH$
- (b) Aniline and urea
- (c) Phenol and methanal
- (d) Phenol and chloroform

10. The catalyst used in the manufacture of polyethene by Ziegler method is

- (a) Titanium tetrachloride and triphenylaluminium
- (b) Titanium tetrachloride and triethylaluminium
- (c) Titanium dioxide
- (d) Titanium isopropoxide

11. Which of the following polymers of glucose is stored by animals?

- a) Cellulose
- b) Amylose
- c) Amylopectin
- d) Glycogen

12. Ebonite is

- a) Natural rubber
- b) synthetic rubber
- c) Highly vulcanized rubber
- d) polypropene

13. Which of the following is NOT a synthetic polymer?

- a) polyethethylene
- b) PVC
- c) Nylon
- d) Cellulose

14. Which of the following is used to make 'non-stick' cookware?

- a) PVC
- b) Polystyrene
- c) polyethylene , terephthalate
- d) polytetrafluoro ethylene

15. The condensation polymer among the following is ,

- a) protein
- b) PVC
- c) polythene
- d) rubber

16. Which of the following is a biodegradable polymer?

- a) polythene
- b) Bakelite
- c) PHBV
- d) PVC

\*\*\*\*\*V.S.J.\*\*\*\*\*

**ANSWER KEY**

**AMINES**

Q.No.	ANS	Q.No.	ANS	Q.No.	ANS
1	d	8	b	15	d
2	d	9	a	16	c
3	a	10	d	17	a
4	b	11	a		
5	c	12	d		
6	a	13	a		
7	b	14	c		

### POLYMERS

Q.No.	ANS	Q.No.	ANS	Q.No.	ANS
1	b	8	c	15	a
2	b	9	c	16	c
3	b	10	b		
4	c	11	d		
5	a	12	c		
6	a	13	d		
7	d	14	d		