CHEMISTRY

AAKASH INSTITUTE ENGLISH

POLYMERS

Illustration

1. How many grams of glucose be dissolved to make one litre solution of 10% glucose:

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Examples

1.  is a homopolymer or a copolymer?

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2. Give any one example of a cross-linked synthetic polymer.

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3. Which is used for making rayon (artifical silk)?

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4. How does the presence of benzoquionone inhibit the free radical polymerization of a vinyl derivative.

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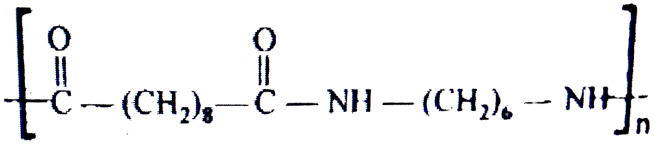
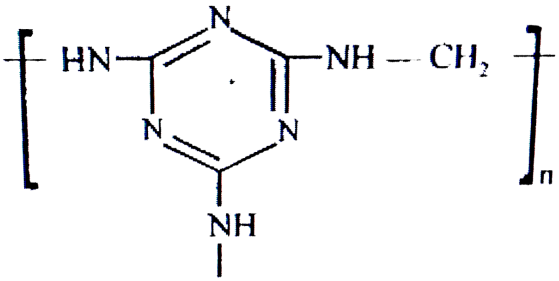
5. Identify the monomer in the following polymeric structures.

(i) 

(ii) 

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6. Arrange the following polymers in increasing order of their intermolecular forces.

(i) (Nylon-6, 6, Buna-S, Polythene.

(ii) Nylon-6, Neoprene, Polyvinyl chloride.

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Try Yourself

1. Classify the following as addition and condensation polymers

Nylon 6,6, Buna-N,Buna-S,Polythene,Polystyrene,Polyvinyl chloride

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2. THERMOPLASTIC & THERMOSETTING POLYMER

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3. What is the difference between elastomers and fibres ?

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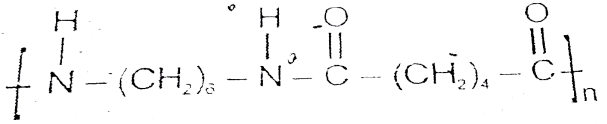
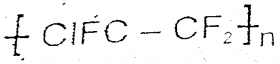
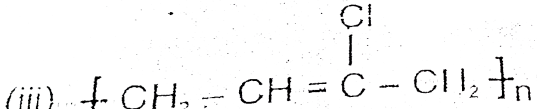
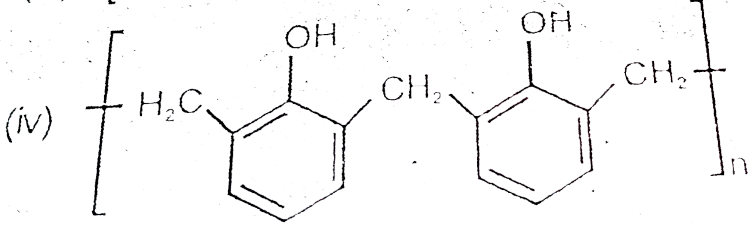
4. Write the names of monomers of the following polymers :

(i) 

(ii) 

(iii) 

(iv) 

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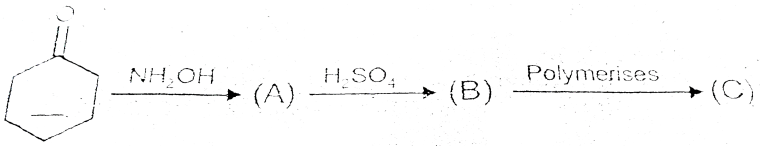
5. 

What is (A),(B) and (C) respectively?

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6. Name some biopolymers which are biodegradable.

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7. Write the name and structures of the monomers of the following biodegradable polymers :

(i) Nylon 2-nylon 6

(ii) PHBV

(iii) PHB

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Assignment Section A Competition Level Questions

1. Which of the following is a natural polymer?

A. Cellulose

B. Buna-S

C. Rayon

D. Nylon 6, 6

Answer: A

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2. Which of the following is a synthetic polymer?

A. Starch

B. Natural rubber

C. Cellulose acetate

D. Polyethylene

Answer: D

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3. Which of the following is a linear polymer?

A. Low density polythene

B. High density polythene

C. Malamine

D. Amylopectin

Answer: B

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4. Which of the following is a cross-linked polymer?

A. Starch

B. Bakelite

C. PVC

D. Polythene

Answer: B

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5. Which of the following is an addition polymer?

A. Nylon 6

B. Nylon 6, 6

C. Buna-S

D. Dacron

Answer: C

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6. Which of the following is a condensation polymer ?

A. Buna-N

B. Polystyrene

C. Nylon-6

D. Natural rubber

Answer: C

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7. Which of the following is a thermosetting polymer?

