

CHEMISTRY

BOOKS - MODERN PUBLICATION

POLYMERS

Example

1. Is

Is
$$(-NH-CHR-CO)_n$$

homopolymer or a co-polymer?



2. For what purpose German silver alloy is used?



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3. Express 836 in roman numbers.



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4. Express 837 in roman numbers.



5. Express 840 in roman numbers.



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6. Express 838 in roman numbers.



7. What is the primary structural feature necessary for a molecule to make it useful in a condensation polymerisation reaction?



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8. Express 875 in roman numbers.



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9. Express 841 in roman numbers.



10. Express 842 in roman numbers.



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11. Express 843 in roman numbers.



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12. Express 858 in roman numbers.



13. How do thermoplastic differ from thermosetting polymers?



14. Express 851 in roman numbers.



15. Express 852 in roman numbers.



16. Name a polymer which is used for making non-stick utensils.



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17. Express 853 in roman numbers.



18. State the difference between eukaryotes and prokaryotes.



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19. Express 855 in roman numbers.



20. Write the monomers and chemical equation used for preparation of Buna-S rubber.



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21. On the basic of forces between their molecules in a polymer to which class does nylon-66 belong?



22. Arrange the following polymers in the increasing order of tensile strength. Nylon 6, Buna-S, Polythene.



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23. Is
$$\left(-CH_2-CH-
ight)_n$$
 a homopolymer

or a copolymer?



24. What are polymers? Give an example of natural polymer. Are polymers found in nature?



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25. How are polymers classified on the basis of structure of polymers ?



26. Write the names of monomers of the following polymers.



27. Classify the following as addition and condensation polymers: Terylene, bakelite, polyvinyl chloride, polythene



28. Find the percentage of water of crystallisation in washing soda crystals Na2CO3.10H2O



29. Give the empirical formula of C4H8



30. Calculate the percentage composition of oxygen in Na2CO3



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31. What are natural and synthetic polymers? Give two examples of each type.



32. Distinguish between the terms homopolymer and copolymer and given an example of each.



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33. How do you explain the functionality of a monomer ?



34. Write the empirical formulae of the compounds with the following percentage composition: Zn = 47.8% Cl = 52.2%



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35. Is $(-NH-CHR-CO)_n$ as homopolymer or a co-polymer ?



36. In which classes, the polymers are classified on the basis of intermolecular forces ?



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37. Write two differences between addition and condensation polymerisation.



38. State and explain the terms :

Copolymerisation



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39. Write the chemical equation for the preparation of polyethene.



40. What are thermosetting and thermoplastic polymers? Give one example of each.



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41. Write the monomers used for getting the following polymers: Polyvinyl chloride.



42. Write the name and structure of monomers of the following polymers : Teflon



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43. Give synthesis of following polymers:



44. Write the name and structure of monomers of bakelite.



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45. How is the presence of SO_2 detected ?



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46. Discuss the main purpose of vulcanisation.



47. The molecular formula of an organic acid is CH3COOH. what is its empirical formula .



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48. Calculate the molecular formula of the compound having empirical formula CHO2 and vapour density 45.



49. Write the name and structure of the monomers of Buna-N.



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50. Write the name and structure of monomers of the following polymers: Dacron



51. Write the name and structure of monomers of the following polymers : Neoprene



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52. Identify the monomer in the following polymer structure:

$$(i) \stackrel{\mathbf{O}}{+} \mathbf{C} - (\mathbf{CH_2})_8 - \mathbf{C} - \mathbf{NH} - (\mathbf{CH_2})_6 - \mathbf{NH} \frac{1}{n}$$

$$(ii) \stackrel{\mathbf{HN}}{+} \mathbf{N} \mathbf{NH} - \mathbf{CH_2} \frac{1}{n}$$



53. How is dacron obtained from ethylene glycol and terephthalic acid?



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



55. Answer the following question- for what purpose dutch metal is used?



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57. Identify the type of polymer. -A-B-B-A-A-B-

A-

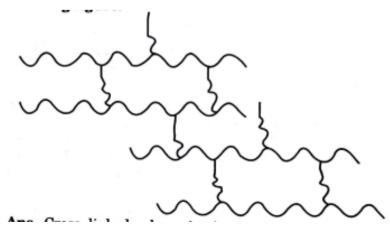


58. Express 1042 in roman numbers.



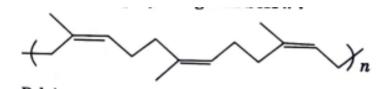
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59. Identify the type of polymer given in the following figure.





60. Identify the polymer given below:





61. What are elastomers?



62. Which site of an enzyme is called allosteric site?



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63. For what purpose Durelumin alloy is used?



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64. For what purpose Hydroleum alloy is used?



65. For what purpose Nichrome alloy is used?



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66. Why does sky appear blue?



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67. For what purpose solder is used?



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



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69. Which is not a polymer



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70. Name the metal used in galvanisation of iron?



71. Which type of mixture air is?



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72. Why choke coil cannot be used in d.c.?



73. Why should the monomers used in addition polymerisation through free radical pathway be very pure?



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74. Calculate the formula mass of (NH4)2Cr2O7



75. Give empirical formula of C6H12



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76. Give the empirical formula of N2H4

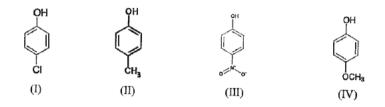


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77. Give the empirical formula of C2H4



78. Arrange the following compound in order of decreasing acidity.





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79. Poly (butylene terephthalate) is a plastic material used in automotive ignition systems and has the formula:

Suggest the monomers which might be used to synthesise this polymer.



