



CHEMISTRY

BOOKS - MTG GUIDE

POLYMERS

Illustration

1. Classify the following as linear, branched or cross-linked polymers:

(1) Bakelite

(2) Starch

(3) Polythene

(4) Nylon



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2. Arrange the following polymers in the increasing order of their intermolecular forces: Polystyrene, Terylene, Buna-S.

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3. Classify the following polymers as step growth or chain growth polymers :

(1) Nylon-6,6

(2) Terylene

(3) Polythene

(4) PVC

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4. Classify the following as addition and condensation polymers :

(1) Polyvinylchloride

(2) Polythene

(3) Bakelite

(4) Terylene

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5. How does the presence of double bonds in rubber molecules influence their structure and reactivity ?

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6. What is the role of sulphur in the vulcanisation of rubber?

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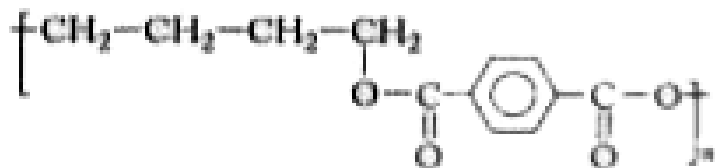
7. Is $\left[\text{--- CH}_2 - \overset{\text{CH}_3}{\underset{|}{\text{C}}} \text{H ---} \right]_n$ a homopolymer or copolymer ?

Give reason .



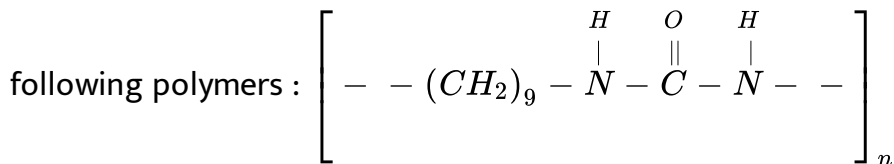
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8. Write the structures of monomers used in the preparation of following polymers :



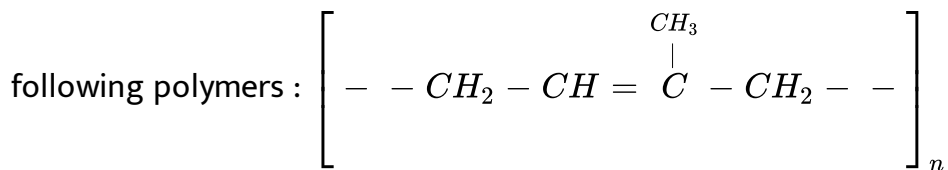
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9. Write the structures of monomers used in the preparation of



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10. Write the structures of monomers used in the preparation of



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11. Write the structures of the monomers used for getting the

following polymers: Neoprene

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12. Write the structures of the monomers used for getting the

following polymers: Melamine-formaldehyde polymer

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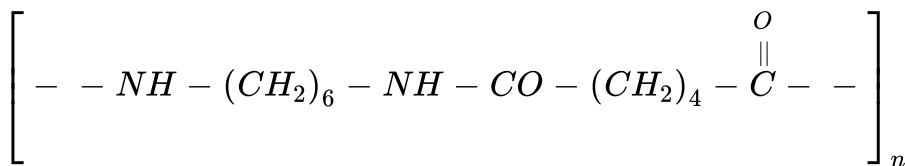
13. Write the structures of the monomers used for getting the following polymers: Buna-S

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14. What is the role of t-butyl peroxide in the polymerisation of ethene?

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15. Identify the monomers in the following polymer:



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16. Write the structures of monomers of the following polymers.

Terylene

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17. Write the structures of monomers of the following polymers.

Buna-N

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18. What is a biodegradable polymer? Give an example of a biodegradable aliphatic polyester.

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1. Thermosets are

- A. cross-linked polymers
- B. don't melt or soften on heating
- C. cross-linking is usually developed at the time of moulding where they harden
- D. all of the above.

Answer: D



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2. A condensation polymer among the following is

- A. melamine
- B. PVC
- C. polystyrene

D. teflon

Answer: A

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3. Inter-particle forces present in Nylon-6,6 are

A. van der Waals

B. hydrogen bonding

C. dipole-dipole interactions

D. none of the above.

Answer: B

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4. Which of the following sets contains only addition polymers?

A. Polyethylene, polypropylene, terylene

B. Polyethylene, PVC, acrilan

C. Buna-S, nylon, polybutadiene

D. Bakelite, PVC, polyethylene

Answer: B



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5. Which of the following statements is/are true for elastomers?

A. These are synthetic polymers possessing elasticity.

B. These possess very weak intermolecular forces of attractions between polymer chains.

C. Vulcanised rubber is an example of elastomer.

D. All of the above.

Answer: D

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6. The polymer containing strong intermolecular forces e.g., hydrogen bonding is

A. natural rubber

B. teflon

C. nylon-6,6

D. polystyrene

Answer: C

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7. Which of the following is not an addition copolymer?

- A. Saran
- B. Buna-N
- C. SBR
- D. PVC

Answer: D



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8. An example of natural biopolymer is

- A. teflon
- B. nylon-6,6
- C. rubber
- D. DNA

Answer: D



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9. Cellulose acetate is a

- A. natural rubber
- B. semi-synthetic polymer
- C. synthetic polymer
- D. polyethylene

Answer: B



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10. Co-polymer is

A. nylon-6

B. nylon-6,6

C. PMMA

D. polyethylene

Answer: B



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11. Which one is a polymeric compound?

A. SO_2

B. CO_2

C. CH_4

D. PVC

Answer: D

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12. Which of the following polymers shows a sharp melting point?

- A. Butyl rubber
- B. Polystyrene
- C. Bakelite
- D. Nylon-6,6

Answer: D

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13. Peptide bond is a key feature in

- A. polysaccharides
- B. proteins

C. nucleotides

D. vitamins

Answer: B



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14. Which of the following is a natural fibre producing polymer?