A. Urea-formaldehyde resin

B. Polyvinylchloride

C. Polyester

D. Neoprene

Answer: A

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8. Which of the following is an elastomer?

A. Bakelite

B. Polythene

C. Buna-S

D. Polystyren

Answer: C

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9. PVC polymer can be prepared by which of the monomers'?

A. $CH_2 = CH_2$

B. $CH_2 = CH - Cl$

C. $C_6H_5 - CH = CH_2$

D. $CH_3 - CH = CH_2$

Answer: B

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10. Which one of the following statements is wrong?

A. Buna-N stands for natural rubber

B. PVC stands for polyvinyl chloride

C. PAN stands for polyacrylonitrile

D. PMMA stands for polymethylmethacrylate

Answer: A

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11. The process involving heating of rubber with sulphur is called:

A. Sulphonation

B. Vulcanisation

C. Bessemerisation

D. Galvanisation

Answer: B

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12. Which one of the following is a chain growth polymer ?

A. Polypropylene

B. Nylon-6, 6

C. Terylene

D. Glyptal

Answer: A

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13. Terylene is an example of

A. Polyamide

B. Polyacrylate

C. Polyester

D. Polypropylene

Answer: C

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14. An example of natural biopolymer is :

A. Teflon

B. Rubber

C. DNA

D. Nylon

Answer: C

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

A. Polyamide

B. Polystyrene

C. Polyester

D. Dacron

Answer: B

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16. Nylon threads are made up of

A. Polyethylene polymers

B. Polyester polymers

C. Polyvinyl polymers

D. Polyamide polymers

Answer: D

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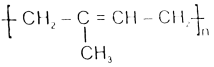
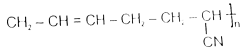
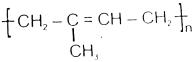
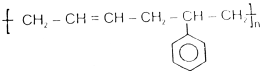
17. Which of the following is not correctly matched?

A. (1) Neoprene : 

B. (2) Buna-N : 

C. (3) Polyisoprene : 

D. (4) Buna-S : 

Answer: A

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18. What is not true about polymers?

A. Polymers have high viscosity

B. Polymers do not carry any charge

C. Polymers scatter light

D. Polymers have low molecular weight

Answer: D

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19. Which percentage of sulphur is used in the vulcanization of rubber?

A. 0.55

B. 0.03

C. 0.05

D. 0.4

Answer: C

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20. Buna -S rubber (SBR) is a copolymer of

A. Styrene and butadiene

B. Isoprene and butadiene

C. Isoprene and sulphur

D. Butadiene and acrylonitrile

Answer: A

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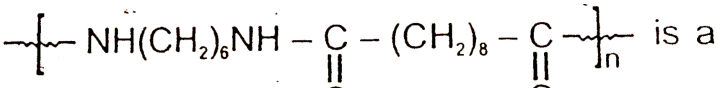
21.  is a

A. Homopolymer

B. Copolymer

C. Addition polymer

D. Thermosetting polymer

Answer: B

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22. Which of the following sets contain only copolymers?

A. Melamine, Bakelite, PVC

B. Buna-N, Nylon-6, Polythene

C. Buna-S, Nylon-6, 6, Glyptal

D. Neoprene, Styron, Polyisoprene

Answer: C

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23. Ziegler-Natta catalyst is:

A. $TiCl_4$

B. $R_3Al/TiCl_4^-$

C. R_3Al

D. $R_3B/TiCl_2$

Answer: B

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24. Which of the following contains isoprene units?

A. Natural rubber

B. Nylon-6,10

C. Dacron

D. Polyethylene

Answer: A

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25. Orlon is a polymer of

A. Styrene

B. Teflon

C. Vinylchloride

D. Acrylonitrile

Answer: D

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26. Intermolecular force present in nylon-6, 6 is

A. van der Waal

B. Hydrogen bond

C. Sulphide linkage

D. Dipole-dipole interactions

Answer: B

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27. Which of the following polymers is are chlorinated?

A. Neoprene

B. PVC

C. Both (1) & (2)

D. Polythene

Answer: C

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28. Glyptal polymer is obtained by the following monomers ,

A. Phthalic acid and glycerol

B. Phthalic acid and glycol

C. Terephthalic acid and glycerol

D. Terephthalic acid and glycol

Answer: B

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29. In order to give strength and elasticity, natural rubber is heated with

A. Sulphur

B. Oxygen

C. Chlorine

D. Nitrogen

Answer: A

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30. Which of the following is used in paints?

A. Terylene

B. Nylon

C. Chloroprene

D. Glyptal

Answer: D

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

A. $CH_2 = CH - Cl$

B. $Cl_2C = \mathrm{CCl}_2$

C. $F_2C = CF_2$

D. $CH_2 = \underset{\underset{Cl}{|}}{C} - CH = CH_2$

Answer: D

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32. A condensation polymer among the following is

A. Dacron

B. Polythene

C. Buna-N

D. Natural rubber

Answer: A

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33. Bakelite is prepared by the reaction between

A. Reaction of HCHO and phenol

B. Reaction of polythene with HCI

C. Reaction of ethylene with phenol

D. Reaction of melamine with HCHO

Answer: A

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34. Which of the following is currently used as a tyre cord?