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80. Poly (butylene terephthalate) is a plastic material used in automotive ignition systems and has the formula:

What type of polymer is it?



81. Poly (butylene terephthalate) is a plastic material used in automotive ignition systems and has the formula:

Is this an addition polymer or condensation polymer?



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82. Poly (butylene terephthalate) is a plastic material used in automotive ignition systems

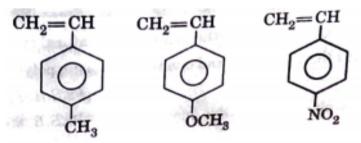
and has the formula:

Write the reaction.



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83. Arrange the following groups of monomers in order of decreasing ability to undergo cationic polymerization:





84. Explain mechanism of enzyme action.



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85. Express 857 in roman numbers.



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Exercise

1. Write down the formula of following: aluminium nitride



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2. Express 839 in roman numbers.



3. Fill in the blanks:

(i)	Monomers	Polymers Glyptal	One important use
(ii)			for making crockery
(iii)	Adipic acid,		
	hexamethylene		
ile.	diamine		
(iv)			for making switches
-			and plugs
(v)		PMAA	



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4. Write formula of sodium phosphate



5. For what purpose alanko is used?



6. True of False : Bakelite is an example of thermoplastic.



7. Write the formula of calcium hydrogencarbonate



8. For what purpose manganese steel is used?



9. True or False : Polythene is a copolymer.



10. Give few examples of synthetic fibres.

11. Among cellulose, poly (vinyl chloride) nylon and natural rubber, the polymer in which intermolecular forces of attraction are weakest is



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12. True of False: Teflon is used for making nonstick utensils.



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13. True or False : Bakelite, melamine formaldehyde and buna-S are examples of thermosetting polymers.





15. Buna-S is copolymer of and



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16. The process of vulcanization was introduced by



17. Nylon 6 is obtained by polymerisation

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18. Name a polymer which is used for making non-stick utensils.



19. Natural rubber is a polymer Of



20. The trade name of polyacrylonitrile is



21. The thermosetting polymer whose one monomer is phenol is



22. Write formula of magnesium phosphate



23. Express 856 in roman numbers.



24. The monomers of nylon-2-nylon-6 are



25. PHBV is biodegradable polymer and its monomers are and



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26. Calculate the formula mass of ammonium chloroplatinate (NH4)2PtCl6



27. Calculate the formula mass of potassium chlorate



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28. Neoprene is a polymer of



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29. Write the formula of sodium nitride



30. In nylon intermolecular forces of attraction are hydrogen bonding/dipole-dipole interactions.



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31. PHBV is a biodegradable/non biodegradable polymer.



32. Buna-S is a homopolymer/copolymer.



33. The monomers of bakelite are formaldehyde and phenol /ethylene glycol.



34. Is $(-NH-CHR-CO)_n$ a homopolymer or a co-polymer ?



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35. Calculate the formula mass of CuSO4.5H2O



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36. Calculate the formula mass of CH3COONa



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37. Calculate the formula mass of CHCl3





38. Calculate the formula mass of (NH4)2SO4



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39. Write the IUPAC name of the monomer of natural rubber.



40. What are thermosetting and thermoplastic polymers? Give one example of each.



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41. What are plasticizers? Give one example.



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42. Write the name of one co-polymer.



43. What is the name of polymer which is also known as orlon?



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44. What are biodegradable polymers? Give example.



45. In nylon 6,6, what does the designation '6, 6' mean ?



46. The repeating unit present in Nylon 6 is



47. Write the monomers of Bakellite.



48. Define the term homopolymerisation giving an example.



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49. Write the monomers of dacron.



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50. Express 858 in roman numbers.



51. Express 859 in roman numbers.



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52. Express 860 in roman numbers.



53. Write the name and structure of the monomers of Buna-S.



54. Write the name and structure of the monomers of Buna-N.



55. Express 861 in roman numbers.



56. Write name and the structure of the monomer of polyvinylchloride.



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57. Express 862 in roman numbers.



58. Express 863 in roman numbers.



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59. Express 864 in roman numbers.



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60. Express 865 in roman numbers.



61. Express 866 in roman numbers.



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62. Express 867 in roman numbers.



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63. Polystyrene is a

A. addition polymer

- B. thermoplastic polymer
- C. both (a) and (b)
- D. none of these

Answer:



- **64.** Cellulose is a
 - A. natural polymer
 - B. semi-synthetic polymer

- C. synthetic polymer
- D. none of these

Answer:



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65. Buna - S is a

- A. addition polymer
- B. condensation polymer
- C. both (a) and (b)

D. none of these

Answer:



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66. Bakelite is a

A. addition polymer

B. thermoplastic polymer

C. elastomer polymer

D. thermosetting polymer

Answer:



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67. Which of the following is a volt?