A. Starch

B. Cellulose

C. Natural rubber

D. Nylon

Answer: B



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15. PVC is an example of

- A. thermosetting polymer
- B. thermoplastic polymer
- C. elastomer
- D. fibre

Answer: B



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16. Which of the following is a condensation homopolymer?

- A. Nylon-6
- B. Nylon-6,6
- C. Nylon-6,10
- D. Dacron

Answer: A

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17. Among the following polymers, the strongest molecular forces are present in

- A. elastomers
- B. fibres
- C. thermoplastic polymer
- D. thermosetting polymers.

Answer: D

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18. Which of the following is not an example of addition polymer?

- A. Polythene
- B. Polystyrene
- C. Neoprene
- D. Terylene

Answer: D

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19. Example of addition polymer is

- A. buna-S
- B. bakelite
- C. nylon-6
- D. melmac

Answer: A

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20. Polymers can be classified on the basis of

- A. origin
- B. structure
- C. mechanism of formation
- D. all of these.

Answer: D

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21. Which of the following is not a synthetic polymer?

- A. Polyethylene
- B. PVC

C. Nylon

D. Cellophane

Answer: D



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22. On the basis of the mode of their formation, the polymers can be classified

A. as addition polymers only

B. as condensation polymers only

C. as co-polymers

D. both as addition and condensation polymers.

Answer: D



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23. Protein fibres are

- A. vegetable fibres
- B. animal fibres
- C. semi-synthetic fibres
- D. synthetic fibres.

Answer: B



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24. Among cellulose, polyvinyl chloride, nylon and natural rubber, the polymer in which the intermolecular force of attraction is weakest is

- A. nylon
- B. polyvinyl chloride
- C. cellulose

D. natural rubber.

Answer: D

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25. Chemically, pure cotton is named as

A. acetate rayon

B. cellulose

C. viscose rayon

D. all of these.

Answer: B

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26. Which of the following is not a plant fibre?

- A. Linen
- B. Silk
- C. Jute
- D. Cotton

Answer: B



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27. Example of regenerated fibre is

- A. viscose rayon
- B. acetate rayon
- C. cuprammonium silk
- D. all of these.

Answer: D



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28. Cellulose (cotton) is built up of many

- A. sucrose units
- B. glucose units
- C. fructose units
- D. both (b) and (c).

Answer: B



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29. Natural silk is

A. polyamide

B. polyester

C. polysaccharide

D. linen

Answer: A



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30. A synthetic polyamide prepared by prolonged heating of caprolactum is

A. nylon-6,6

B. nylon-6

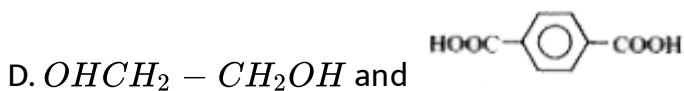
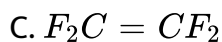
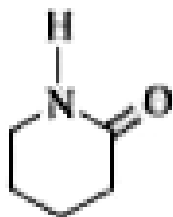
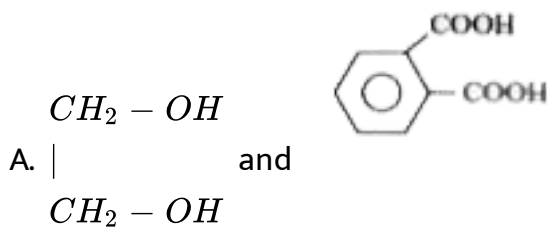
C. nylon-6,10

D. glyptal

Answer: B

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31. The monomer(s) of dacron is/are



Answer: D

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32. The catalyst used in the manufacture of polythene by Ziegler method is

- A. titanium tetrachloride and triphenyl aluminium
- B. titanium tetrachloride and triethyl aluminium
- C. titanium dioxide
- D. titanium isoperoxide.

Answer: B

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33. Bakelite is made from phenol and formaldehyde. The initial reaction between the two compounds is an example of

- A. aromatic electrophilic substitution

B. aromatic nucleophilic substitution

C. free radical reaction

D. aldol reaction.

Answer: A

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34. A copolymer of isobutylene and isoprene is called

A. butyl rubber

B. buna-S

C. buna-N

D. thiokol

Answer: A

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35. Which one of the following statements is not true?

A. Buna-S is a copolymer of butadiene and styrene.

B. Natural rubber is a 1,4-polymer of isoprene.

C. In vulcanization, the formation of sulphur bridges between different chains make rubber harder and stronger.

D. Natural rubber has the trans-configuration at every double bond.

Answer: D



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36. Chloroprene is obtained by addition of HCl to

A. acetylene

B. vinyl acetylene

C. divinyl acetylene

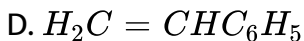
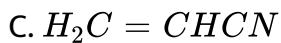
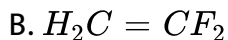
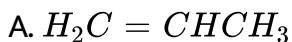
D. phenyl acetylene.

Answer: B



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37. Which of the following alkenes is least reactive towards anionic polymerisation?



Answer: A





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38. Polyurethanes are polymers that contain urethane moiety. A urethane can be prepared by treating an isocyanate with an

- A. amine
- B. alcohol
- C. ester
- D. acid

Answer: B



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39. Caprolactum can be obtained from

- A. benzaldehyde

B. cyclohexane

C. benzophenone

D. adipic acid.

Answer: B

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40. In the isoprene polymer all the isoprene have

A. trans-1,4 configuration

B. cis-1,4 configuration

C. both cis and trans-1,4 configuration

D. none of these.

Answer: B

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41. Consider the following statements

- (i) Tensile strength of vulcanised rubber is almost times more than raw rubber.
- (ii) Elasticity of raw rubber is very high.

