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

Elatomers

Watch Video Solution

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 polymersation.

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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

Watch Video Solution

20. Give the synthesis of following polymers.

Nylon -66

Watch Video Solution

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.

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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 nass 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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51. How do you explain the functionality of a monomer ?

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

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

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

Watch Video Solution

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67. Give the synthesis of following polymers.

Nylon -66

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68. Give the synthesis of following polymers.

Orlon or PAN

Watch Video Solution

69. Give the synthesis of following polymers.

Nylon -66

Watch Video Solution

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

Watch Video Solution

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

Watch Video Solution

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.

Watch Video Solution

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

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2. Teflon, styrene and neoprene are all

A. copolymers

B. condensation polymers

C. homopolymers

D. monomers

Answer: C

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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?

A. $CH_2 = CHCl$

B. $CCl_2 = CCl_2$

C. $CH_2 = CH - CCl = CH_2$

D. $CF_2 = CF_2$

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

Watch Video Solution

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?

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24. The copolymer is

A. Nylon - 6

B. Nylon- 66

C. PMMA

D. Polyethene

Answer: B

Watch Video Solution

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

Watch Video Solution

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

A. $CH_2 = CHCl$

B. $CCl_2 = CCl_2$

C. $CH_2 = CH - CCl = CH_2$

D. $CF_2 = CF_2$

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

Watch Video Solution

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 (N2)

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31. Calculate number of atoms in 1 mole of phosphorous (P4)

Watch Video Solution

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.

 Watch Video Solution

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

Watch Video Solution

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

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C. PVC

D. Polypropylene

Answer: B

Watch Video Solution

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?

A. $CH_2 = CHCl$

B. $CCl_2 = Cl_2$

C. $CH_2 = CH - CCl = CH_2$

D. $CF_2 = CF_2$

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

 Watch Video Solution

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

B. Metamers

C. Rotamers

D. Enantiomers

Answer: A

Watch Video Solution

46. Which of the following is a synthetic polymer?

A. Starch

B. Silk

C. Protein

D. Polystyrene

Answer: D

Watch Video Solution

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

Watch Video Solution

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

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

Watch Video Solution

56. 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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57. Teflon, styrene and neoprene are all

A. copolymers

B. condensation polymers

C. homopolymers

D. monomers

Answer: C

Watch Video Solution

58. The copolymer is

A. Nylon - 6

B. Nylon- 66

C. PMMA

D. Polyethene

Answer: B

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

A. Polystyrene

B. Nylon

C. PVC

D. Polypropylene

Answer: B

Watch Video Solution

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

A. $CH_2 = CHCl$

B. $CCl_2 = CCl_2$

C. $CH_2 = CH - CCl = CH_2$

D. $CF_2 = CF_2$

Answer: C

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

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B. Styrene

C. Teflon

D. None of these.

Answer: A

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62. Which of the following is used in paints?

A. Terylene

B. Nylon

C. Glyptal

D. Chloroprene

Answer: C

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63. Which of the following is a synthetic polymer?

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C. Protein

D. Polystyrene

Answer: D

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

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C. PVC

D. Bakelite

Answer: A

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65. 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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66. Vulcanisation makes rubber

A. more elastic

B. Soluble in inorganic solvent

C. Crystalline

D. More stiff

Answer: A

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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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