A. Rayon

B. Nylon

C. Terylene

D. Bakelite

Answer:

68. What is condensation?

A. PVC

B. Teflon

C. Bakelite

D. None of these

Answer:



69. Bakelite is a product of the reaction between:

- A. Formaldehyde and NaOH
- B. Aniline and Urea
- C. Phenol and Methanol
- D. Phenol and Formaldehyde

Answer:



70. Express 868 in roman numbers.



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71. Which is not a polymer

- A. Nylon-6
- B. Rubber
- C. Teflon
- D. Chlorophyll

Answer:



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72. Neoprene is a polymer of

A. Chloroprene

B. Isoprene

C. Styrene

D. Ethene

Answer:

73. Which of the following is a volt?

- A. Teflon
- B. Polythene
- C. Nylon-6
- D. Starch

Answer:



74. Express 869 in roman numbers.



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75. Express 870 in roman numbers.



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76. Express 871 in roman numbers.



77. Express 862 in roman numbers.



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78. Express 843 in roman numbers.



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79. Express 874 in roman numbers.



80. Write the structure of monomer of the following polymers : Nylon-6.



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81. What are copolymers? Give chemical equation for preparation of glyptal.



82. What are elastomers? Write chemical equation for represent the preparation of Buna-S.



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83. Write the names and structures of the monomers of the following polymers: Buna-S.



84. Write the name and structure of monomers of the following polymers : Neoprene



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85. Write the names and structures of the monomers of the following polymers : Nylon-6.



86. Write the name and structure of monomers of the following polymers : Teflon



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87. Draw the structures of the monomers of the following polymers : Polythene .



88. Write the monomers and chemical equation for the preparation of Buna-S rubber.



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89. Write the monomers and chemical equation for the preparation of Nylon-66.



90. How will you prepare polymer dacron? Give its chemical reaction.



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91. Express 876 in roman numbers.



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92. Express 202 in roman numbers.



93. Express 203 in roman numbers.



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94. What is the repeating unit in the condensation polymer obtained by combining $HO_2\mathbb{C}H_2CH_2COOH$ (succinic acid) and $H_2NCH_2CH_2NH_2$ (ethylene diamine)?



95. Differentiate between molecular structures and behaviours of thermoplastic and thermosetting polymers. Give one example of each type.



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96. Express 204 in roman numbers.



97. Thermosetting polymers are



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98. Express 206 in roman numbers.



Watch Video Solution

99. Express 207 in roman numbers.



100. Name the subgroups into which polymers are classified on the basis of magnitude of intermolecular forces.



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101. What is vulcanization of rubber? What are the advantages of vulcanized rubber?



102. Distinguish between homopolymers and copolymers with example for each.



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103. Name a polymer which is used as a substitute for wool. What is its monomer unit?



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104. Express 208 in roman numbers.



105. Express 209 in roman numbers.



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106. Express 210 in roman numbers.



107. Write two differences between addition and condensation polymerisation.



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108. Write the monomers of Bakellite.



Watch Video Solution

109. What is the primary structural feature necessary for a molecule to make it useful in a

condensation polymerisation reaction? **Watch Video Solution 110.** What is meant by co-polymerisation? Give

one example.



111. Define the following: Homopolymer.



112. Define the following: Copolymer.



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113. Express 301 in roman numbers.



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114. Write the names and structures of the monomers of the following polymers: Buna-S.



115. Write the name and structure of monomers of the following polymers : Neoprene



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116. Write the names and structures of the monomers of the following polymers: Nylon-6.6.



117. Write the names and structures of the monomers of the following polymers : Polystyrene .



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118. Write the name and structure of monomers of the following polymers : Dacron



119. Write the name and structure of monomers of the following polymers: Teflon



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120. Write the names and structures of the monomers of the following polymers: Bakelite



121. Write the names and structures of the monomers of the following polymers : Nylon-6.



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122. Answer the following question-Name the alloy used in making idols and utensils?



123. Give the preparation and uses of polythene.



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124. Write the preparation and uses of bakelite.



125. What are addition polymers? Write the chemical equation for the preparation of synthetic rubber.



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126. In which classes, the polymers are classified on the basis of intermolecular forces ?



127. Write the name and structure of monomers of the following polymers : Neoprene



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128. Name the alloy used for making artificial ornaments?



129. What are copolymers? Give chemical equation for preparation of glyptal.



Watch Video Solution

130. Write the monomers of Bakellite.



Watch Video Solution

131. Give the preparation

Nylon 6

132. Polymers are macromolecules formed by the union of monomers. Name natural polymers and synthetic polymers.



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133. Write two differences between thermosetting and thermoplastic polymers.



134. Give two differences between natural rubber and synthetic rubber.



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135. What are the monomer units of the polymer nylon-2- nylon-6? Is this polymer biodegradable?



136. What are elastomers?



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137. What is Buna-S? Give two uses of it.



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138. What are biodegradable polymers? Give example.



139. What are polymers? Give an example of natural polymer. Are polymers found in nature?



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140. Name the monomers of polythene, teflon and nylon-6,6.



141. What is vulcanization of rubber? What are the advantages of vulcanized rubber?



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



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143. Thermosetting polymers are

144. Give the chemical name of teflon.



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145. Write the names and structures of the monomers of the following polymers: Nylon-6,6.



146. Write the names and structures of monomers of PHVB



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147. Write the name and structure of monomers of the following polymers : Neoprene



148. What is vulcanization of rubber? What are the advantages of vulcanized rubber?



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149. Write the name and structure of the monomers of Buna-S.



150. Give synthesis of following polymers: Bakelite.



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151. Why is nylon -66 so called ?