The correct statement is/are

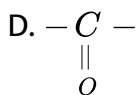
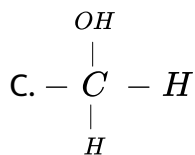
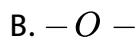
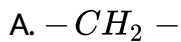
- A. (i) is true and (ii) is false.
- B. (i) is false and (ii) is true.
- C. both (i) and (ii) are true.
- D. both (i) and (ii) are false.

Answer: A



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42. In bakelite, the rings are joined to each other through



Answer: A

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43. Beckmann rearrangement is involved in the synthesis of

A. PAN

B. nylon 6,10

C. nylon-6

D. melamine

Answer: C

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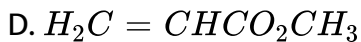
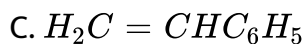
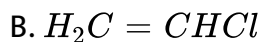
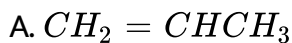
44. Which rubber is not a polydiene?

- A. Polyisoprene
- B. Polychloroprene
- C. Thiokol rubber
- D. Nitrile rubber

Answer: C

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45. Which of the following alkenes is most reactive towards cationic polymerisation?



Answer: C

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46. Which one of the following pairs is not correctly matched?

A. Terylene-condensation polymer of terephthalic acid and ethylene glycol.

B. Teflon-thermally stable cross-linked polymer of phenol and formaldehyde.

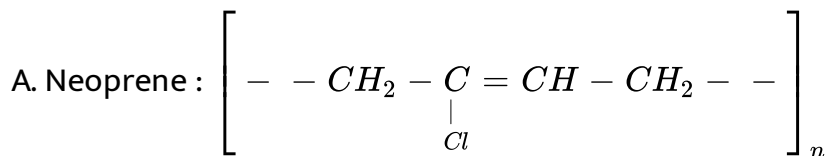
C. Perspex-homopolymer of methylmethacrylate.

D. Synthetic rubber-a copolymer of butadiene and styrene.

Answer: B

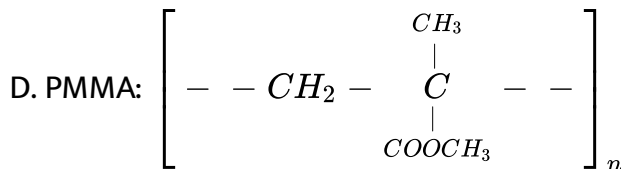
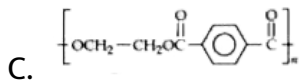
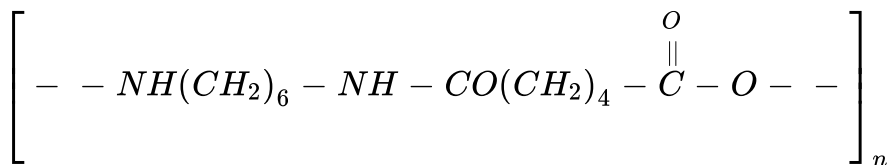
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47. Which of the following is not correctly matched?



B. Nylon-6,6

:



Answer: B



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48. Benzoyl peroxide has a role in which of the following type of addition polymerisation?

- A. Cationic
- B. Anionic
- C. Free-radical
- D. None of these

Answer: C



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49. In vulcanization of rubber

- A. sulphur reacts to form a new compound

B. sulphur cross-links are introduced

C. sulphur forms a very thin protective layer over rubber

D. all statements are correct.

Answer: B



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50. Which of the following is a polyamide?

A. Teflon

B. Nylon-6,6

C. Terylene

D. Bakelite

Answer: B



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51. Which of the following is fully fluorinated polymer?

A. Neoprene

B. Teflon

C. Thiokol

D. PVC

Answer: B



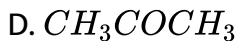
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52. Bakelite is obtained from phenol by reaction with

A. HCHO

B. $(CH_2OH)_2$

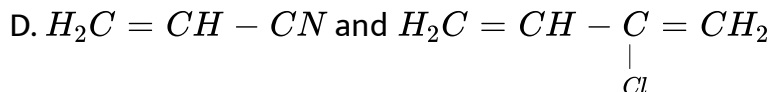
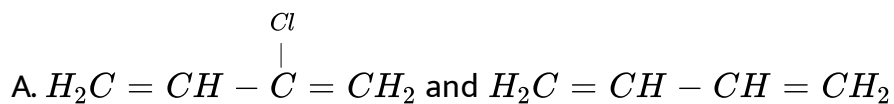
C. CH_3CHO



Answer: A

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53. Buna-N synthetic rubber is a copolymer of



Answer: C

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54. The monomer used for the manufacture of PVC is obtained by the addition of

- A. HCl to acetylene in presence of Hg^{2+} salts
- B. Cl_2 to acetylene
- C. HCl to ethylene
- D. Cl_2 to ethylene.

Answer: A



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55. Which of the following cannot be grouped as polyolefins?

- A. Polythene
- B. Polypropene
- C. Polystyrene

D. Polyoxyethylene

Answer: D

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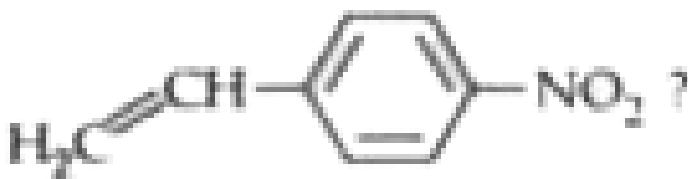
56. Polymerisation of propene using Ziegler-Natta catalyst is advantageous over free radical polymerisation because

- A. it can lead to living polymers via anionic polymerisation
- B. it permits step-growth polymerisation resulting in a highly cross-linked polymer
- C. it gives highly branched polymer with a high degree of crystallinity
- D. it gives linear polymer molecules permitting stereochemical control.