A. Terylene

B. Nylon-6

C. Bakelite

D. Polyethylene

Answer: B

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35. Which of the following is fully fluorinated polymer?

A. Neoprene

B. Teflon

C. PVC

D. Orlon

Answer: B

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36. Which of the following is biodegradable polymer?

A. PHBV

B. Nylon-6

C. Polyethene

D. Nylon-6, 10

Answer: A

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37. The monomers of biodegradable polymer , nylon 2-nylon 6 are

A. Glycine and glycerol

B. Glycine and amino caproic acid

C. Glycine and caprolactum

D. Hexamethylene diamine and adipic acid

Answer: B

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38. Melamine resin is obtained from melamine by reacting with

A. $\underset{|}{\underset{OH}{CH_2}} - \underset{|}{\underset{OH}{CH_2}}$

B. $CH_3 - CHO$

C. $CH_3 - \underset{||}{\underset{O}{C}} - CH_3$

D. HCHO

Answer: D

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39. In propagation step, the reaction intermediate of radical polymerisation is

A. Carbocation

B. Carbanion

C. Free radical

D. Carbene

Answer: C

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40. Synthetic polymer prepared by using caprolactam is known as

A. Nylon 6, 6

B. Nylon 6, 10

C. Nylon, 6

D. Nylon 2-Nylon 6

Answer: C

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41. Arrange the following polymers in increasing order of their intermolecular forces. Nylon 6,6, Buna-S, Polythene.

A. $A > B > C$

B. $B > C > A$

C. $C < A < B$

D. $B < C < A$

Answer: D

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42. Which of the following statements is correct?

A. Caprolactum is the monomer of nylon 6, 6

B. Terylene is a polyamide

C. Phenol formaldehyde resin is known as malamine

D. Butadiene is not the monomer of natural rubber

Answer: D

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43. The monomer used to produce orlon is:

A. $CH_2 = CHF$

B. $CH_2 = \mathrm{CC}l_2$

C. $CH_2 = CH - CN$

D. $CH_2 = CH - Cl$

Answer: C

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44. The monomer unit of PHBV is

A. 3-Hydroxybutanoic acid and 3-Hydroxypentanoic acid

B. 2-Hydroxybutanoic acid and 2-Hydroxypentanoic acid

C. Glycine and amino caproic acid

D. 3-Hydroxybutanoic acid and amino caproic acid

Answer: A

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45. Cis-1, 4 polyisoprene is known as

A. Neoprene

B. Natural rubber

C. PVC

D. Bura-N

Answer: B

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46. Which polymer is used in the manufacture of unbreakable crockery?

A. Bakelite

B. Malamine resin

C. Dacron

D. PAN

Answer: B

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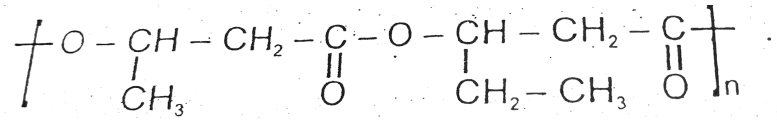
47. The name of



Copolymer is

A. PHBV

B. Nylon 2-Nylon-6

C. Nylon 6, 10

D. Nylon 6, 6

Answer: A

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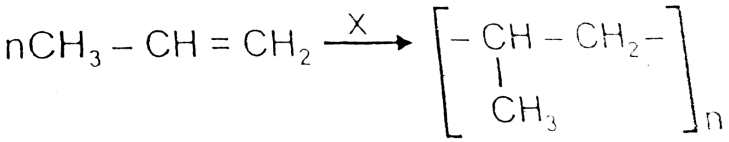
Assignment Section B Objective Type Questions One Option Is Correct

1. In the reaction



Reagent X is

A. Triethyl aluminium and titanium tetrachloride

B. Triethyl aluminium

C. Zeigler Natta catalyst

D. Both (1)& (3)

Answer: D

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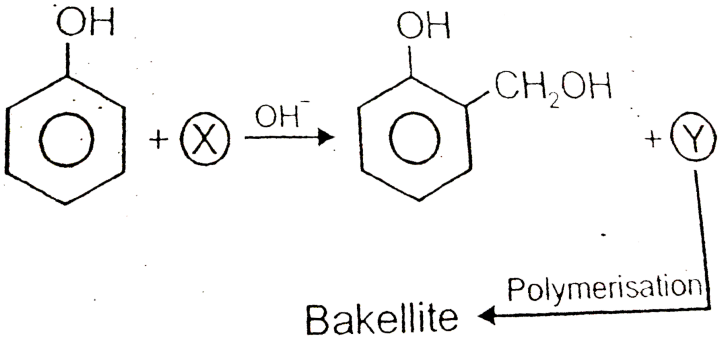
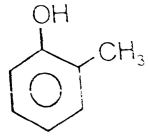
2. Complete the following reaction



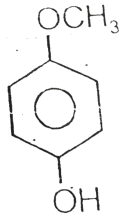
A.