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152. How is nylon - 66 synthesised and used?



153. What are biodegradable polymers? Give example.



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154. How is nylon - 66 synthesised and used?



155. Write the name and structure of monomers of bakelite.



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156. Write name and the structure of the monomer of polythene.



157. What are biodegradable polymers? Give example.



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158. Give one example of the following: Addition polymers.



159. Give one example of the following: Condensation polymers.



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160. Answer the following question- Name the alloy used to make coins and costly idols?



161. Classify the following polymers into elastomers and fibres: Rubber, Nylon-6, 6, Buna-S, Terylene



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162. Explain the following statement-An alloy made up of copper and aluminium used for making artificial jewellery and religious idols.



163. Answer the following question- Name that alloy used in the making of wires, parts o the machines and utensils?



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164. Explain the following statement- An alloy used in making bells is made up of copper and tin metal.



165. Write the structures of monomers used in the preparation of : Teflon.



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166. Explain the following statement- An alloy made of copper, tin and zinc used for making arms and parts of the machines.



167. Answer the following statement- An alloy made up of copper and zinc used in making of electrical wires and utensils?



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168. Explain the following statement- An alloy used for making specially electrical wires.



169. What is lithopone?



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170. Draw the structures of the monomers of the following polymers: Polythene.



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171. Draw the structures of the monomers of the following polymer: PVC.

172. Write the name and structure of monomers of the following polymers: Teflon



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173. Write the names and structures of the monomers of the following polymers: Buna-S.



174. Write the name and structure of monomers of the following polymers : Dacron



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175. Write the name and structure of monomers of the following polymers : Neoprene



176. Differentiate between molecular structures and behaviours of thermoplastic and thermosetting polymers. Give one example of each type.



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177. Differentiate between molecular structures and behaviours of thermoplastic and thermosetting polymers. Give one example of each type.

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



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179. Write the name of monomers used for getting the following polymers: Terylene.



180. Write the names and structures of the monomers of the following polymers: Nylon-6,6.



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181. Write the name and structure of monomers of the following polymers: Teflon



182. Write the name of monomers used for getting the following polymers: Buna-N.



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183. Write the names and structures of the monomers of the following polymers: Nylon-6.



184. Write the names and structures of monomers of novalac.



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185. Write the name and structure of the monomers of Buna-N.



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



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187. Explain the following statement- A white coloured pigment is made up of mixture of zinc sulphide and barium sulphate.



188. Give the empirical formula of CH3CH2CH2COOH



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189. Write the mechanism of free radical polymerisation of ethene.



190. After the ban on plastic bags, students of one school decided to make the people aware of the harmful effects of plastic bags on environment and Yamuna River. To make the awareness more impactful, they organized rally by joining hands with other schools and distributed paper bags to vegetable vendors, shop keepers and departmental stores. All students pledged not to use polythene bags in future to save Yamuna River. After reading the above passage, answer the following

question: What values are shown by the students?



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191. After the ban on plastic bags, students of one school decided to make the people aware of the harmful effects of plastic bags on environment and Yamuna River. To make the awareness more impactful, they organized rally by joining hands with other schools and distributed paper bags to vegetable vendors, shop keepers and departmental stores. All students pledged not to use polythene bags in future to save Yamuna River. After reading the above passage, answer the following question: What are biodegradable polymers? Give one example?



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192. After the ban on plastic bags, students of one school decided to make the people aware of the harmful effects of plastic bags on

environment and Yamuna River. To make the awareness more impactful, they organized rally by joining hands with other schools and distributed paper bags to vegetable vendors, shop keepers and departmental stores. All students pledged not to use polythene bags in future to save Yamuna River. After reading the above passage, answer the following question: Is polythene a condensation or an addition polymer?



193. The polymers are finding extensive use in our day today life. Natural polymers are biodegradable but most of the synthetic polymers are non-biodegradable. This is causing a serious environmental problem for the waste disposal. With the increasing use of polymers, the problem of dispersal of waste is also causing alarming curse. Answer the following question : Name two natural polymers and two synthetic polymers which are used as fibres.



194. Fill in the blanks- ____ and ____ were the scientists who first synthesized Nitrolim.



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195. The polymers are finding extensive use in our day today life. Natural polymers are biodegradable but most of the synthetic polymers are non-biodegradable. This is causing a serious environmental problem for

the waste disposal. With the increasing use of polymers, the problem of dispersal of waste is also causing alarming curse. Answer the following question: Name one synthetic biodegradable polymer.



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applications in almost all spheres of life and are making our life comfortable. Their large scale use has been based on their relative

inertness to environment Process giving them durability for long time. However, their long durability is not altogether an advantage. These solid wastes remain undegraded for quite a long time and their disposal has created a serious problem of waste management. If the overuse of plastics continues, it will pose a serious threat to all of us. After reading the above passage, answer the following question: Is it advisable to continue with overuse of plastics due to their immense use in our daily life?



197. Find the percentage of phosphorous in the following: Ca(H2PO4)2



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198. Which of the following is a naturally occurring polymer?

A. Polythene

B. Starch

- C. Nylon
- D. Teflon.