Answer: D

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57. Although styrene undergoes both cationic and anionic polymerisation, one method is always preferred with substituted styrenes. Which method is preferred with



- A. Radical polymerisation
- B. Cationic polymerisation
- C. Anionic polymerisation
- D. None of the above

Answer: C

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58.

The given polymer is

- A. natural rubber
- B. gutta percha
- C. neoprene
- D. polypropylene

Answer: A

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59. A polymer formed by coordination polymerisation is

A. low density polythene

B. high density polythene

C. nylon-6

D. dacron

Answer: B

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60. Novolac is

A. linear condensation product of phenol and formaldehyde

B. cross linked condensation product of urea and formaldehyde

C. cross linked condensation product of phenol and formaldehyde

D. linear condensation product of urea and formaldehyde.

Answer: A

61. The correct repeating structural unit of polystyrene is

- A.
$$\begin{array}{c} -CH - CH - \\ | \qquad | \\ CH_3 \quad C_6H_5 \\ -CH_2 - CH - CH - CH_2 - \end{array}$$
- B.
$$\begin{array}{c} | \qquad | \\ C_6H_5 \quad C_6H_5 \\ -CH_2 - CH - CH_2 - CH - \end{array}$$
- C.
$$\begin{array}{c} | \qquad | \\ C_6H_5 \qquad C_6H_5 \\ - CH - CH_2 - CH_2 - CH - \end{array}$$
- D.
$$\begin{array}{c} | \qquad | \\ C_6H_5 \qquad C_6H_5 \end{array}$$

Answer: C

62. Polymer with highest softening point is

- A. LDPE

B. HDPE

C. teflon

D. bakelite

Answer: C



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63. The substance used to harden the rubber for tyre manufacture is

A. wax

B. 1,3-butadiene

C. CaC_2

D. carbon black.

Answer: D



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64. Which of the following is a polyamide?

- A. Nylon
- B. Orlon
- C. Teflon
- D. Terylene

Answer: A



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65. Polyvinyl alcohol can be prepared by

- A. polymerisation of vinyl alcohol
- B. alkaline hydrolysis of polyvinyl acetate
- C. polymerisation of acetylene

D. reaction of acetylene with H_2SO_4 in presence of $HgSO_4$

Answer: B

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66. Monomer of $\left[\begin{array}{c} CH_3 \\ | \\ - C - CH_2 - \\ | \\ CH_3 \end{array} \right]_n$ is

A. 2-methylpropene

B. styrene

C. propylene

D. ethene

Answer: A

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67. Which of the following has ester linkage?

- A. Nylon
- B. Bakelite
- C. Terylene
- D. PVC

Answer: C



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68. The raw material to form nylon is

- A. adipic acid
- B. butadiene
- C. isoprene
- D. ethylene

Answer: A

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69. Which of the following is a chain growth polymer?

- A. Starch
- B. Nucleic acid
- C. Polystyrene
- D. Protein

Answer: C

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70. In Buna-S, S stands for

- A. sulphur
- B. sodium
- C. synthetic
- D. styrene

Answer: D

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71. Of the following which is a step growth polymer?

- A. Bakelite
- B. Polyethylene
- C. Teflon
- D. PVC

Answer: A

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72. Which one of the following is not an example of chain growth polymer?

A. Neoprene

B. Buna-S

C. PMMA

D. Glyptal

Answer: D

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73. Natural rubber is a polymer of

A. trans-isoprene

- B. cis-isoprene
- C. cis and trans-isoprene
- D. none of these.

Answer: B

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74. The catalyst used for the polymerisation of olefins is

- A. Ziegler-Natta catalyst
- B. Wilkinson's catalyst
- C. Pd-catalyst
- D. Zeise's salt complex.

Answer: A

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75. High density polythene is manufactured by heating ethylene in a hydrocarbon solvent at the conditions

- A. 333-343 K temp., 6-7 atm pressure
- B. 463-483 K temp., 1500 atm pressure
- C. 150-200 K temp., 1-2 atm pressure
- D. 763-863 K temp., 1200 atm pressure.

Answer: A



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76. A polymer of prop-2-ene nitrile is called

- A. nylon
- B. orlon

C. dacron

D. teflon

Answer: B



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77. To make PVC a flexible plastic, the additive used called

A. filter

B. antioxidant

C. stabilizer

D. plasticizer

Answer: D



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78. Which of the following acts as a chain transfer agent in vinyl polymerisation?

- A. t-Butyl peroxide
- B. Carbon tetrachloride
- C. Diphenylamine
- D. Phenol

Answer: B



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79. In free radical polymerisation, the extent of conversion increases with

- A. increase in temperature
- B. increase in polymerisation time

C. increase in monomer concentration

D. all of the above.

Answer: D

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80. Terylene is made by polymerisation of terephthalic acid with

A. ethylene glycol

B. phenol

C. ethanol

D. catechol

Answer: A

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81. During the polymerisation of ϵ -caprolactum to get nylon-6 polymer, the temperature range is of about

A. 523 K to 533 K

B. 473 K to 523 K

C. 553 K to 573 K

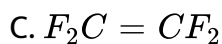
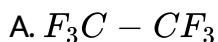
D. 273 K to 373 K

Answer: A



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82. The monomer units of PTFE is





Answer: C

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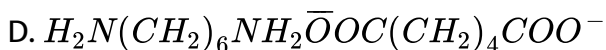
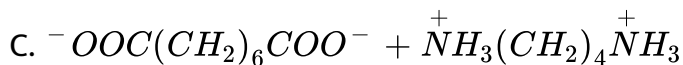
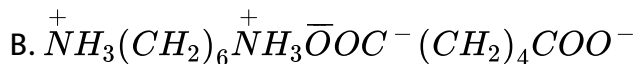
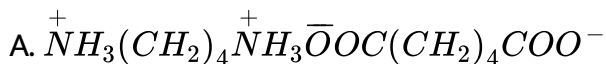
83. In the preparation of nylon fibre nitrogen is used

- A. to make inert atmosphere
- B. to increase the rate of reaction
- C. to decrease the rate of reaction
- D. none of these.