(1) CH_3OH;



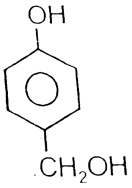
B.

(2) HCHO;

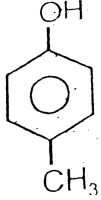


C.

(3) HCHO;



(4) HCHO;

D. 

Answer: C

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3. Which is incorrect?

A. Isoprene is the monomer of natural rubber

B. Neoprene is monomeric unit of chloroprene

C. Vulcanisation of rubber involves-S-S- cross- linking in natural rubber

D. Neoprene rubber is resistant to aerial axidation

Answer: B

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4. Cellulose acetate is a

A. Natural polymer

B. Semisynlthetic polymer

C. Synthetic polymer

D. Plasticizer

Answer: B

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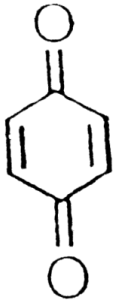
5. Which of the following will act as inhibitor in free radical addition polymerisation?

A. (1) 

B. CCl_4

C. CBr_4

D. $H - Br$

Answer: A

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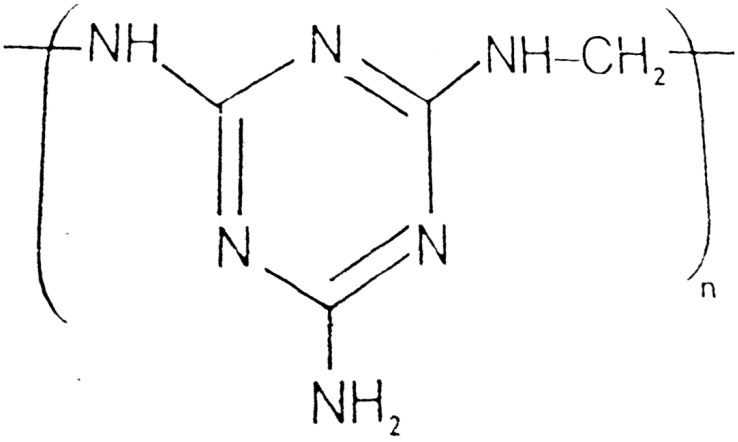
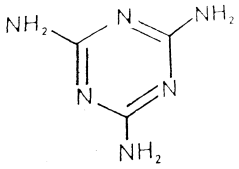


6. has the monomer

A. 

B. HCHO

C. Both (1) & (2)

D. None of these

Answer: C

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7. Terephthalic acid and ethylene glycol undergo step growth polymerisation to yield

A. Teflon

B. Rayon

C. Nylon-66

D. Terylene

Answer: D

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8. Which of the following contains isoprene units?

A. Natural rubber

B. Nylon-66

C. Bakelite

D. Orlon

Answer: A

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9. PMMA is the polymer of:

A. Methyl methacrylate

B. Methyl acrylate

C. Methacrylate

D. Ethylacrylale

Answer: A

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10. Nucleic acid is a condensation polymer of

A. Simple sugars

B. Amino acids

C. Nucleotides

D. Styrene

Answer: C

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Assignment Section C Objective Type Questions More One Option Is Correct

1. Examples of addition polymers are

A. Kevlar

B. Nylon 66

C. Natural rubber

D. Teflon

Answer: C::D

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2. Which of the following are Biopolymers?

A. Proteins

B. Polystyrene

C. DNA

D. Glucose

Answer: A::C

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3. Which of the following is not a monomer of neoprene?

A. Isoprene

B. Chloroprene

C. Vinyl chloride

D. Vinyl acetylene

Answer: A::C::D

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4. Which of the following are Thermoplastic polymers?

A. PVC

B. Teflon

C. Bakelite

D. Nylon

Answer: A::B::D

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5. In Buna-N, 'N' is not slands for

A. Nitrogen

B. Nitrile

C. Nitro

D. Nitrene

Answer: A::C::D

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6. Which of the followlng is/are polymer?

A. Enzyme

B. Starch

C. Cellulose

D. Protein

Answer: B::C::D

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7. Which of the following process can be used to prepare polystyrene?

A. Anionic

B. Cationic

C. Free radical

D. Benzyne

Answer: A::B::C

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8. Which of the following is biodegradable polymer?