Answer:



- **199.** Neoprene is a polymer of
 - A. chloroprene
 - B. chloroquin
 - C. propylene

D. isoprene.

Answer:



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200. The monomer unit of PVC is:

A. vinyl chloride

B. ethylene

C. chloroprene

D. acrylonitrile.

Answer:



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201. Bakelite is the condensation polymer of

A. C_6H_5OH and caprolactum

B. HCHO and phthalic acid

C. C_6H_5OH and HCHO

D. HCHO and ethylene glycol.

Answer:

202. Nylon-66 is obtained from

- A. hexamethylene diamine and adipic acid
- B. phenol and formaldehyde
- C. propylene and adipic acid
- D. adipic acid and phthalic acid.

Answer:



203. Find the percentage of phosphorous in the following: Ca3(PO4)2



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204. Calculate the percentage of chlorine in the following: KClO3



205. Acetylene have empirical formula CH and its vapour density is 13. find their molecular formula



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206. Benzene have empirical formula CH and its vapour density is 39. find their molecular formula



207. Find the empirical formula of a compound containing 17.7% hydrogen and 82.3% nitrogen.



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208. Find the empirical formula of a compound containing 62.5% lead , 8.5% nitrogen and 29% oxygen



209. Find the empirical formula of a compound containing 9.76% magnesium , 13.01% sulphur and 26.01% oxygen



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210. On analysis a substance was found to contain C = 54.54% H = 9.09% O = 36.36% . calculate the empirical formula.



211. Urea is a very important nitrogenous fertilizer. Its formula is CON2H4 . calculate the percentage of nitrogen in urea.



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212. Terylene is a polymer of ethylene glycol and

A. phthalic acid

B. terephthalic acid

- C. adipic acid
- D. 1,6-hexadiamine.

Answer:



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213. Which of the following is not a biopolymer

- ?
- A. Cellulose
- **B. Proteins**

- C. DNA
- D. Nylon-6,6.



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214. Which of the following is not a step growth polymer?

- A. Polybutadiene
- B. Nylon-6,6

- C. Glyptal
- D. Terylene.



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215. Which of the following is not a biodegradable polymer?

- A. PHBV
- B. PGA

C. PMMA

D. PCL.

Answer:



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216. Which of the following is a copolymers?

A.

$$\begin{array}{c} \operatorname{CH}_3 \\ | \\ | \\ \operatorname{COOCH}_2 \\ | \\ \operatorname{COOCH}_3 \end{array}$$

Β.

C.

(c)
$$\leftarrow$$
 CH₂CH = CH—CH₂CH—CH₂ \rightarrow _n
C_eH₅

D.

$$\begin{array}{ccc} ^{(d)} & \leftarrow & \mathrm{CH}_2 - & \mathrm{CH} \rightarrow_n \\ & & & \mathrm{Cl} \end{array}$$

Answer:



217. Name the monomers of terylene.

A. phenol and formaldehyde

B. ethylene glycol and phthalic acid

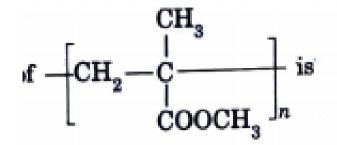
C. adipic acid and hexamethylenediamine

D. ethylene glycol and terephthalic acid.

Answer:



218. Monomer of



is

A. Methyl methacrylate

B. Styrene

C. Propylene

D. Ethene

Answer:



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



220. Polymer formation from monomers starts by

A. condensation reaction between monomers

B. coordination reaction between monomers

C. conversion of monomers to monomer

ion by protons

D. hydrolysis of monomers.

Answer:

221. Acrilan is a hard, horny and a high melting material. Which of the following represents its structure?

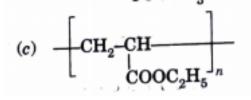
A.

(a)
$$-\left\{\begin{array}{c} CH_2-CH-\\ CN \end{array}\right\}^n$$

Β.

(b)
$$\begin{array}{c} \begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_2 \\ \end{array} \end{array} \begin{array}{c} \\ \\ \text{COOCH}_3 \end{array}$$

C.



D.

$$(d) \quad \begin{array}{c|c} -\text{CH}_2\text{--CH} \\ & \text{Cl} \end{array} \right]_n$$

Answer:



222. Which of the following is not correctly matched?

A.

(a) Neoprene :
$$\begin{bmatrix} CH_2 - C = CH - CH_2 \\ Cl \end{bmatrix}_n$$

В.

(b) Nylon-66:
$$\begin{bmatrix} \mathbf{NH} - (\mathbf{CH}_2)_6 - \mathbf{NH} - \mathbf{CO} - (\mathbf{CH}_2)_4 - \mathbf{C} \end{bmatrix}_n$$

C.

D.

(d) PMMA:
$$\begin{array}{c}
CH_{2} \\
CH_{2} \\
COOCH_{3}
\end{array}$$

Answer:



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223. The monomer of the polymer:

$$\begin{array}{cccc} & CH_3 & CH_3 \\ - & CH_2 - C - CH_2 - C - \\ - & CH_3 & CH_3 \end{array} \quad \text{is} \quad$$

A.

(a)
$$H_2C=C$$
 CH_3
 CH_3

B.
$$CH_3CH = CHCH_3$$

$$\mathsf{C.}\,CH_3-CH=CH_2$$

D.
$$(CH_3)_2C = C(CH_3)_2$$

Answer:



224.
$$-[NH(CH_2)_6CONH(CH_2)_4CO-]_n$$

is a

- A. addition polymer
- B. thermosetting polymer
- C. homopolymer
- D. co-polymer

Answer:



225. Which one of the following polymer is prepared by condensation polymerisation?

- A. Teflon
- B. Rubber
- C. Styrene
- D. Nylon-6,6

Answer:



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

A. Natural rubber has the transconfiguration at every double bond

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

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

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

Answer:



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227. What is Aluminium bronze alloy?