Answer: A

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84. The nylon salt (Hexamethylenediammonium adipate) is



Answer: B



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85. Dacron fibre blended with cellulose fibre produces

A. terywool

B. perlon-L

C. terycott

D. rayon

Answer: C



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86. Synthetic fibres like nylon-6,6 are very strong because

- A. they have high molecular weights and high melting points
- B. they have a high degree of cross-linking by strong C -C bond
- C. they have linear molecules consisting of very long chains
- D. they have linear molecules inter-linked with forces like hydrogen bonding.

Answer: D



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87. The proportion of hexamethylenediamine and adipic acid used in the preparation of nylon-6,6 is

A. 1 : 2

B. 1 : 1

C. 2 : 1

D. 2 : 3

Answer: B



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88. Artificial fibres are drip dried because they

A. do not react with water

B. do not absorb water

C. lose water easily

D. cannot become wet with water.

Answer: C

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89. Condensation polymer formation from monomers starts by

A. condensation reaction between monomers

B. coordination reaction between monomers

C. conversion of monomer to monomer ions by protons

D. hydrolysis of monomers.

Answer: A

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90. Plexiglass (PMMA) is a polymer of

- A. acrylic acid
- B. methyl acrylate
- C. methyl methacrylate
- D. none of these.

Answer: C



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91. Which of the following pairs is not correct?

- A. Viscose-Synthetic fibre
- B. Polysaccharide - Artificial silk
- C. Nylon-6,6-Heteropolymer
- D. Nylon-6-Perlon - L

Answer: A



[View Text Solution](#)

92. If 30% molecules have $M=20,000$, 40% molecules have $M=30,000$, rest of them have $M=60,000$. PDI is

A. 0.83

B. 1.45

C. 0.98

D. 1.20

Answer: D



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93. Select the incorrect statement.

- A. For natural polymers, PDI is generally 1.
- B. Natural polymers are more homogeneous than synthetic polymers.
- C. For synthetic polymers PDI is generally 1.
- D. The polymers whose molecules have nearly same molecular masses, PDI is 1.

Answer: C



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94. The number average molar mass and mass average molar mass of a polymer are respectively 30,000 and 40,000. The polydispersity index of the polymer is

- A. < 1
- B. > 1

C. 0

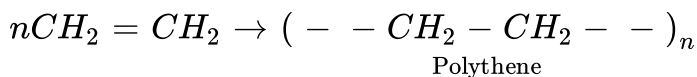
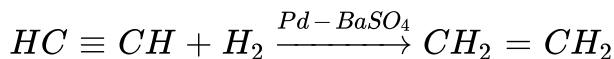
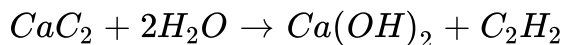
D. -1

Answer: B



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95. Calculate the amount of polythene formed from 20 kg of calcium carbide from the reactions given below:



A. 28 g

B. 6 g

C. 9 g

D. 64 g

Answer: C

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96. The mass average molecular mass is obtained by measurement of a property such as

- A. osmotic pressure
- B. light scattering
- C. vapour pressure
- D. refractive index.

Answer: B

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97. A sample of polymer contains 30% molecules with molecular mass 20,000, 40% with molecular mass 30,000 and 30% with 60,000. What is the number average molecular mass of the polymer?

A. 36000

B. 48000

C. 50000

D. 25000

Answer: A



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98. Polydispersity index (PDI) is

A. $\frac{\overline{M}_w}{\overline{M}_n}$

B. $\frac{\overline{M}_n}{\overline{M}_w}$

C. $\bar{M}_n \times \bar{M}_w$

D. $\bar{M}_w - \bar{M}_n$

Answer: A



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99. Polymers have

A. absolute molecular weight

B. average molecular weight

C. low molecular weight

D. absolute melting point.

Answer: B



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100. Which of the following is a biodegradable polymer?

- A. Cellulose
- B. Polythene
- C. Polyvinyl chloride
- D. Nylon-6

Answer: A



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101. The biodegradable polymer among the following is

- A. nylon-6
- B. nylon-6-Nylon-6,6
- C. nylon-2-Nylon-6
- D. nylon-6-Nylon-6,10

Answer: C

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102. A polymer which is used as a suture, i.e., for stitching of wounds after operations is

A. PHBV

B. nylon-2-Nylon-6

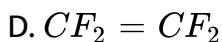
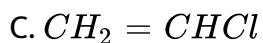
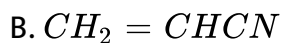
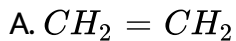
C. dextran

D. dacron

Answer: C

 [View Text Solution](#)

103. Non-stick cookwares generally have a coating of a polymer, whose monomer is



Answer: D



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104. Drugs which are to be released in a controlled manner in the body are enclosed in capsules made up of

A. PGA

B. PCL

C. PHBV

D. none of these

Answer: C



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105. Soft drinks and baby feeding bottles are generally made up of

A. bakelite

B. polyurethane

C. high density polyethylene-HDPE

D. polyamide

Answer: C



[View Text Solution](#)

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

- A. PVC
- B. Polystyrene
- C. Polyethylene (terephthalate)
- D. Polytetrafluoroethylene

Answer: D



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107. Which of the following is used in tyre cords?

- A. Terylene
- B. Bakelite
- C. Rubber
- D. Nylon

Answer: D



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108. Synthetic human hair wigs are made from a copolymer of vinyl chloride and acrylonitrile, and is called

- A. PVC
- B. polyacrylonitrile
- C. cellulose
- D. dynel

Answer: D



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109. Which polymer is generally used in making carry bags?