A. PHBV

B. Nylon-2-Nylon-6

C. Nylon-6

D. Polyethene

Answer: A::B

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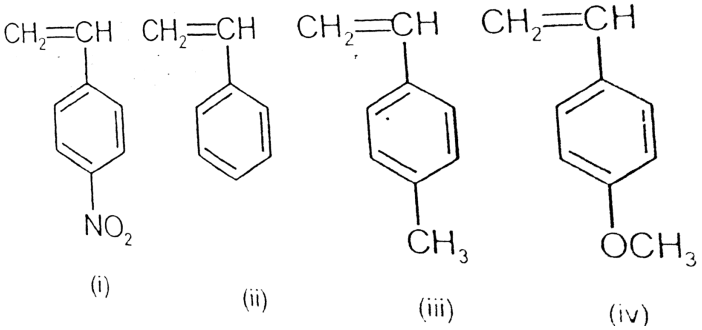
Assignment Section D Linked Comprehension Type Questions

1. In cationic polymerizalion, the initiator is an electrophile that adds to the alkene, causing it to become a cation. The Initiator most often used in cationic polymerization is a lewis acid. Such as BF_3 or $AICI_3$ and in anionic polymerization, the iniliator is a nucleophile that reacts with the alkene to form a propagating site that is an anion.

Arrange the following group of monomers of decreasing ability to undergo cationic polymerization



A. $(iv) > (iii) > (ii) > (i)$

B. $(ii) > (iii) > (iv) > (i)$

C. $(iv) > (i) > (ii) > (iii)$

D. $(iv) > (ii) > (iii) > (i)$

Answer: A

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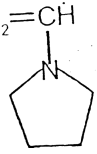
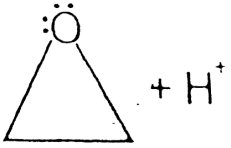
2. In cationic polymerizalion, the initiator is an electrophile that adds to the alkene, causing it to become a cation. The Initiator most often used in cationic polymerization is a lewis acid. Such as BF_3 or $AICI_3$ and in anionic polymerization, the iniliator is a nucleophile that reacts with the alkene to form a propagating site that is an anion.

Which of the follówing represents anionic polymerisation?

A. $Bu - Li + CH_2 = \underset{\underset{CN}{|}}{CH}$

B. $BF_3 + CH_2 = C(CH_3)_2$

C. (3) $BF_3 + CH_2{=}CH$ 

D. 

Answer: A

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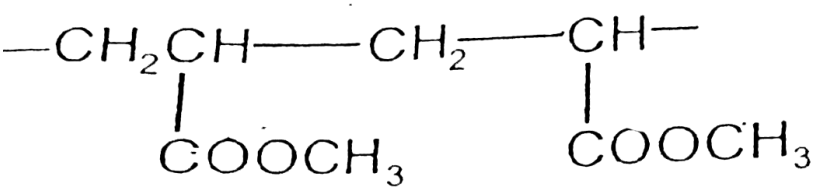
3. In cationic polymerizalion, the initiator is an electrophile that adds to the alkene, causing it to become a cation. The Initiator most often used in cationic polymerization is a lewis acid. Such as BF_3 or $AICI_3$ and in anionic polymerization, the iniliator is a nucleophile that reacts with the alkene to form a propagating site that is an anion.

What monomer and what type initiator would you use to synthesize

following polymer ?



A. (1) $CH_2=\underset{\underset{CH_3}{|}}{C}-CH_3 + BF_3$

B. (2) $CH_2=\underset{\underset{COOCH_3}{|}}{CH} + C_4H_9Si$

C. (3) $CH_2=\underset{\underset{CH_3}{|}}{C}-H + BF_3$

D. (4) $CH_2=\underset{\underset{COOCH_3}{|}}{C}-CH_3 + C_4H_9-Si$

Answer: B

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4. Addition polymers are those in which monomers are converting into polymer by addltlon reaction. This addition reaction follow Radical mechanism in which firstly radical form than this propagate

a chain than this chain terminate to form polymer

The polyethene is started as

A. $R - CH_2 - \dot{C}H_2$

B. $R - CH = \dot{C}H$

C. $CH_2 = \dot{C}H$

D. $R - CH - \dot{C}H$

Answer: A

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5. Addition polymers are those in which monomers are converting into polymer by addltlon reaction. This addition reaction follow Radical mechanism in which firstly radical form than this propagate a chain than this chain terminate to form polymer

Which of the following is a propagation rejection?

A. $\dot{R} + CH_2 = CH_2 \rightarrow R - CH_2 - \dot{C}H_2$

B.

$$RCH_2CH_2 + CH_2 = CH_2 \rightarrow R - CH_2 - CH_2 - CH_2 - \dot{C}H_2$$

C. $\left(RCH_2CH_2CH_2\dot{C}H_2\right)_n \rightarrow R(CH_2CH_2)_{2n}R$

D. None of these

Answer: B

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6. The condensation polymer are those which gives out some simple molecules like H_2O in course of reaction. Mostly in this reaction functional group changes.

Polyamide is

A. Nylon-6

B. Buna-N

C. Buna-S

D. Polyethene

Answer: A

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7. The condensation polymer are those which gives out some simple molecules like H_2O in course of reaction. Mostly in this reaction functional group changes.