228. Which of the following structure represents neoprene polymer?

A.

$$_{(a)} = \begin{bmatrix} \text{Cl} & \\ \text{CH}_2 - \text{CH} - \end{bmatrix}_n$$

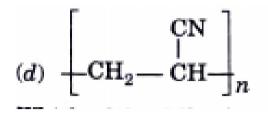
Β.

$$^{(b)} = \begin{bmatrix} \text{CH} - \text{CH}_2 - \\ \text{C}_6 \text{H}_5 \end{bmatrix}_n$$

C.

(c)
$$\begin{bmatrix} CH_2 - C = CH - CH_2 \end{bmatrix}_n$$

D.



Answer:



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229. Which of the following statements is false?

A. Artificial silk is derived from cellulose.

- B. Nylon-66 is an example of elastomer.
- C. The repeat unit in natural rubber is isoprene.
- D. Both starch and cellulose are polymers of glucose.



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230. Nylon is an example of

- A. Polyamide
- B. Polythene
- C. Polyester
- D. Polysaccharide



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231. Which is the monomer of neoprene in the following?

A.
$$CH_2 = C - CH = CH_2$$

$$\mathsf{B.}\,CH_2=CH-CH\equiv CH,$$

$$\mathsf{C.}\,CH_2=CH-CH=CH_2$$

D.
$$CH_2 = C - CH = CH_3$$



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232. State whether the statement is true or false- A mixture of zinc sulphide and barium

sulphate is used in white paints.



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233. 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:



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234. Caprolactam is used for the manufacture of:

A. Terylene

B. Nylon - 6,6

C. Nylon - 6

D. Teflon

Answer:



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

A. buna -N

- B. nylon 6, 6
- C. nylon-2-nylon6
- D. PHBV



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236. Natural rubber has

- A. alternate cis- and trans-configuration
- B. random cis-and trans-configuration

C. all cis-configuration

D. all trans-configuration.

Answer:



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237. Fill in the blanks- _____ is a white coloured pigment used in white paints, inks, paper and face powder.



238. Lithopone is used in-



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239. Plexiglass is a commercial name of

- A. glyptal
- B. polyacrylonitrile
- C. polymethyl methacrylate
- D. polyethylacrylate



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240. The polymer used in orthopaedic devices and in controlled drug release is

- A. Orlon
- B. PTFE
- C. SBR
- D. PHBV



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241. Answer the following statement in one word- A pigment used in white paints.



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242. Uses of lithopone are-



243. The monomers of Buna-S are

- A. vinyl chloride and sulphur
- B. butadiene
- C. styrene and butadiene
- D. isoprene and butadiene

Answer:



244. Match the following correctly:

Catalyst	Industrial product	
$(A) V_2O_5$	(i) High	density polyethylene
(B) Ziegler-Natta	(ii) Polya	acrylonitrile
(C) Peroxide	(iii) NH ₃	
(D) Finely divided I	e (iv) H ₂ SC	04

Answer:



245. Which one of the following is an example of biodegradable polyester?

- A. PHBV
- B. PET
- C. Nylon 6
- D. Bakelite

Answer:



246. The polymer used in the manufacture of squeeze bottles is

- A. polystyrene
- B. teflon
- C. polypropene
- D. low density polythene.

Answer:



247. Which of the following is a polyamide?

- A. Teflon
- B. Nylon 6,6
- C. Terylene
- D. Bakelite



248. Which of the following is a fully fluorinated polymer?

- A. Neoprene
- B. Teflon
- C. Thiokol
- D. PVC

Answer:



249. Bakelite is obtained from phenol by reacting with

A. HCHO

B. $(CH_2OH)_2$

C. CH_3CHO

D. CH_3COCH_3

Answer:



250. The polymer containing strong inter molecular forces e.g. hydrogen bonding is

- A. Polystyrene
- B. Natural rubber
- C. Teflon
- D. Nylon 6,6

Answer:



251. What is nitrolim?



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252. Nitrolim is also called as-



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253. Which one is classified as condensation polymer?

A. Acrylonitrile

- B. Dacron
- C. Neoprene
- D. Teflon.



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254. Which polymer is used in the manufacture of paints and lacquers?

A. Polypropene

B. Polyvinyl chloride C. Bakelite D. Glyptal **Answer: Watch Video Solution** 255. Niotrolim is a mixture of-

cyanamide and graphite which is used as fertilizer.



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257. Match list I with list II and select the correct answer using the codes given below:

List I (Polymers)

1. Buna-N

2. Nylon-66

3. Dacron

4. Glyptal plastic

List II (Monomers)

A. Phthalic acid and ethylene glycol

B. Terephthalic acid and ethylene glycol

C. Hexamethylene diamine and adipic acid

D. Isobutylene and isoprene

E. Acrylonitrile and butadiene

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

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



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258. Fill in the blanks-____ is also called as calcium cyanamide and is used as fertilizer.