- A. Polyester
- B. Bakelite
- C. Polyethylene
- D. None of these

Answer: C

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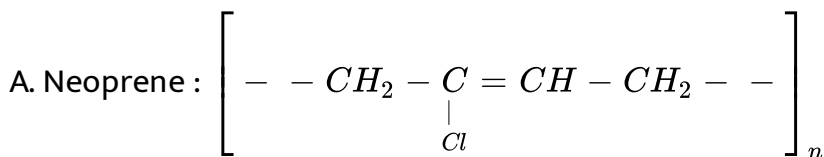
110. For filtration of chemicals the cloth used is made up of

- A. polyamide
- B. nylon
- C. polyester
- D. none of these.

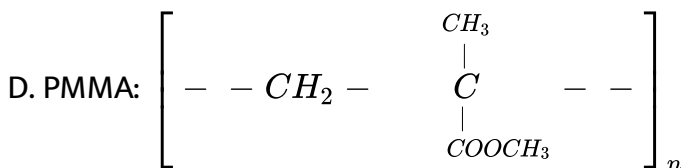
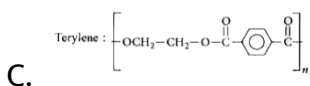
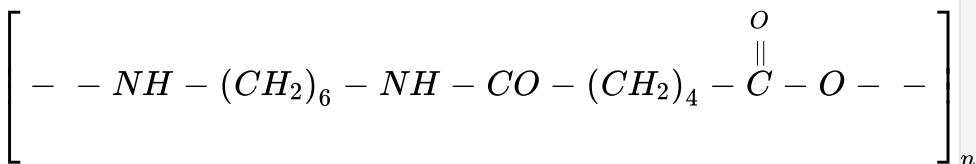
Answer: C

Check Your Neet

1. Which of the following is not correctly matched?



B. Nylon-6,6



Answer: B

2. Which one of the following statements is not true?

A. Buna-S is a copolymer of butadiene and styrene.

B. Natural rubber is a 1, 4-polymer of isoprene.

C. In vulcanisation, the formation of sulphur bridges between different chains make rubber harder and stronger.

D. Natural rubber has the trans-configuration at every double bond.

Answer: B



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3. Which of the following polymers is an example of fibre?

A. Orlon

B. Dacron

C. Nylon-6, 6

D. All of these

Answer: D



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4. The polymer containing strong intermolecular forces of attraction e.g., hydrogen bonding is

A. polystyrene

B. natural rubber

C. teflon

D. nylon-6, 6.

Answer: D



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5. Which of the following sets contain only addition homopolymers?

A. Nylon-6, natural rubber, cellulose

B. Starch, nylon-6, 6, polyester

C. Teflon, bakelite, orlon

D. Neoprene, PVC, polythene

Answer: D



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6. Which of the following is a condensation homopolymer?

A. Cellulose

B. Nylon-6, 6

C. Dacron

D. Glyptal

Answer: A

 [View Text Solution](#)

7. Match the entries of Column I with appropriate entries of Column II and select the correct answer:

Column I (Polymer)	Column II (Uses)
P. Bakelite	1. Unbreakable crocker
Q. Low density polythene	2. Electrical switches
R. Melamine-formaldehyde resin	3. Squeeze bottles
S. Polystyrene	4. Packaging material

A. P-1,Q-2,R-4,S-3

B. P-4,Q-2,R-1,S-3

C. P-3,Q-4,R-2,S-1

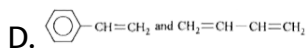
D. P-2,Q-4,R-1,S-3

Answer: D



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8. Which one of the following sets forms the biodegradable polymer?

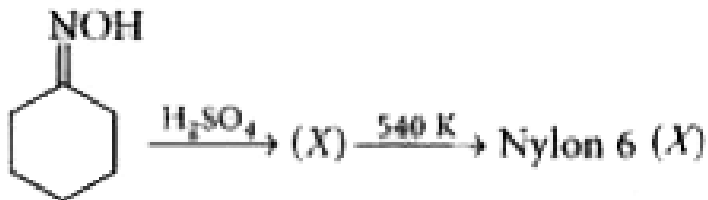


Answer: B



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9. In the reaction sequence



- A. cyclohexanone
- B. caprolactum
- C. hexamethylene diamine
- D. hexamethylene diisocyanate.

Answer: B

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10. Which one of the following statements is not true?

- A. Buna-S is a copolymer of butadiene and styrene.

B. Natural rubber is a 1, 4-polymer of isoprene.

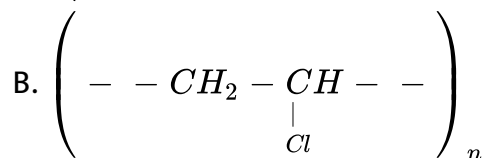
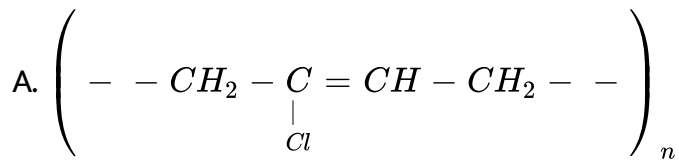
C. In vulcanisation, the formation of sulphur bridges between different chains make rubber harder and stronger.

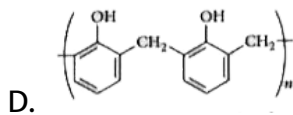
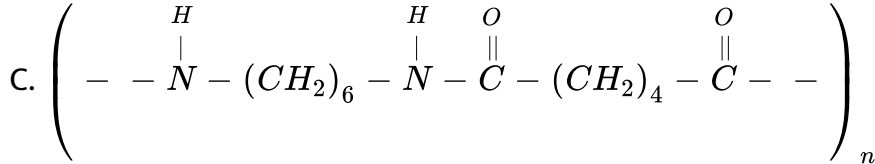
D. Natural rubber has the trans configuration at every double bond.