Polyster is

A. Nylon-66

B. Decron

C. Teflon

D. Neoprene

Answer: B

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Assignment Section E Assertion Reason Type Questions

1. STATEMENT-1: Nylon-6 is a step-growth polymer.

and

STATEMENT-2 It is obtained from caprolactum.

A. Statement-1 is True, Statement-2 is True, Statement-2 is a correct explanation for Statement-1

B. Statement-1 is True, Statement-2 is True, Statement-2 is NOT a correct explanation for Statement-1

C. Statement-1 is True, Statement-2 is False

D. Statement-1 is False, Statement-2 is True

Answer: B

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2. STATEMENT-1-: Vulcanization introduces S-S crosslinking in rubber and

STATEMENT-2 Vulcanized rubber has low water absorption tendency.

A. Statement-1 is True, Statement-2 is True, Statement-2 is a correct explanation for Statement-2

B. Statement-1 is True, Statement-2 is True, Statement-2 is NOT a correct explanation for Statement-2

C. Statement-1 is True, Statement-2 is False

D. Statement-1 is False, Statement-2 is True

Answer: A

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3. STATEMENT-1: Styrene is more reactive than ethylene towards free radical polymerization

and

STATEMENT-2: Polymerization of styrene proceeds through more stable benzyl free radical.

A. Statement-1 is True, Statement-2 is True, Statement-2 is a correct explanation for Statement-3

B. Statement-1 is True, Statement-2 is True, Statement-2 is NOT a correct explanation for Statement-3

C. Statement-1 is True, Statement-2 is False

D. Statement-1 is False, Statement-2 is True

Answer: A

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Assignment Section F Matrix Match Type Questions

1. Match the following

Column I		Column II	
(A)	Nylon–6	(p)	$-\overset{\vert}{N}-\overset{O}{\overset{\Vert}{C}}-$ linkage
(B)	Starch	(q)	Glycosidic linkage
(C)	Haemoglobin	(r)	Natural polymer
(D)	Glycogen	(s)	Synthetic polymer
		(t)	Polysaccharides

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2. 20 ml of 0.02 M $KMnO_4$ was required to completely oxidise 10 ml of oxalic acid solution. What is the molarity of the oxalic acid solution ?

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3. Match the following

Column I	Column II
(A) Cellulose	(p) Have ether linkage
(B) Amylose	(q) Have (—OH) functional group
(C) Amylopictin	(r) Natural polymer
(D) Decrone	(s) Have ester linkage
	(t) Formed by liberation of H_2O

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4. B_2H_6 reacts with NH_3 to form

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5. A 2 litre solution of glucose contains 1 mole of glucose. Find (w/v)%

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6. Match the following

Column I	Column II
(A) Low density polyethene	(p) Branched chain polymer
(B) High density polyethene	(q) Straight chain polymer
(C) Bakalite	(r) Cross-linked polymer
(D) Teflons	(s) Homopolymer
	(t) Copolymer

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Assignment Section G Integer Answer Type Questions

1. What is the number of atoms present in the backbone of each repeating unit of Nylon-6?

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2. How many types of monomers are present in synthetic rubber?

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3. How many functional groups are present in monomer of polymer nylon-6?

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4. How many among the following are biodegradable polymers?

(i) Polyhydroxybutyrate (PHB)

(ii) PHBV

(iii) SBR

(iv) Polyglycolic acid

(v) Bakelite

(vi) Thiokol

(vii) Nylon-2-Nylon-6

(vii) PMMA

(ix) Nylon-6, 6.

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Assignment Section H Multiple True False Type Questions

1. STATEMENT-1: Nylon-66 is a polyamide.

STATEMENT-2 : Nylon-66 is a polymer of caprolactam.

STATEMENT-3 : It is a copolymer.

A. TTT

B. FFF

C. TFT

D. FFT

Answer: C

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2. STATEMENT-1: Glycogen is a biopolymer.

STATEMENT-2:Chloroprene is polymer of isoprene.

STATEMENT-3 : Buna-S is natural rubber.

A. TTT

B. FFF

C. TFT

D. TFF

Answer: D

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3. STATEMENT-1 Buna-S is addition polymer.

STATEMENT-2 Buna-N is condensation polymer.

STATEMENT-3 : Teflon is a additional polymer.

A. TFT

B. FTF

C. TTT

D. FFF

Answer: A

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4. STATEMENT-1 Decron form with liberation of H_2O

STATEMENT-2 : Nylon-6 has cyclic monamer

STATEMENT-3 : Polyester form with liberation of H_2O

A. TTT

B. TFT

C. FFF

D. FTF

Answer: A

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5. STATEMENT-1 : Cellulose is a natural polymer

STATEMENT-2 : Amylose is a natural polymer

STATEMENT-3 : Polyethene is a nalural polymer

A. TTF

B. TFT

C. FFT

D. TTT

Answer: A

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Assignment Section I Subjective Type Questions

1. Write chemical equation to prepare

(i) Nylon-6 (ii) Nylon-66

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2. A polymeric substance, tetra fluoro ethylene, can be represented by the formula (C_2F_4) where x is a large number. The material was prepared by polymensing C_2F_4 in the presence of sulphur bearing calalyst thal served as a nucleus upon which the polymer grew. The final product was found to contain 0.012% S. What is the value of x if each polymeric molecule conlain 2 sulphur atoms? Assume that the calalyst contribution is negligible amount to the lotal mass of polymer.

