



CHEMISTRY

BOOKS - MODERN PUBLICATION

POLYMERS

Exercise

1. Which of the following fibers are made of polyamides?

A. (a) Dacron

B. (b) Orlon

C. (c) Nylon

D. (d) Rayon

Answer: C



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2. Which of the following is not a condensation polymer?

A. (a) Bakelite

B. (b) Nylon

C. (c) Dacron

D. (d) Teflon

Answer: D



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3. Which of the following is not a synthetic rubber?

A. (a) Neoprene

B. (b) SBR

C. (c) Thiokol

D. (d) orlon

Answer: D



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4. Neoprene is a polymer of

A. (a) Chloroprene

B. (b) Chloroquine

C. (c) Propylene

D. (d) Isoprene

Answer: A



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5. Natural rubber is a polymer of:

A. (a) isoprene

B. (b) neoprene

C. (c) chloroprene

D. (d) butadine

Answer: A



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6. Which of the following is not an example of addition polymer:

A. (a) polystyrene

B. (b) polyethylene

C. (c) polypropylene

D. (d) Terylene

Answer: D



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7. Teflon is a type of

A. (a)Addition polymer

B. (b) synthetic rubber

C. (c)polystyrene

D. (d) Nylon

Answer: A



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8. Which one is protein fibre:

A. (a)Rayon

B. (b)Polyester

C. (c)silk

D. (d) Cotton

Answer: C



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9. Orlon is a polymer of

A. (a) Styrene

B. (b) Vinyl chloride

C. (c) Acrylonitrile

D. (d) Butadine and adipic acid

Answer: A



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10. Nylon-6,6 is obtained from

- A. (a) Hexamethylenediamine and adipic acid
- B. (b) Phenol and formaldehyde
- C. (c) propylene and adipic
- D. (d) adipic acid and phthalic acid

Answer: A



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11. Chloroprene is used as

A. (a)detergent

B. (b)monomer

C. (c)medicene

D. (d)pesticide

Answer: D



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12. Bakelite is obtained by

- A. (a)substitution reaction
- B. (b) Polymerisation reaction
- C. (c)Addition reaction
- D. (d)climination reaction

Answer: D



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13. Which of the following is not a condensation polymer?

A. (a) Bakelite

B. (b) Nylon

C. (c) Dacron

D. (d) Teflon

Answer: D



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14. Which of the following is not a synthetic polymer:

- A. (a) Buna-S
- B. (b) Isoprene
- C. (c) Both
- D. (d) None

Answer: A



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15. A raw material used in making nylon is

- A. (a) adipic acid
- B. (b)butadine
- C. (c) ethylene
- D. (d) methyl methacrylate

Answer: D



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16. Which is naturally occurring polymer?

- A. (a) Polythene
- B. (b) PVC
- C. (c) Acetic Acid
- D. (d) Protein

Answer: B



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17. Which of the following is called a polyamide?

- A. (a) Rayon
- B. (b) Nylon
- C. (c) Terylene
- D. (d) Orlon

Answer: D



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18. Teflon is a polymer of

- A. (a) monofluoroethene
- B. (b) difluoroethene
- C. (c) trifluoroethene
- D. (d) tetrefluroethene

Answer: B



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19. Which of the following is a polyamide ?

A. (a) Teflon

B. (b) Nylon -66

C. (c) Terylene

D. (d) Bakelite

Answer: C



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20. Which polymer is generally used in carrybags:

- A. (a) polyester
- B. (b) Bakelite
- C. (c) polypropylene
- D. (d) Alkyl resin

Answer: B



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21. Caprolactum can be obtained from:

- A. (a) Benzaldehyde

B. (b) Cyclohexane

C. (c) Benzophenone

D. (d) Adipic acid

Answer: A



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22. Vulcanized rubber resists:

A. (a) Wear and tear due to friction

B. (b) Cryogenic temperature

C. (c) High temperature

D. (d) Action of acids

Answer: C



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23. The monomer units of silicone, a water repellant, acid resistant and heat resistant polymer is:

A. (a) *Si*

B. (b) SiO_2

C. (c) R_2SiO

D. (d) None of the these

Answer: C



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24. Which of the following does not cause pollution:

A. (a) Burning of rubber

B. (b) Burning of petrol

C. (c) Use of solar energy

D. (d) Coal

Answer: B



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25. A polymer of prop-2-ene nitrile is called:

A. (a) Saran

B. (b) Orlon

C. (c) Dacron

D. (d) Tetrox

Answer: D



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26. Synthetic rubber is:

A. (a) Polyester

B. (b) polyamide

C. (c) Polysaccharide

D. (d)poly(halodie

Answer: C



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27. The turbidity of a polymer solution measures:

A. (a) A light absorbed by solution

B. (b) light transmitted by the solution

C. (c) Light scattered by sloution

D. (d) None of the above

Answer: B



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28. Peptide bond is a key feature in:

A. (a) Polysaccharide

B. (b) proteins

C. (c) Nucleotides

D. (d) Vitamins

Answer: D



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29. Synthetic human hair wigs are made from a Co-polymer of vinyl chloride and acrylonitrile and is called:

A. (a) PVC

B. (b) Polyacrylonitrile

C. (c) cellulose

D. (d) Dynel

Answer: B



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30. Natural rubber is a polymer of:

- A. (a) Trans ionprene
- B. (b) Cis-isoprene
- C. (c) cis and trans isoprene
- D. (d) Non of these

Answer: A



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31. Synthetic rubber is a polymer which resemble natural rubber is:

- A. (a) Neoprene
- B. (b) chloroprene
- C. (c) Glyptal
- D. (d) Nylon

Answer: D



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32. The widely used PVC is a polymerised product of:

- A. (a) $CH_2 = CH_2$
- B. (b) $|CH_2=CCl_2|$
- C. (c) CH_2CLCH_2CL
- D. (d) $|CH_2=CHCl|$

Answer: B



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

A. (a) Terylene-condensation polymer of

terephthalic acid and ethylene glycol

B. (b) teflon-thermally stable cross linked

poymer of phenol and formaldehyde

C. (c) perspex-A homopolymer of methyl

methacrylate

D. (d) Synthetic rubber - A co-polymer of butadiene and styrene

Answer: D



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34. An example of natural biopolymer is :

A. (a) Teflon

B. (b) Nylon 6-6

C. (c) Rubber

D. (d) DNA

Answer: A



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35. Which of the following is a step growth polymer:

A. (a) Bakelite

B. (b) Polyethylene

C. (c) Teflon

D. (d) PVC

Answer: A



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36. Symbolic name for teflon is:

A. (a) PTFE

B. (b) PCTFE

C. (c)PVC

D. (d) Non of these

Answer: A



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37. The bakelite is made from phenol and formaldehyde. The intial reaction between the two compounds is an example of:

A. (a) Aromatic electrophilic substitution

B. (b) Aromatic nucleophilic substitution

C. (c) Free radical reaction

D. (d) Aldol reaction

Answer: A



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38. PMMA is the polymer of:

A. (a) Methyl methacrylate

B. (b) Methylacrylate

C. (c) Methacrylate

D. (d) Ethylacrylate

Answer: B



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39. Co-polymer is:

- A. (a) Nylon-6
- B. (b) Nylon 6-6
- C. (c) Bakeite
- D. (d) polyethene

Answer: A



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40. A raw material used in making nylon-6,6 is:

- A. (a) adipic acid
- B. (b) Butadiene
- C. (c) ethylene
- D. (d) methyl methacrylate

Answer: B



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41. Orlon is a polymer of

- A. (a) Styrene
- B. (b) Acrylonitrile
- C. (c) Vinyl chloride
- D. (d) Tetrafluoro ethylene

Answer: C



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42. The compound used in the manufacture of terylene is:

- A. (a) Phthalic acid
- B. (b) caprolactam
- C. (c) p-benzene dicarboxylic acid
- D. (d)m-phthalic acid

Answer: D



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43. Which of the following belong to the class of natural polymers:

- A. (a) Proteins
- B. (b) cellulose
- C. (c) Rubber
- D. (d) All of the above

Answer: D



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44. Toluene di-isocyanate is used to prepare:

- A. (a) Polyesters
- B. (b) polyamides
- C. (c) Polycarbonates
- D. (d) polyurethanes

Answer: B



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45. Polymerisation in which two or more chemically different monomers take part is called:

- A. (a) Addition Polymerisation
- B. (b) Copolymerisation
- C. (c) chain polymerisation
- D. (d) Homo Polymerisation

Answer: D



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46. Acetate rayon is prepared from:

- A. (a) Acetic acid
- B. (b) Glycerol
- C. (c) Starch
- D. (d) Cellulose

Answer: C



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47. Which one of the followings is employed in making explosives:

- A. (a) Methanol
- B. (b) Oxalic acid
- C. (c) Glycerol
- D. (d) Urea

Answer: B



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48. Polymers have:

- A. (a) absolute mol. wt.
- B. (b) Average mol.wt.
- C. (c) Low mol.wt.
- D. (d) Absolute m.pt

Answer: A



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49. Teflon is:

- A. (a) $-(CF_2 - CF_2)_n -$
- B. (b) $-(Ccl_2 - Ccl_2)_n -$
- C. (c) $-(CBr_2 - CBr_2)_n -$
- D. (d) CF_2Cl_2

Answer: A



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50. The product of addition polymerisation reaction is:

- A. (a) PVC
- B. (b) Nylon
- C. (c) Terylene
- D. (d) Polyamide

Answer:



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- 51.** Natural rubber is a polymer derived from:
- A. (a) Propylene

B. (b) Ethylene

C. (c) Butadiene

D. (d) Isoprene

Answer:



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52. Which process involves the formation of polystyrene from styrene:

A. (a) Polymerisation

B. (b) Racemization

C. (c) Condensation

D. (d) Reversible reaction

Answer:



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53. Rubber is heated with sulphur and the process is known:

A. (a) Galvanization

B. (b) Vulcanization

C. (c) Bessemreization

D. (d) Sulphonation

Answer:



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54. Nylon-6,6 is an example of:

A. (a) polystyrene

B. (b) polyisopropene

C. (c) polypropylene

D. (d) polymaide

Answer:



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55. Teflon, styrene and neoprene are all

A. (a) Copolymers

B. (b) condensation polymer

C. (c) Homopolymers

D. (d) Monomers

Answer:



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56. The catalyst used in the manufacture of polythene by Zeigler method is:

- A. (a) Titanium tetrachloride and triphenyl aliminium

B. (b) Titanium tetrachloride and triethyl aluminium

C. (c) Titanium dioxide

D. (d) Titanium isoperoxide

Answer:



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57. A homopolymer is obtained by polymerisation of:

- A. (a) One type of monomer units
- B. (b) Two types of monomer units
- C. (c) Either of these
- D. (d) None of these

Answer:



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58. Which can be used as monomer in a polymerisation reaction:

A. (a) C_2H_6

B. (b) C_2H_5Cl

C. (c) C_2H_4

D. (d) CH_3Cl

Answer:



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59. A copolymer is obtained by polymerisation
of:

- A. (a) One type of monomer units
- B. (b) More than one type of momomers
units
- C. (c) Either of these
- D. (d) None of these

Answer:



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60. Thermoplastics are:

- A. (a) Linear polymers
- B. (b) Soften or melt on heating
- C. (c) Molten polymer can be moulded in desired shape
- D. (d) All

Answer:



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61. Thermosets are:

A. (a) Cross-linked polymers

B. (b) Do not melt or soften on heating

C. (c) Cross-linking is usually developed at

the time of moulding where they harden

reversibly

D. (d) All

Answer:



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62. Buna-N is a polymer of:

- A. (a) 1,3-butadiene and acylonitrile
- B. (b) Acrylonitrile
- C. (c) Styrene
- D. (d) None

Answer:



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63. Which are true for terpolymer:

- A. (a) Contains three monomers
- B. (b) ABS plastic
- C. (c) A polymer of acrylonitrile, butadiene and styrene
- D. (d) All

Answer:



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64. Which are true for elastomers:

- A. (a) These are synthetic polymers possessing elasticity
- B. (b) These are very weak intermolecular forces of attraction between polymer chains
- C. (c) Vulcanised rubber is an example of elastomer
- D. (d) All

Answer:



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65. Prespex or plexiglass is a polymer of:

- A. (a) Methyl methyl arcylate
- B. (b) Methylacrylate
- C. (c) Acrylonitriel
- D. (d) None

Answer:



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66. Glyptal or alkyds is polymer of:

- A. (a) Ethylene glycol and phthalic
- B. (b) Ethylene and phthalic acid
- C. (c) Phthalic acid and acetylene
- D. (d) None

Answer:



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67. Nylon-6,6 is a polymer of :

- A. (a) Hexamethylene and adipic acid
- B. (b) Hexxamethylene and sebacic acid
- C. (c) Caprolactum
- D. (d) None

Answer:



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68. Which one is protein fibre:

- A. (a) Cotton
- B. (b) Rayon
- C. (c) Silk
- D. (d) Polyester

Answer:



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69. Which one is chain growth polymer:

A. (a) Polypropylene

B. (b) Glyptal

C. (c) Nylon -6,6

D. (d) Nylon -6

Answer:



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70. Polymer obtained by condensation polymerisation is :

A. (a) Polythene

B. (b) Teflan

C. (c) PVC

D. (d) Phenol formaldehyde resin

Answer:



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71. Monomers of terylene is ___ and ___



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72. Orlon is a polymer of ___



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73. The polymer used for making non-stick utensils is ____.



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74. Teflon is a type of ____.



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75. ____ is natural elastomer.



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76. Polymerisation of ethene is ____



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77. Natural rubber is a polymer of ____.



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78. Radio ad TV bodies are made up of ____



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79. Super glue is a polymer of ____



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80. The name saran is given to copolymerisation of ___ with ___



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81. Nylon-6, 6 is ___ polymer.



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82. polymerisation of two or more different monomers gives ___.



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83. Nylon-6, 6 is a copolymer of ____ and ____



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84. Glyptal, an alkyd resin is a copolymer of __
and ____.



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85. Terelyne or decron is copolymer of ____ and ____.



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86. Nylon-6, 6 is a copolymer of ____ and ____



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87. PCTFE is obtained from ____.



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88. Nylon 6-6 belongs to _____ class of polymer.



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89. Condensation of phenol with formaldehyde gives a polymer called _____.



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90. Monomer of Nylon-6 is _____.



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91. Polythene is an example of ____.



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92. Thermosetting plastic is ____.



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93. Buna-S rubber is known as ____



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94. Nylon, Dacron, Glyptal are ____.



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95. Polythene, PVC are ____.



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96. Polymer made up of identical repeat units
are known as ____



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97. Carbohydrates and proteins are ____.



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98. Isoprene is a monomer of __



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99. Hexamethylenediamine is used in the manufacture of __



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100. Formula of terephthalic acid is __



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101. Electrical insulators are made up of ____.



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102. Bakelite is ____ polymer.



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103. Neoprene is used as __



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104. Bakelite is formed by the chemical combination of phenol and __



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105. Automobile tyres or shoes sole are made up of ____.



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106. Write two uses of bakelite?



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107. What is teflon? Write some of its uses



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108. What is Buna-S ?



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109. Write the structural formula of 1,3-butadiene?



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110. Write the principal of preparation of bakelite.



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111. How Buna-N is synthesized?



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112. Write the structural of monomers of the following polymers (a) Nylon-6,6,(b) Natural rubber



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113. Define elastomers.



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114. Define thermoplastic.



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115. Write one use of neoprene.



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116. What is neoprene?



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117. Write some uses of Buna -S



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118. How teflon is prepared ?



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119. Write monomer of teflon.



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120. Give some examples of natural polymers.



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121. What is the monomer of natural rubber ?



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122. Write name of synthetic polymers.



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123. Write uses of Dacron.



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124. What is orlon?



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125. Define the term 'homopolymerisation' giving an example.



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126. Write the name and structure of one of the common initiators used in free radical addition polymerisation.



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



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128. Is natural rubber a homopolymer or a copolymer ?



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129. What is difference between copolymer and homopolymer?



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130. What are polyhalo olefins? Give one example.



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131. What is the monomer of Teflon ?



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132. Write the names and structure of Buna -S polymer.



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133. Is Polyvinyl chloride a homopolymer or a copolymer ?



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134. Give one example of condensation polymer.



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135. Why does cis-polyisoprene possess elastic property?



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136. Why should the monomer used in addition through free radical pathway, be very pure?



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137. Will you prefer to polymerize acrylonitrile under anionic or cationic conditions? Explain.



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138. Could a co-polymer be formed in both addition and condensation or not? Explain with examples.



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139. Draw the structure of the monomer of following polymers:

- (a) PVC (b) Nylon-6



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140. Write the formula of the monomers of polythene and polyisoprene.



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141. Distinguish between addition polymer and condensation polymer.



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142. Write the monomer of PMMA.



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143. How does vulcanisation change the character of natural rubber?



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144. Why are the number 66 and 6 put in the names of nylons-66 and nylons-6?



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145. Write the monomer of Buna-N.



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146. What are biodegradable polymers ? Give some examples.



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147. Distinguish between thermosetting and thermoplastic polymers with examples.



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148. Could a co-polymer be formed in both addition and condensation or not? Explain with examples.



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149. Distinguish between the terms homopolymer and copolymer. Give one example of each.



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150. How is bakelite made and what is its major use?



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151. How are polymers classified on the basis of force operating between their molecules?



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152. Write the structural formula of natural rubber.



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153. What are different ways to initiating addition polymerisation?



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154. Write the structure of reagent used for initiating a free radical chain reaction. How does it act?



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155. Write equation for the synthesis of glyptal.



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156. What are elastomers? Write chemical equation to prepare Buna-N.



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157. Write equation for the synthesis of i)terylene and ii)neoprene.



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158. Define the term 'homopolymerisation' giving an example.



Watch Video Solution

159. Write the name and structure of one of the common initiators used in free radical addition polymerisation.



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160. How is Buna-N obtained from 1,3-Butadiene and Acrylonitrile ?



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161. Is Neoprene a homopolymer or a copolymer ?



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162. What is difference between copolymer and homopolymer?



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163. What is the repeating unit in the condensation polymer obtained by combining $HO_2CCH_2CH_2CO_2H$ (succinic acid) and $H_2NCH_2CH_2NH_2$ (Ethylenediamine)?



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164. What does the designation '6,6' mean in the name of nylon-6,6



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165. What are polyhalo olefins? Give one example.



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166. What is the monomer of Teflon ?



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167. Write the names and structure of Buna -S polymer.



Watch Video Solution

168. Is teflon a homopolymer or a copolymer ?



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169. Give one example of condensation polymer.



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171. .(b) Write the names and structure of the monomers of the following polymers:

- i) Polystyrene ii) Dacron ,iii) Teflon



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172. Why should the monomer used in addition through free radical pathway, be very pure?



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173. Write the name and structure of the monomers of the following polymers:

- i) Bakelite ii) Nylon-6 ,iii) polythene



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174. Could a co-polymer be formed in both addition and condensation or not? Explain with examples.



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175. Write the names and structure of the monomers of the following polymers:
i)Buna-S
ii)Neoprene,iii)Nylon-6,6



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176. Write the monomers used for getting the following polymers:
i)Polyvinyl chloride
ii)Teflon,iii)Bakelite



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177. Define thermosetting and thermoplastic polymers with example.



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178. Will you prefer to polymerize acrylonitrile under anionic or cationic conditions? Explain.



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179. Write the names and structures of the monomers of the following:
i)Buna-S
ii)Neoprene iii)Nylon-6



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



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181. What is difference between two notations:nylon-6 and nylon-6,6?



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182. How Buna-S is synthesized ?



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183. Write the name and structure of the monomers of the following polymers:

i)Bakelite ii)Nylon-6 ,iii) polythene



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184. a) list some important difference between natural rubber and vulcanized rubber.



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185. .(b) Write the names and structure of the monomers of the following polymers:

i)Polystyrene ii)Dacron ,iii) Teflon



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186. How can you differentiate between addition and condensation polymerisation?



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187. Distinguish between the terms homopolymer and copolymer. Give one example of each.



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188. Define thermosetting and thermoplastic polymers with example.



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189. What is a biodegradable polymer? Give an example of a biodegradable aliphatic polymers.



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190. Write the names and structure of the monomers of the following polymers:
i)Buna-S
ii)Neoprene,iii)Nylon-6,6



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191. (a)What is high density and low density polythene



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192. Write the names and structures of the monomers of the following:
i)Buna-S
ii)Neoprene iii)Nylon-6



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193. What is a biodegradable polymer? Give an example of a biodegradable aliphatic polymers.



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