

**POLYMER**

1. Match List I with List II.

List I (Monomer Unit)	List II (Polymer)
(a) Caprolactum	(i) Natural rubber
(b) 2-Chloro-1,3-butadiene	(ii) Buna-N
(c) Isoprene	(iii) Nylon 6
(d) Acrylonitrile	(iv) Neoprene

Choose the correct answer from the options given below :

- (1) (a) → (iv), (b) → (iii), (c) → (ii), (d) → (i)
- (2) (a) → (ii), (b) → (i), (c) → (iv), (d) → (iii)
- (3) (a) → (iii), (b) → (iv), (c) → (i), (d) → (ii)
- (4) (a) → (i), (b) → (ii), (c) → (iii), (d) → (iv)

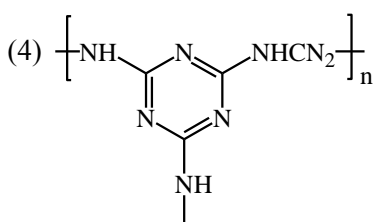
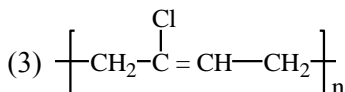
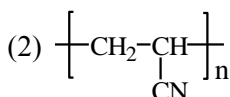
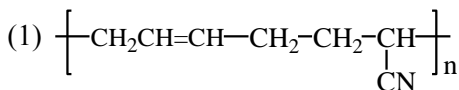
2. In polymer Buna-S: 'S' stands for :-

- (1) Sulphonation                      (2) Strength
- (3) Sulphur                              (4) Styrene

3. Which statement is correct ?

- (1) Synthesis of Buna-S needs nascent oxygen.
- (2) Neoprene is an addition copolymer used in plastic bucket manufacturing.
- (3) Buna-S is a synthetic and linear thermosetting polymer.
- (4) Buna-N is a natural polymer.

4. The structure of Neoprene is -



5. Which of the following polymer is used in the manufacture of wood laminates ?

- (1) *cis*-poly isoprene
- (2) Melamine formaldehyde resin
- (3) Urea formaldehyde resin
- (4) Phenol and formaldehyde resin

6. Match List-I with List-II :

**List-I  
(Chemicals)**

- (a) Alcoholic potassium hydroxide
- (b) Pd/ BaSO<sub>4</sub>
- (c) BHC (Benzene hexachloride)
- (d) Polyacetylene

**List-II**

**(Use / Preparation / Constituent)**

- (i) Electrodes in batteries
- (ii) Obtained by addition reaction
- (iii) Used for β - elimination reaction
- (iv) Lindlar's catalyst

Choose the most appropriate match :

- (1) a-ii, b-i, c-iv, d-iii
- (2) a-iii, b-iv, c-ii, d-i
- (3) a-iii, b-i, c-iv, d-ii
- (4) a-ii, b-iv, c-i, d-iii

7. Orlon fibres are made up of :

- (1) Polyacrylonitrile                      (2) Polyesters
- (3) Polyamide                              (4) Cellulose

8. Identify the incorrect statement from the following

- (1) Amylose is a branched chain polymer of glucose
- (2) Starch is a polymer of α-D glucose
- (3) β-Glycosidic linkage makes cellulose polymer
- (4) Glycogen is called as animal starch

9. The number of nitrogen atoms in a semicarbazone molecule of acetone is \_\_\_\_\_.

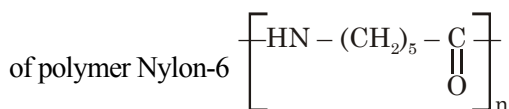
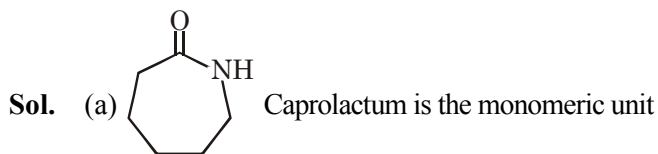
10. Bakelite is a cross-linked polymer of formaldehyde and :

- (1) PHBV                                      (2) Buna-S
- (3) Novolac                                  (4) Dacron



**SOLUTION**

1. **Official Ans. by NTA (3)**

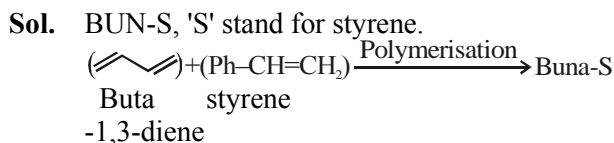


(b) 2-Chlorobuta-1, 3-diene is the monomeric unit of polymer neoprene.

