



CHEMISTRY

BOOKS - OMEGA PUBLICATION

POLYMERS

Questions

1. Explain addition and condensation polymers giving one example in each case.



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



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



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4. What are plasticizers ? Give one example.



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5. Define and explain

Elastomers



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6. Define and explain the Fibres.



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7. How is high density polythene synthesised ?

Give one important use.



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8. How is low density polyethylene synthesized

? Give one important use,



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9. Write two differences between natural and synthetic polymers.



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10. How is polyethene prepared ?



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



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12. Give the chemical name of teflon.



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13. Write two differences between addition and condensation polymerisation.



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14. Explain the following terms : Chain growth polymerisation.



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15. Explain the following terms with example :
Natural polymers.



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16. Draw structure of 3-isopropyl-2-methyl hexane

A. 1

B. 1.0

C. 1.00

D. 1.000

Answer:



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17. How is PVC manufactured ? Give its uses.



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18. Give the synthesis of following polymers.

Nylon -66



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19. Give the synthesis of following polymers.

Orlon or PAN



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20. Give the synthesis of following polymers.

Nylon -66



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21. Give method of preparation and uses of

Teflon or PTFE.



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22. Express the following number to two significant figures : 5.602792



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



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



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25. What are copolymers? Give the chemical equation for the preparation Dacron. Is it an addition or condensation polymer?



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26. Express the following number to two significant figures : 3.3402800



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27. Express the following into three significant figures: $6.022 (10^{*23})$



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28. Express the following into three significant figures: 44.216



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



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30. Give the preparation and one use of :
Neoprene.



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31. Give the preparation and one use of : Buna-
S.



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32. How many significant figures are in 0.0005?

A. a. 1

B. b. 2

C. c. 3

D. d. 4

Answer:



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33. Name a synthetic polymer which is an amide.



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34. Give monomers name and preparation of Nylon 6,6.



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35. Round off 0.1525 upto 3 significant figures:

A. 0.153

B. 0.152

C. 0.16

D. 0.15

Answer:



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36. Give monomers name and preparation of Nylon 6,6.



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37. Why is nylon -66 so called ?



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38. Give the chemical equation for synthesis and uses of glyptal.



[Watch Video Solution](#)

39. Give the preparation and one use of : Buna-S.



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40. What is the difference between chain growth and step growth polymerisation ?



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41. Give the preparation

Melamine



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42. Give the formation and one use of Novolac.





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43. What is the molecular mass of substance , each molecule of which contains 4 atoms of carbon and 10 atoms of hydrogen .



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44. Why in case of synthetic polymers molecular mass is always expressed as average molecular mass ?



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45. Round off 0.1576 upto one digit after decimal :

A. 0.1

B. $1.6 (10^{-1})$

C. 0.2

D. 1.6

Answer:



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46. What are biodegradable polymers ? Give chemical equation for the preparation of any one biodegradable polymer.



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47. What is PHBV ? What are its uses ?



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48. What is nylon -2-nylon - 6 ?



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49. Write monomers and chemical reaction for the synthesis of Nylon-6,10.



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50. Explain addition and condensation polymers giving one example in each case.



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Nylon -66



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68. Give the synthesis of following polymers.

Orlon or PAN



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69. Give the synthesis of following polymers.

Nylon -66



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70. Give the preparation of Telfon.



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



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

Neoprene



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



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74. What are copolymers? Give the chemical equation for the preparation Dacron. Is it an addition or condensation polymer?



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75. Give synthesis of following polymers :

Natural rubber.



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76. Give synthesis of following polymers :

Bakelite.



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



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



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79. Give the preparation and one use of :
Neoprene.



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80. Give the preparation and one use of :
Buna-S.



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81. What is polyamide ? How is nylon -6 synthesised ? Give one use of nylon-6.



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82. Name a synthetic polymer which is an amide.



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83. Give the preparation and uses of Orlon



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84. How is nylon - 66 synthesised and used?



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85. State the significance of numbers in the polymer named nylon - 6 and nylon - 66. Write the monomers used for making of nylon - 66.



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86. Why is nylon -66 so called ?



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87. Give the chemical equation for synthesis and uses of glyptal.



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88. Give preparation and one use of Bona - N.



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89. What is the difference between chain growth and step growth polymerisation ?



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90. Give the preparation and one use of melamine - formaldehyde polymer.



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91. Give the formation and one use of Novolac.



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92. Express molecular mass of a polymer on the basis of weight average molecular mass.



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93. Explain molecular mass of a polymer on the basis of number average molecular mass.



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94. What is PDI ?



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95. What are biodegradable polymers ? Give example.



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96. What is PHBV ? What are its uses ?