Answer: D

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11. Which one of the following is an example of thermosetting polymer?





Answer: D

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12. What of the following pair of monomers are used in preparation of PHBV ?

- A. β -Hydroxy butyric acid , β - hydroxy valeric acid
- B. β -Hydroxy valeric acid , Amino caproic acid
- C. β -Hydroxy butyric acid , Adipic acid
- D. Lactic acid , Adipic acid

Answer: A

13. Which of the following statements are incorrect ?

(i) Resins are thermoplastics .

(ii) Nylon-6 is an example of addition homopolymers.

(iii) Neoprene is a synthetic rubber.

(iv) Buna-S is a polymer of 1,3-butadiene and acrylonitrile.

A. (i),(iii),(iv)

B. (ii),(iii)

C. (i),(ii),(iv)

D. All are incorrect .

Answer: C

14. Natural rubber and gutta-percha respectively are

A. trans-polychloroprene and cis - polychloroprene

B. both are cis-polyisoprene

C. both are trans-polyisoprene

D. cis-polyisoprene and trans-polyisoprene.

Answer: D



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15. Match the polymers given in Column I with their commercial names given in Column II.

Column I	Column II
A. Polyester of ethylene glycol and phthalic acid	1. Novolac
B. Copolymer of 1,3-butadiene and styrene	2. Glyptal
C. Phenol and formaldehyde resin	3. Buna-S
D. Polyester of ethylene glycol and terephthalic acid	4. Buna-N
E. Copolymer of 1, 3-butadiene and acrylonitrile	5. Dacron

A. A-4,B-3,C-2,D-1,E-5

B. A-2,B-3,C-1,D-5,E-4

C. A-2,B-1,C-3,D-4,E-5

D. A-2,B-1,C-3,D-5,E-4

Answer: B



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16. Polymer used in bullet proof glass is

A. PMMA

B. Lexan

C. Nomex

D. Kevlar

Answer: B



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17. Plexiglass is a commercial name of

A. glyptal

B. polyacrylonitrile

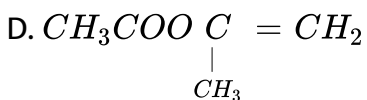
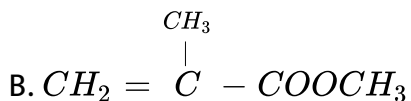
C. polymethylmethacrylate

D. polyethylacrylate

Answer: C

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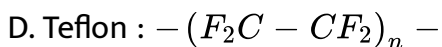
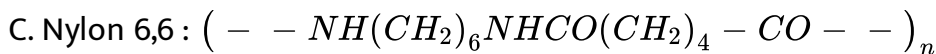
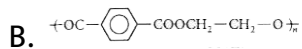
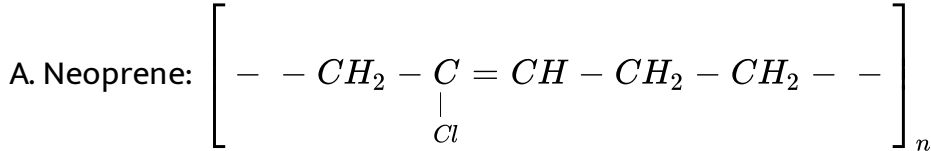
18. The structural formula of monomer of PMMA is



Answer: B

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19. Structures of some common polymers are given. Which one is not correctly represented ?



Answer: A

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20. A catalyst used for the polymerisation of olefin is

A. Zeigler-Natta catalyst

B. Wilkinson's catalyst

C. Pd-catalyst

D. Zeise's salt complex.

Answer: A



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21. Match Column-I with Column-II and select the correct answer :

Column-I

- P. Urea formaldehyde resin
- Q. Nylon - 6
- R. Polystyrene
- S. Polyesters

Column-II

- 1. Unbreakable cups
- 2. TV cabinets
- 3. Safety helmets
- 4. Tyre cords

A. P-1,Q-4,R-2,S-3

B. P-1,Q-2,R-4,S-3

C. P-4,Q-2,R-3,S-1

D. P-4,Q-3,R-2,S-1

Answer: A



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22. Which of the following is condensation polymer ?

A. Nylon-6

B. Glyptal

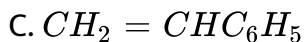
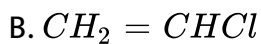
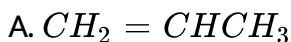
C. Both (a) and (b)

D. None of these

Answer: C

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23. Which of the following alkenes is most reactive towards cationic polymerisation?



Answer: C

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24. Polymerisation of propene using Ziegler-Natta catalyst is advantageous over free radical polymerisation because

- A. it can lead to living polymers via anionic polymerisation
- B. it permits step-growth polymerisation resulting in a highly cross-linked polymer
- C. it gives highly branched polymer with a high degree of crystallinity
- D. it gives linear polymer molecules , permitting stereochemical control.

Answer: D

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25. Which one of the following statements is not true ?

- A. Buna-S is a copolymer of butadiene and styrene.
- B. Natural rubber is a 1,4-polymer of isoprene.
- C. In vulcanisation, the formation of sulphur bridges between different chains make rubber harder and stronger.
- D. Natural rubber has trans-configuration at every double bond.