259. Lithopone is a mixture of-



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

$$\mathsf{A.}-CH_2-$$

$$B.-O-$$

$$\mathsf{D}.-C-$$



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261. Bakelite is a polymer of

- A. benzaldehyde and phenol
- B. formaldehyde and phenol
- C. formaldehyde and benzyl alcohol
- D. acetaldehyde and phenol

Answer:
Watch Video Solution
262. Describe the following term-Nitrolim is-
Watch Video Solution
263. Nitrolim is made up of and
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264. Lime nitrogen is the other name of .



265. Nitrolim was first synthesized in?



266. The most common use of nitrolim is?



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267. An inorganic substance on analysis gave the following results Na = 29.1% S = 40.5% and O = 30.4%. Calculate its empirical formula.



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268. Bakelite is formed by polymerisation between

A. acrylonitrile molecules

- B. tetrafluoroethene molecules
- C. urea and formaldehyde molecules
- D. phenol and formaldehyde molecules



- **269.** In Buna-S, the symbol 'Bu' stands for
 - A. 1-butene
 - B. n-butene

C. 2-butene

D. butadiene.

Answer:



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270. The repeating unit present in Nylon 6 is

A.
$$-\left\lceil NH(CH_2)_6NHCO(CH_2)_4CO \right\rceil$$
 $-$

$$\mathsf{B.-}igl[CO(CH_2)_5NHigr] -$$

$$\mathsf{C.} - \left[CO(CH_2)_6 NH \right] -$$

D.
$$-\left[CO(CH)_2
ight)_4NH$$
 $-$



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271. Novolac, the linear polymer used in paints is

A. copolymer of buta-1, 3-diene and styrene

B. obtained by the polymerization of methyl methacrylate

C. initial product obtained in the condensation of phenol and formaldehyde in the presence of acid catalyst

D. obtained by the polymerisation of caprolactam.

Answer:



272. Explain the given statement- The most common use of Lithopone is-



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273. The most common use of Bronze is-



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274. The most common use of brass is-



275. Among cellulose, poly (vinyl chloride)

nylon and natural rubber, the polymer in

which intermolecular forces of attraction are

weakest is

- A. Nylon
- B. Poly (vinyl chloride)
- C. Cellulose
- D. Natural rubber

Answer:



276. What is the most common use of artificial gold?



277. What is the most common use of coin metal?



- **278.** Which of the following is not true?
 - A. In vulcanisation the rubber becomes harder and stronger
 - B. Natural rubber has 'trans' configuration at every double bond.
 - C. Buna-S is a co-polymer of butene and styrene.
 - D. Natural rubber is 1, 4-polymer of isoprene.



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279. Which of the following is a polyamide?

- A. Nylon-6,6
- B. Terylene
- C. Polythene
- D. Buna-S

Answer:

280. On complete hydrogenation, natural rubber produces

A. ethylene-propylene copolymer

B. vulcanised rubber

C. polypropylene

D. polybutylene.

Answer:



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281. What is the most common use of gun metal?



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282. Which of the following polymers contain

1, 3-butadiene as one of the monomers?

A. ABS plastic

B. SBR

- C. Saran
- D. Nitrile rubber



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283. The addition homopolymers are:

- A. Styron
- B. PMMA
- C. Terylene

D. Bakelite

Answer:



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284. Which of the following contain ethylene glycol as one of the monomers ?

- A. Melamine
- B. Polystyrene
- C. Glyptal

D. Terylene

Answer:



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285. Which of the following are biodegradable polymers?

A. PHBV

B. ABS plastic

C. PCL

D. PVC

Answer:



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286. Which of the following are condensation polymers?

A. Nylon-6

B. Styron

C. PEA

D. Bakelite

Answer:



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287. Which of the following can be used as plasticizers?

- A. Cresyl phthalate
- B. Diethyl phthalate
- C. Polystyrene

D. Trimethyl phosphate

Answer:



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288. Which of the following Statements are correct?

- A. Alkyl resins are addition polymers
- B. Polystyrene is a thermoplastic
- C. Dacron is a fibre

D. Natural rubber behaves as

thermosetting polymer.

Answer:



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289. Match the chemical substances in column I with type of polymers/type of bonds in column II

(p) natural polymer	Column I	
	Cellulose	(A)
(q) synthetic polymer	Nylon 6,6	(B)
(r) amide linkage	Protein	(C)
(s) glycoside linkage	Sucrose	(D)



290. Express 1043 in roman numbers.



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291. Express 1044 in roman numbers.



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292. Express 1065 in roman numbers.



293. Express 1064 in roman numbers.



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294. Express 1045 in roman numbers.



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295. Express 1046 in roman numbers.



296. Express 1047 in roman numbers.



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297. The most common use of bell metal is-



298. Which of the following is not a semisynthetic polymer?

- A. cis-polyisoprene
- B. Cellulose nitrate
- C. Cellulose acetate
- D. Vulcanised rubber

Answer:



299. The most common use of constantin alloy



is-

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300. Which out of the following is biodegradable?

A.

$$\begin{array}{ccc} \text{(a)} & +\text{CH}_2-\text{C} = \text{CH}-\text{CH}_2 \xrightarrow{}_n \\ & \text{Cl} \end{array}$$

Β.

C

D.

$$(d) \quad \begin{matrix} \mathbf{H} & \mathbf{H} & \mathbf{O} & \mathbf{O} \\ \mid & \mid & \parallel & \parallel \\ -\mathbf{C} & -(\mathbf{C}\mathbf{H}_2)_6 - \mathbf{N} - \mathbf{C} - (\mathbf{C}\mathbf{H}_2)_4 - \mathbf{C} \\ \end{matrix}$$

Answer:



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301. What is the most common use of monel metal?