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97. What is nylon -2-nylon - 6 ?



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98. Write monomers and chemical reaction for the synthesis of nylon-6,10.



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Multiple Choice Questions

1. Which is not true about polymers ?

- A. Polymers do not carry any charge
- B. Polymers have high viscosity
- C. Polymers scatter light
- D. Polymers have low molecular weight.

Answer: D



2. Teflon, styrene and neoprene are all

A. copolymers

B. condensation polymers

C. homopolymers

D. monomers

Answer: C



3. The copolymer is

A. Nylon-6

B. Nylon - 66

C. PMMA

D. Polyethene

Answer: B



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4. Teflon is a polymer of

A. tetrafluoroethylene

B. tetraiodoethylene

C. tetrabromoethylene

D. tetrachloroethylene

Answer: A



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5. Which of the following is not an example of additional polymer ?

A. Polystyrene

B. Nylon

C. PVC

D. Polypropylene

Answer: B



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6. P.V.C is formed by polymerisation of

A. 1-Chloroethene

B. Ethene

C. Propene

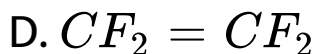
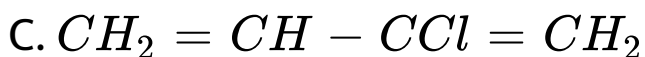
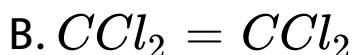
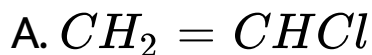
D. 1-chloropropane

Answer: A



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7. Which of the following monomers gives the polymer neoprene on polymerization?



Answer: C



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8. 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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9. Which of the following is a constituent of nylon?

A. Adipic acid

B. Styrene

C. Teflon

D. None of these.

Answer: A



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10. Which of the following is used in paints?

A. Terylene

B. Nylon

C. Glyptal

D. Chloroprene

Answer: C



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11. The simple molecules from which a polymer is made are called

A. Monomers

B. Metamers

C. Rotamers

D. Enantiomers

Answer: A



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12. 10g of CaCO_3 on heating gave 4.4g of CO_2 and X g of CaO . Applying law of conservation of mass , calculate the mass of CaO .



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13. Homopolymers are made from

- A. Only one type of monomers
- B. Two different types of monomers
- C. Three different types of monomers
- D. Several different types of monomers.

Answer: A



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14. The copolymer is

A. PMMA

B. Bakelite

C. Glyptal

D. Dacron

Answer: A



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15. Which of the following is a copolymers ?

A. Buna-S

B. PAN

C. Polythene

D. PTFE

Answer: A



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16. Which of the following is not an addition polymer?

A. Polystyrene

B. PVC

C. Polypropylene

D. Nylon

Answer: D



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17. Calculate the equivalent weight of HCl ?



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18. The process of vulcanization was introduced by

A. Charles' Goodyear

B. Kolbe

C. Wohler

D. Zeigler

Answer: A



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19. When 200g of lime stone is strongly heated, it undergoes thermal decomposition to form 112g of lime and unknown mass of carbon dioxide gas. What will be mass of CO_2 formed ?



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20. Calculate mass of one atom of nitrogen in gram .



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21. Polypropylene is a polymer of monomer

- A. Difluoroethane
- B. Monofluoroethane
- C. Propylene
- D. Trifluoroethane

Answer: C



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22. Calculate the mass of one molecule of CH_4 ?



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23. How many moles of H_2SO_4 are present in 4.9g of H_2SO_4 ?



24. The copolymer is

A. Nylon - 6

B. Nylon- 66

C. PMMA

D. Polyethene

Answer: B

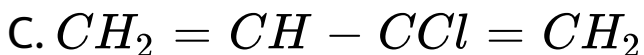
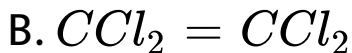
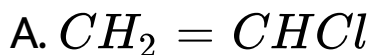


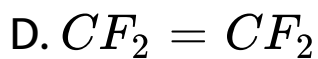
25. Calculate the actual mass of a water molecule in gram?



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26. Which of the following monomers gives the polymer neoprene on polymerization?





Answer: C



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27. Which of the following is a constituent of nylon?

A. Adipic acid

B. Styrene

C. Teflon

D. None of these.

Answer: A



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28. Which of the following is used in paints?

A. Terylene

B. Nylon

C. Glyptal

D. Chloroprene

Answer: C



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29. Which of the following is a synthetic polymer?

A. Starch

B. Silk

C. Protein

D. Polystyrene

Answer: D



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30. Calculate number of atoms in 1 mole of nitrogen (N_2)



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31. Calculate number of atoms in 1 mole of phosphorous (P_4)



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32. Calculate number of atoms in 0.05g of water .



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33. Which is not true about polymers ?

A. Polymers do not carry any charge

B. Polymers have high viscosity

C. Polymers scatter light

D. Polymers have low molecular weight

Answer: D



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34. Calculate the number of molecules in 1ml of O₂ at NTP.



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35. Which is not true about polymers ?

- A. Polymers do not carry any charge
- B. Polymers have high viscosity
- C. Polymers scatter light
- D. Polymers have low molecular weight.

Answer: D



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36. Teflon, styrene and neoprene are all

- A. copolymers

B. condensation polymers

C. homopolymers

D. monomers

Answer: C



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37. The copolymer is

A. Nylon-6

B. Nylon - 66

C. PMMA

D. Polyethene

Answer: B



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38. Teflon is a polymer of

A. tetrafluoroethylene

B. tetraiodoethylene

C. tetrabromoethylene

D. tetrachloroethylene

Answer: A



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39. Which of the following is not an example of additional polymer ?

A. Polystyrene

B. Nylon

C. PVC

D. Polypropylene

Answer: B



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40. P.V.C is formed by polymerisation of

A. 1-Chloroethene

B. Ethene

C. Propene

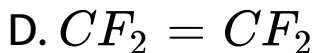
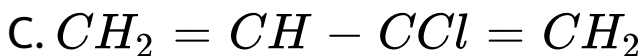
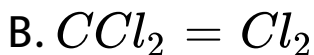
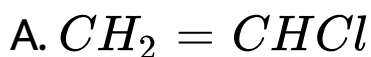
D. 1-chloropropane

Answer: A



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41. Which of the following monomers gives the polymer neoprene on polymerization?



Answer: C



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42. 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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43. Which of the following is a constituent of nylon?

A. Adipic acid

B. Styrene

C. Teflon

D. None of these.

Answer: A



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44. Which of the following is used in paints?

A. Terylene

B. Nylon

C. Glyptal

D. Chloroprene

Answer: C



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45. The simple molecules from which a polymer is made are called

A. Monomers

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C. Rotamers

D. Enantiomers

Answer: A



46. Which of the following is a synthetic polymer?

A. Starch

B. Silk

C. Protein

D. Polystyrene

Answer: D



47. Homopolymers are made from

- A. Only one type of monomers
- B. Two different types of monomers
- C. Three different types of monomers
- D. Several different types of monomers.

Answer: A



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48. Amongst the following, homopolymer is:

A. PMMA

B. Bakelite

C. Glyptal

D. Dacron

Answer: A



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49. Which of the following is a copolymers ?

A. Buna-S

B. PAN

C. Polythene

D. PTFE

Answer: A



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50. Which of the following is not an addition polymer?

A. Polystyrene

B. PVC

C. Polypropylene

D. Nylon

Answer: D



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51. Thermosetting polymers are

A. Cross-linked polymers

B. Do not melt or soften on heating

C. Cross-linked occurs during heating when
it hardens irreversibly

D. All are correct.

Answer: D



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52. The process of vulcanization was
introduced by

A. Charles' Goodyear

B. Kolbe

C. Wohler

D. Zeigler

Answer: A



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53. A polymer which is commonly used as a packaging material is

A. Polythene

B. Polypropylene

C. PVC

D. Bakelite

Answer: A



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54. The abbreviation PDI refers to

A. Name of the polymer

B. Poly dispersity index

C. Planck's disposal index

D. Poly diagonal index.

Answer: B



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55. Polypropylene is a polymer of monomer

A. Difluoroethane

B. Monofluoroethane

C. Propylene

D. Trifluoroethane

Answer: C



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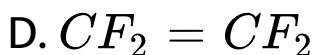
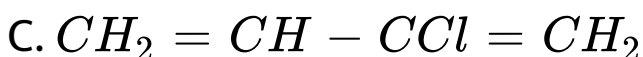
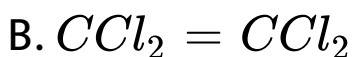
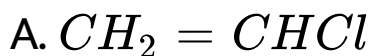
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- A. Name of the polymer
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- C. Planck's disposal index
- D. Poly diagonal index.

Answer: B



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66. Vulcanisation makes rubber

A. more elastic

B. Soluble in inorganic solvent

C. Crystalline

D. More stiff

Answer: A



Watch Video Solution

67. Which is not true about polymers ?

- A. Polymers do not carry any charge
- B. Polymers have high viscosity
- C. Polymers scatter light
- D. Polymers have low molecular weight

Answer: D



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68. Which is not a polymer

A. Nylon -6

B. polyethene

C. Teflon

D. Chlorophyll

Answer: D



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