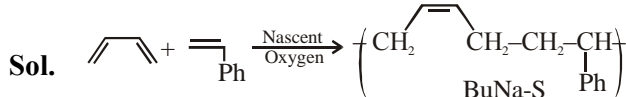
(c) 2-Methylbuta-1, 3-diene is the monomeric unit of polymer natural rubber.

(d)  $\text{CH}_2 = \text{CH} - \text{CN}$  (Acrylonitrile) is the one of the monomeric unit of polymer Buna-N

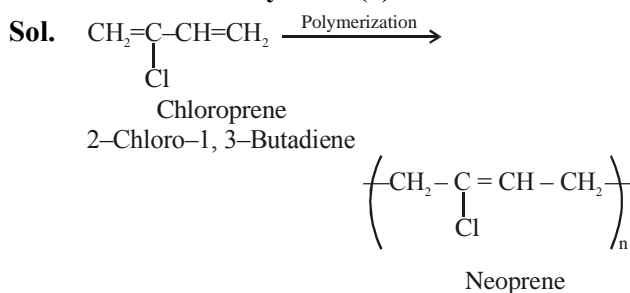
2. **Official Ans. by NTA (4)**



3. **Official Ans. by NTA (1)**



4. **Official Ans. by NTA (3)**



5. **Official Ans. by NTA (3)**

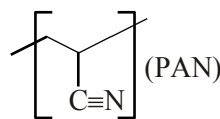
Sol. Urea -HCHO resin is used in manufacture of wood laminates.

6. **Official Ans. by NTA (2)**

- Sol. (a) Alcoholic potassium hydroxide → used for β-elimination  
 (b) Pd/ BaSO<sub>4</sub> → Lindlar's catalyst  
 (c) BHC (Benzene hexachloride) → Obtained by addition reactions  
 (d) Polyacetylene → Electrodes in batteries

7. **Official Ans. by NTA (1)**

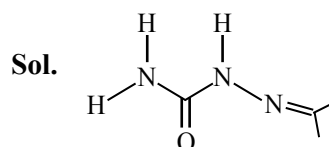
Sol. → orlon fibers are made up of Polyacrylonitrile



8. **Official Ans. by NTA (1)**

Sol. Amylose is a linear chain polymer of α-D-glucose while amylopectine is branched chain polymer of α-D-glucose.

9. **Official Ans. by NTA (3)**

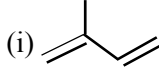
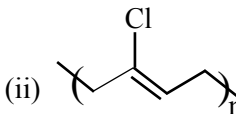
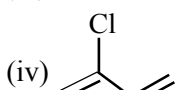


Semicarbazone molecule of acetone

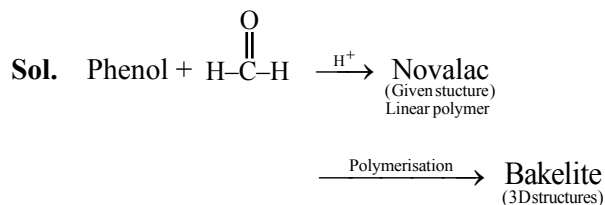
10. **Official Ans. by NTA (3)**

Sol. Novolac (phenol formaldehyde Resin) → Bakelite

11. **Official Ans. by NTA (2)**

- Sol. (a) Chloroprene (i)   
 (b) Neoprene (ii)   
 (c) Acrylonitrile (iii)  $\text{CH}_2 = \text{CH} - \text{CN}$   
 (d) Isoprene (iv) 

12. **Official Ans. by NTA (1)**



13. **Official Ans. by NTA (3)**

Sol. A biodegradable polyamide nylon-2-Nylon-6 in made from glycine and amino caproic acid

14. **Official Ans. by NTA (1)**

Sol. Novolac + formaldehyde → Bakelite