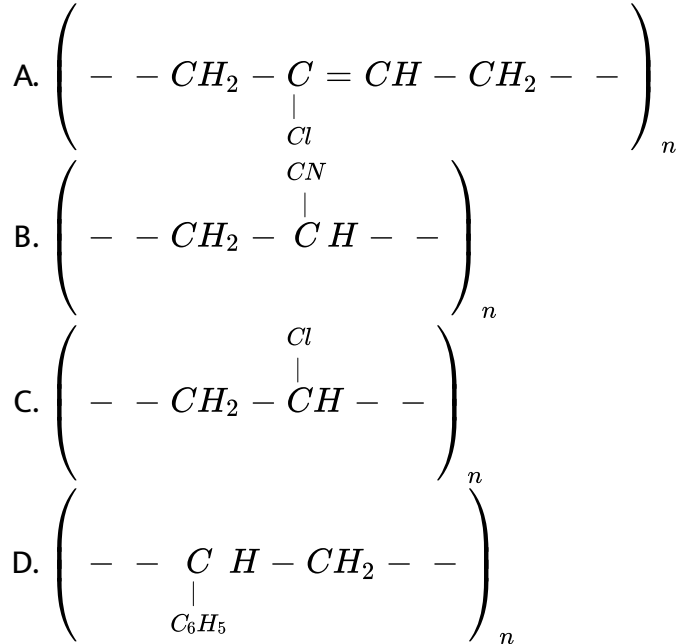
Answer: D



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Aipmt Neet

1. Which of the following structures represents neoprene polymer ?



Answer: A

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2. Of the following which is a step growth polymer?

A. Terylene

B. Bakelite

C. Melamine

D. Nylon-6,6

Answer: A

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3. Which one of the following is not a condensation polymer ?

A. melamine

B. Glyptal

C. dacron

D. Neoprene

Answer: D

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4. Which of the following statements is false ?

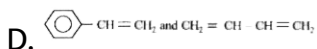
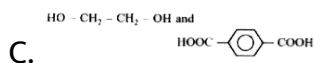
- A. Artificial silk is derived from cellulose
- B. Nylon-6,6 is an example of elastomer
- C. The repeat unit in natural rubber is isoprene
- D. Both starch and cellulose are polymers of glucose.

Answer: B

 [View Text Solution](#)

5. Which one of the following sets forms the biodegradable polymer?

- A. $CH_2 - CH - CN$ and $CH_2 = CH - CH = CH_2$
- B. $H_2N - CH_2 - COOH$ and $H_2N - (CH_2)_5 - COOH$



Answer: B



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6. Nylon is an example of

A. Polyamide

B. Polythene

C. Polyester

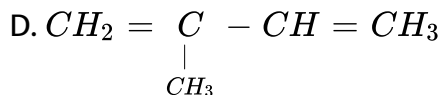
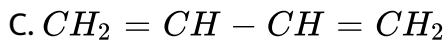
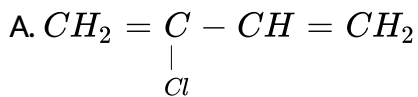
D. Polysaccharide

Answer: A



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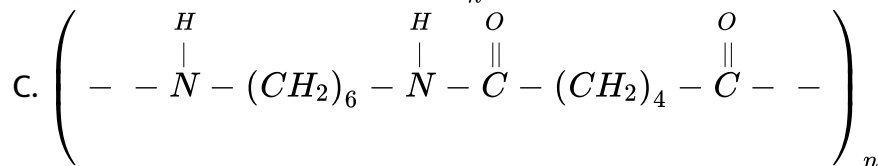
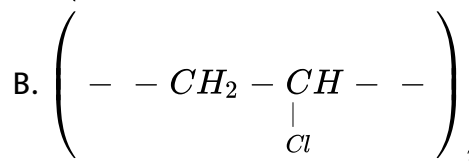
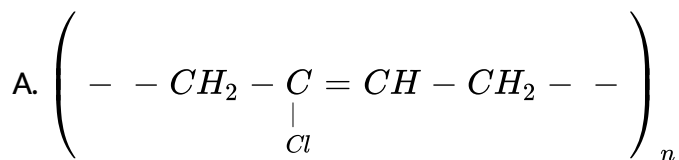
7. Which is the monomer of Neoprene in the following ?

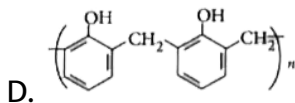


Answer: A

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8. Which one of the following is an example of thermosetting polymer?





Answer: D

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9. Which of the following organic compounds polymerizes to form the polyester Dacron ?

A. Propylene and para $HO - (C_6H_4) - OH$

B. Benzoic acid and ethanol

C. Terephthalic acid and ethylene glycol

D. Benzoic acid and para $HO - (C_6H_4) - OH$

Answer: C

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10. Biodegradable polymer which can be produced from glycine and aminocaproic acid is

- A. buna-N
- B. nylon 6,6
- C. nylon 2 - nylon 6
- D. PHBV

Answer: C



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11. Caprolactum is used for the manufacture of

- A. teflon
- B. terylene
- C. nylon 6,6

D. nylon 6

Answer: D

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12. Natural rubber has

A. alternate cis- and trans- configuration

B. random cis- and trans-configuration

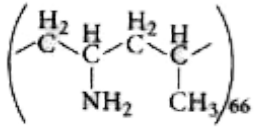
C. all cis-configuration

D. all trans-configuration

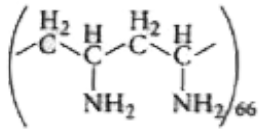
Answer: C

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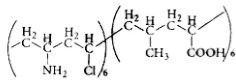
13. Which one of the following structures represents nylon 6,6 polymer ?



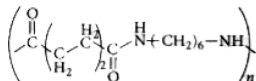
A.



B.



C.



D.

Answer: D

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14. Regarding cross-linked or network polymers, which of the following statements is incorrect ?

- A. They contain covalent bonds between various linear polymer chains.
- B. They are formed from bi- and tri-functional monomers.
- C. Examples are bakelite and melamine
- D. They contain strong covalent bonds in their polymer chains.

Answer: D

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15. The biodegradable polymer is

- A. buna-S
- B. nylon-6,6
- C. nylon-2,nylon 6
- D. nylon-6

Answer: C



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