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302. The most common use of German silver is-

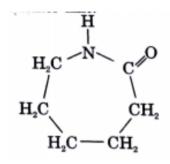


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303. Express 1048 in roman numbers.



304. Which of the following polymer can be formed by using the following monomer unit?



- A. Nylon-6,6
- B. Nylon 2-nylon 6
- C. Melamine polymer
- D. Nylon-6

Answer:

305. In the following questions two or more options may be correct. Which of the following polymers, need atleast one diene monomer for their preparation?

- A. Dacron
- B. Buna-S
- C. Neoprene
- D. Novolac



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306. Which of the following are characteristics of thermosetting polymers?

- A. Heavily branched cross linked polymers.
- B. Linear slightly branched long chain molecules.

- C. Become infusible on moulding so cannot be reused.
- D. Soften on heating and harden on cooling, can be re-used.



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307. Which of the following polymers are thermoplastic?

- A. Teflon
- B. Natural rubber
- C. Neoprene
- D. Polystyrene



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308. What is the most common use of Dutch metal alloy?



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309. What is the most common use of magnelium alloy?



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310. What is the most common use of hydroleum alloy?



311. What is the most common use of Nichrome alloy?



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312. Which of the following are example of synthetic rubber?

- A. Polychloroprene
- B. Polyacrylonitrile
- C. Buna-N

D. cis-polyisoprene

Answer:



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313. The empirical formula of the compound is CH3. Calculate the molecular formula if molecular mass is 30.



314. Which of the following polymers have vinylic monomer units?

- A. Acrilan
- B. Polystyrene
- C. Nylon
- D. Teflon

Answer:



315. Vulcanisation makes rubber

- A. more elastic
- B. soluble in inorganic solvent
- C. crystalline
- D. more stiff

Answer:



316. Match the polymer of column I with correct monomer of column II.

CO	lumm 11.	Column II	
N.	Column I		
(a)	High density polythene	(i) Isoprene (ii) Tetrafluoroethene	
(b) (c)	Neoprene Natural rubber	(iii) Chloroprene (iv) Acrylonitrile	
(d)	Teflon	(v) Ethene	
(e)	Acrilan	a lumn I with their chemic	



317. Match the polymers given in Column I with their chemical names given in Column II.

na	mes given in Columi	Column II
	Column I	Polyvinyl chloride
(a)	Nylon 6	Polyacrylonitrie
(b)	PVC	
(c)	Acrilan	Town density P
(d)	Natural rubber	(v) cis-polyisoprene
(e)	LDP	(0)



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

II.

Column I		Column II	
(a) Polyester of glycol and	(i)	Novolac	
phthalic acid (b) Copolymer of 1, 3-butadiene	(ii)	Glyptal	
and styrene (c) Phenol and formaldehyde resin	(iii)	Buna-S	
(d) Polyester of glycol and terephthalic acid	(iv)	Buna-N	
(e) Copolymer of 1, 3-butadiene and acrylonitrile	(v)	Dacron	



319. Express 1049 in roman numbers.



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320. Express 1050 in roman numbers.



321. Match the polymers given in Column I with the type of linkage present in them given in Column II.

Column I	Column II
(a) Terylene (b) Nylon (c) Cellulose (d) Protein (e) RNA	 (i) Glycosidic linkage (ii) Ester linkage (iii) Phosphodiester linkage (iv) Amide linkage



322. Match materials given in Column I with the polymers given in Column II.

in Column 11.	G. Lower II
Column I	Column II
 (a) Natural rubber latex (b) Wood laminates (c) Ropes and fibres (d) Polyester fabric (e) Synthetic rubber (f) Unbreakable crockery 	 (i) Nylon (ii) Neoprene (iii) Dacron (iv) Melamine formaldehyde resins (v) Urea-formaldehyde resins (vi) cis-polyisoprene



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323. Express 1053 in roman numbers.



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324. Complete the following statement- Brass

is-

325. Assertion: Most of the Synthetic polymers are not biodegradable. Reason: Polymerisation process induces toxic character in organic molecules.

A. Assertion and reason both are correct statement but reason does not explain assertion.

- B. Assertion and reason both are correct statements and raeson explains the assertion.
- C. Assertion is correct statement and reason is wrong statement.
- D. Assertion is wrong statement and reason is correct statement.



- **326.** Assertion: Olefinic monomers undergo addition polymerisation. Reason: Polymerisation of vinyl chloride is initiated by peroxides/persulphates.
 - A. Assertion and Reason both are correct statement but reason does not explain assertion.
 - B. Assertion and reason both are correct statement and reason explain the assertion.

- C. Both assertion and reason are wrong
- D. Assertion is correct statement and reason is wrong statement.



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327. Assertion: Polyamides are best used as fibres because of high tensile strength.

Reason: Strong intermolecular forces (like hydrogen bonding within polyamides) lead to

close packing of chains and increase the crystalline character, hence, provide high tensile strength to polymers.

A. (a) If both Assertion and Reason are true and Reason is a correct explanation of the Assertion.

B. (b) If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. (c) If Assertion is true but Reason is false.

D. (d) If both Assertion and Reason are false.

Answer:

