

**[ JEE-MAIN / AIEEE ]**

1. Monomers are converted to polymer by - **[AIEEE-2003]**  
 (A) Hydrolysis of monomers  
 (B) Condensation reaction between monomers  
 (C) Protonation of monomers  
 (D) None is correct
  
2. Nylon threads are made of - **[AIEEE-2003]**  
 (A) Polyamide polymer (B) Polyethylene polymer  
 (C) Polyvinyl polymer (D) Polyester polymer
  
3. Which of the following is a polyamide ? **[AIEEE-2005]**  
 (A) Nylon-66 (B) Teflon (C) Bakelite (D) Terylene
  
4. Which of the following is fully fluorinated polymer- **[AIEEE-2005]**  
 (A) Teflon (B) Neoprene (C) PVC (D) Thiokol
  
5. Bakelite is obtained from phenol by reacting with **[AIEEE 2008]**  
 (A)  $\text{CH}_3\text{CHO}$  (B)  $\text{CH}_3\text{COCH}_3$  (C)  $\text{HCHO}$  (D)  $(\text{CH}_2\text{OH})_2$
  
6. Buna-N synthetic rubber is a copolymer of - **[AIEEE 2009]**  

$$\begin{array}{c} \text{Cl} \\ | \\ \text{H}_2\text{C} = \text{CH} - \text{C} = \text{CH}_2 \end{array} \text{ and } \text{H}_2\text{C} = \text{CH} - \text{CH} = \text{CH}_2$$
 (A)  $\text{H}_2\text{C} = \text{CH} - \text{C}(\text{Cl}) = \text{CH}_2$  and  $\text{H}_2\text{C} = \text{CH} - \text{CH} = \text{CH}_2$   
 (B)  $\text{H}_2\text{C} = \text{CH} - \text{CH} = \text{CH}_2$  and  $\text{H}_5\text{C}_6 - \text{CH} = \text{CH}_2$   
 (C)  $\text{H}_2\text{C} = \text{CH} - \text{CN}$  and  $\text{H}_2\text{C} = \text{CH} - \text{CH} = \text{CH}_2$   
 (D)  $\text{H}_2\text{C} = \text{CH} - \text{CN}$  and  $\text{H}_2\text{C} = \text{CH} - \text{C}(\text{CH}_3) = \text{CH}_2$
  
7. The species which can best serve as an initiator for the cationic polymerization is **[AIEEE 2012]**  
 (A)  $\text{AlCl}_3$  (B)  $\text{BuLi}$  (C)  $\text{LiAlH}_4$  (D)  $\text{HNO}_3$
  
8. Which one is classified as a condensation polymer? **[JEE Main 2014]**  
 (A) Neoprene (B) Teflon (C) Acrylonitrile (D) Dacron
  
9. Which polymer is used in the manufacture of paints and lacquers ? **[JEE Main 2015]**  
 (A) Polypropene (B) Poly vinyl chloride  
 (C) Bakelite (D) Glyptal



10. Which of the following statements about low density polythene is FALSE? [JEE Main 2016]  
(A) It is used in the manufacture of buckets, dust-bins etc.  
(B) Its synthesis requires high pressure.  
(C) It is a poor conductor of electricity.  
(D) Its synthesis requires dioxygen or a peroxide initiator as a catalyst.

11. The formation of which of the following polymers involves hydrolysis reaction ? [JEE Main 2017]  
(A) Bakelite (B) Nylon 6, 6 (C) Terylene (D) Nylon 6

12. Which of the following polymers is not obtained by condensation polymerisation? [JEE Main 2020]  
(A) Nylon 6, 6 (B) Buna - N (C) Bakelite (D) Nylon 6

13. Consider the Assertion and Reason given below : [JEE Main 2020]  
**Assertion (A)** : Ethene polymerized in the presence of Ziegler Natta Catalyst at high temperature and pressure is used to make buckets and dustbins.  
**Reason (R)** : High density polymers are closely packed and are chemically inert. Choose the correct answer from the following :  
(A) Both (A) and (R) are correct but (R) is not the correct explanation of (A).  
(B) Both (A) and (R) are correct and (R) is the correct explanation of (A).  
(C) (A) is correct but (R) is wrong.  
(D) (A) and (R) both are wrong.

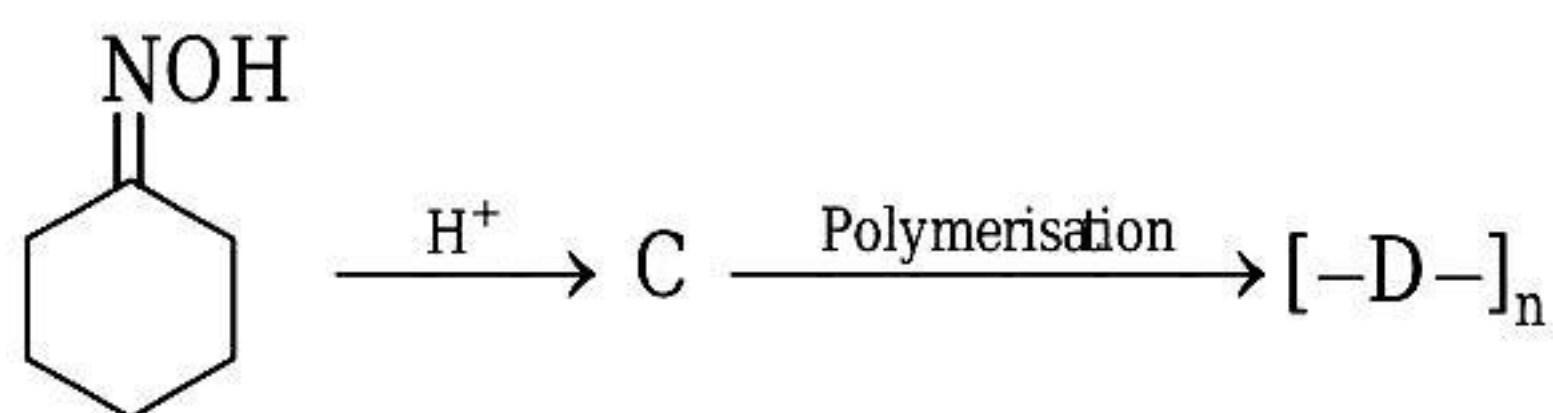
14. The correct match between Item-1 and Item-II is : [JEE Main 2020]

Item-I	Item-II
(a) Natural rubber	(I) 1, 3-butadiene + styrene
(b) Neoprene	(II) 1, 3-butadiene
(c) Buna-N	(III) Chloroprene
(d) Buna-S	(IV) Isoprene
(A) (a)-(IV), (b)-(III), (c)-(II), (d)-(I)	(B) (a)-(III), (b)-(IV), (c)-(III), (d)-(I)
(C) (a)-(IV), (b)-(III), (c)-(I), (d)-(II)	(D) (a)-(III), (b)-(IV), (c)-(I), (d)-(II)

**[JEE-ADVANCED]**

1. Give the structures of the products in each of the following reactions :

**[JEE 2000]**



2. Monomer A of a polymer on ozonolysis yields two moles of  $HCHO$  and one mole of  $CH_3COCHO$ .  
(a) Deduce the structure of A. **[JEE 2005]**  
(b) Write the structure of "all cis" - form of polymer of compound A.

3. On complete hydrogenation, natural rubber produces **[JEE Advance 2016]**  
(A) ethylene-propylene copolymer (B) vulcanised rubber  
(C) polypropylene (D) polybutylene

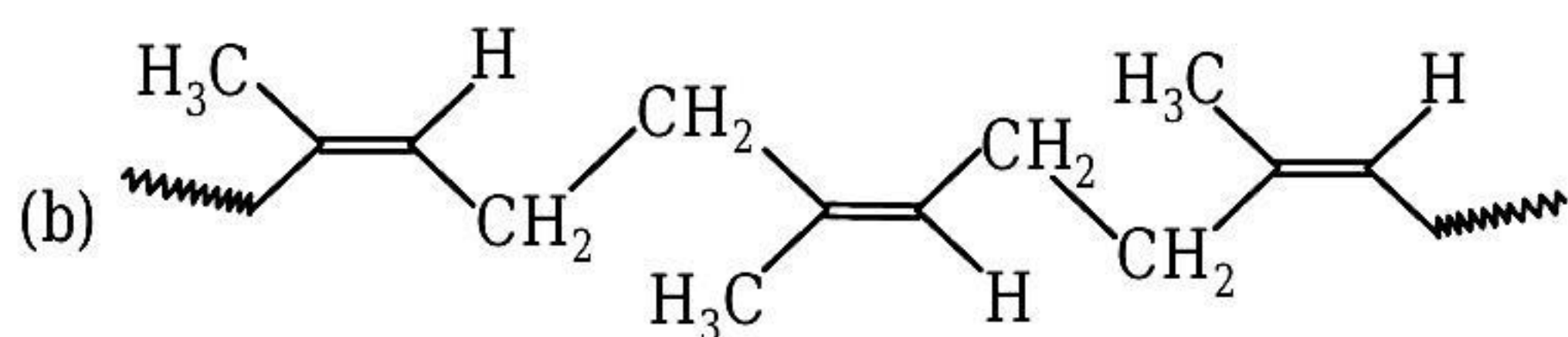
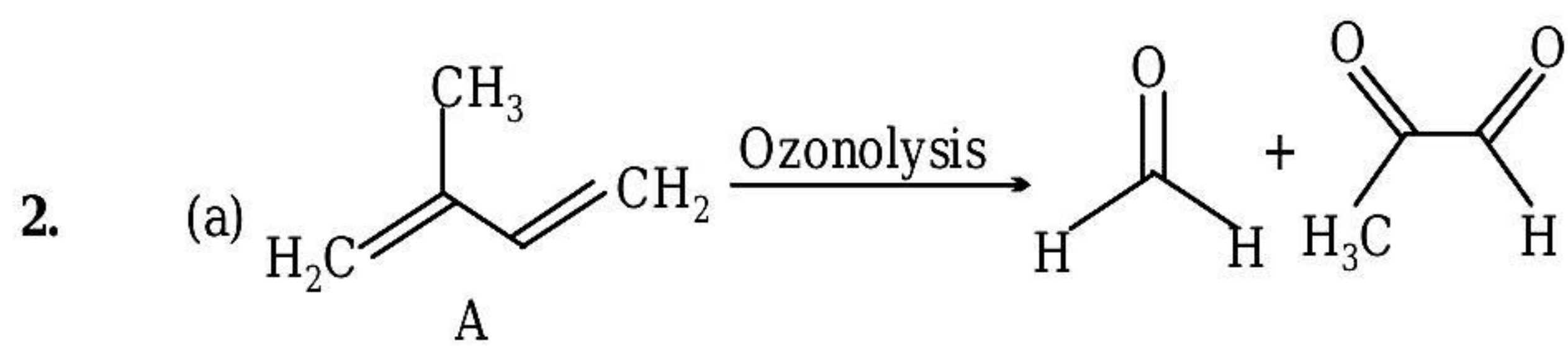
4. Choose the correct option(s) from the following: **[JEE Advance 2019]**  
(A) Cellulose has only  $\alpha$ -D-glucose units that are joined by glycosidic linkages  
(B) Teflon is prepared by heating tetrafluoroethene in presence of a persulphate catalyst at high pressure  
(C) Natural rubber is polyisoprene containing trans alkene units  
(D) Nylon-6 has amide linkages

## ANSWER KEY

### [ JEE-MAIN/AIEEE ]

- |    |   |    |   |     |   |     |   |     |   |     |   |     |   |
|----|---|----|---|-----|---|-----|---|-----|---|-----|---|-----|---|
| 1. | B | 2. | A | 3.  | A | 4.  | A | 5.  | C | 6.  | C | 7.  | A |
| 8. | D | 9. | D | 10. | A | 11. | D | 12. | B | 13. | B | 14. | A |

### [ JEE-ADVANCED ]



3. A  
4. BD