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3. Name the monomer of nylon-6. How is nylon-6 prepared ?

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4. Explain the mechanism of formation of polyethene.

Watch Video Solution

5. Explain the formation of low density polyethene

Watch Video Solution

6. What are biodegradable and non-biodegradable detergents ? Give one example of each.

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Assignment Section J Aakash Challengers Questions

1. Thermosetting plastic is an example of

A. Linear polymer

B. Cross-linked polymer

C. Branched chain polymer

D. None of these

Answer:

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2. The structure of the monomer used for the preparation of plexiglass is

A. $CH_2 = \overset{CN}{\overset{|}{C}} - COOC_2H_5$

B. $CH_2 = \overset{CH_3}{\underset{|}{C}} - COOC_2H_5$

C. $CH_3 - CH = CH - \overset{CH_3}{\underset{|}{C}}H - COOCH_3$

D. $CH_2 = \overset{CH_3}{\underset{|}{C}} - COOCH_3$

Answer:

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

A. Glyptal

B. Kevlar

C. Dacron

D. Bakelite

Answer:

Watch Video Solution

4. Which among the following species is an elastomer?

A. Nylon

B. Neoprene

C. Terylene

D. Polystyrene

Answer:

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Example

1.  is a homopolymer or a copolymer?

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2. Give the examples of cross-linked polymers.

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3. What is artificial silk or rayon? Give an example.

Watch Video Solution

4. Name a substance which inhibits free radical polymerisation.

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5. The pK_{a1} and pK_{a2} of an amino acid are 2.3 and 9.7 respectively. The isoelectric point of the amino acid is:

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6. Arrange the following polymers in increasing order of their intermolecular forces :

(i) Buna-S,Nylon-6,Polyvinyl chloride

(ii) Polysterene,Dacron,Buna-N

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Try Your Self

1. Classify the following as addition and condensation polymers

Nylon 6,6, Buna-N,Buna-S,Polythene,Polystyrene,Polyvinyl chloride

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2. Name one thermosetting and one thermoplastic polymer.

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3. What is the difference between elastomers and fibres?

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4. What is the total number of sigma and pi bonds in the following molecules? (a)C_2H_2 (b) C_2H_4

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5. How many P–O–P bond(s) is/are present in $H_6P_6O_{18}$?

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6. Name some biopolymers which are biodegradable.

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7. Write the name and structures of the monomers of the following biodegradable polymers :

(i) Nylon 2-nylon 6

(ii) PHBV

(iii) PHB

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Exercise

1. Which among the following is a cross-linked polymer ?

A. Amylopectin

B. Melamine formaldehyde resin

C. Glycogens

D. Polysters

Answer: B

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2. Which of the following is a chain-growth polymer?

A. Nylons

B. Polyesters

C. Glycogens

D. Bakelite

Answer: C

Watch Video Solution

3. Which of the following type of force are present in Nylon-66?

A. vasn dar Waal's forces of attraction

B. Hydrogen bonding

C. Three dimensional network of bonds

D. None of these

Answer: B

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4. Which of the following is a natural polymer?

A. Polythene

B. Polysaccharides

C. Nylon

D. Terylene

Answer: B

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5. Which of the following is an elastomer?

A. Vulcanized rubber

B. Dacron

C. Polystyrene

D. Malamine

Answer: A

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6. Which of the followning is a condensation polymer?

A. Teflon

B. orlon

C. Dacron

D. Polyethene

Answer: C

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7. Identify the co-polymer

A. Buna-N

B. Neoprene

C. Natural rubber

D. All of these

Answer: A

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8. Which one is biodegradable polymer?

A. Nylon-2-Nylon-6

B. Nylon-6,6

C. Nylon-6

D. All of these

Answer: A

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9. The monomer unit of PHBV is

A. $CH_3 - \overset{\overset{OH}{|}}{CH} - CH_2COOH$

B. $CH_3 - CH_2 - \underset{\underset{OH}{|}}{CH} - CH_2COOH$

C. $HO - CH_2 - CH_2 - COOH$

D. Both 1 and 2

Answer: D

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10. Which of the following is true about natural rubber?

A. Its monomer is 2-methyl-1,3-butadiene

B. It is also called as trans-1,4-polyisoprene

C. Its repeating unit is $\left\{ CH_2 - \overset{CH_3}{\overset{|}{C}} = \underset{OH}{\overset{|}{C}} - CH_2 \right\}_2$

D. It is a branched polymer

Answer: A

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Assignment Section A

1. Which of the following is a natural polymer?

A. Cellulose

B. Buna-S

C. Rayon

D. Nylon 6, 6

Answer: A

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2. Which of the following is a synthetic polymer?

A. Starch

B. Natural rubber

C. Cellulose acetate

D. Polyethylene

Answer: D

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3. Which of the following is a linear polymer?

A. Low density polythene

B. High density polythene

C. malamine

D. Amylopectin

Answer: B

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4. Which of the following is a cross linked polymer?

A. Starch

B. Bakelite

C. PVC

D. Polythene

Answer: B

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5. Which of the following is an addition polymer?

A. Nylon-6

B. Nylon-6,6

C. Buna-S

D. Dacron

Answer: C

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6. Which of the following ia a condensation polymer?

A. Buna-N

B. Polystyrene

C. Nylon-6

D. Natural rubber

Answer: C

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7. Which of the following is a thermosetting polymer?

A. Urea formaldehydre resin

B. Polyvinychloride

C. Polyester

D. Neoprene

Answer: A

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8. Which of the following is an elastomer?

A. Bakelite

B. Polythene

C. Buna-S

D. Polystyrene

Answer: C

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9. PVC polymer can be prepared by which of the manomer?

A. $CH_2 = CH_2$

B. $CH_2 = CH - Cl$

C. $C_6H_5 - CH = CH_2$

D. $CH_3 - CH = CH_2$

Answer: B

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10. Which one of the following statements is wrong?

A. Buna-N stands fro natural rubber

B. PVC stanes for polyvinyl chloride

C. PAN stands for polyacrylonitrile

D. PMMA stands for polymethylmethacrylate

Answer: A

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11. Heating rubber with sulphur is known as

A. Sulphonation

B. Vulcanisation

C. Bessemerisation

D. Galvanisation

Answer: B

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12. Which of the following is chain growth polymer?

A. Polypropylene

B. Nylon-6,6

C. Terylene

D. Glyptal

Answer: A

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13. Terylene is an example of

A. Polyaminde

B. Polyacrylate

C. Polyester

D. Polypropylene

Answer: C

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14. An example of natural biopolymer is

A. Teflon

B. Rubber

C. DNA

D. Nylon

Answer: C

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

A. Polyamide

B. Polystyrene

C. Polyester

D. Dacron

Answer: B

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16. Nylon threads are made of

A. Polyethylene polymers

B. Polyester polymers

C. Polyvinyl polymers

D. Polyamide polymers

Answer: D

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17. Which of the following is not correctly matched ?

A. Neoprene $\left\{ CH_2 - \underset{\underset{CH_3}{|}}{C} = CH - CH_2 \right\}_n$

B. Buna-N: $\left\{ CH_2 - CH = CH - CH_2 - CH_2 - \underset{\underset{CN}{|}}{CH} \right\}_n$

C. Polyisoprene $\left\{ CH_3 - \underset{\underset{CH_3}{|}}{C} = CH - CH_2 \right\}_n$

D. 

Answer: A

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18. Which is not true about polymers?

A. Polymers have high viscosity

B. Polymers do not carry any large

C. Polymers scatter light

D. Polymers have low molecular weight

Answer: B

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19. Which percentage of sulphur is used in the vulcanization of rubber?

A. 55

B. 30

C. 5

D. 40

Answer: C

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20. The monomers of Buna -S rubber are

A. Styrene and butadiene

B. Isoprene and butadiene

C. Isoprene and sulphur

D. Butadiene and acrylonitrile

Answer: A

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21. $\left\{ NH(CH_2)_6NH - \underset{\underset{O}{||}}{C} - (CH_2)_4 - \underset{\underset{O}{||}}{C} \right\}_n$ is a

A. Homopolymer

B. Copolymer

C. Additioin polymer

D. Thermosetting polymer

Answer: B

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22. Zeigler Natta catalyst is:

A. $TiCl_4$

B. $R_3Al/TiCl_4$

C. R_3Al

D. $R_3B/TiCl_2$

Answer: B

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23. Which of the following contains isoprene units?

A. Natural rubber

B. Nylon-6,10

C. Dacron

D. Polyethlene

Answer: A

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24. Orlon is a polyrher of

A. Styrene and butadiene

B. Teflon

C. Vinylchloride

D. Acrylonitrile

Answer: D

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25. Intermolecular force present in nylon-6, 6 is

A. van der waal

B. Hydrogen bond

C. Sulphide linkage

D. Dipole dipole interactions

Answer: B

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26. Which of the following polymers is are chlorinated?

A. Neoprene

B. PVC

C. Bohth 1 and 2

D. Polythene

Answer: C

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27. Glyptal polymer is obtained by the following monomers ,

A. Phthalic acid and glyclrol

B. Phthalic acid and glycol

C. Terephthalic acid and glyclrol

D. Terephthalic acid and glycol

Answer: B

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28. In order to give strength and elasticity, natural rubber is heated with

A. Sulphur

B. Oxygen

C. Chlorine

D. Nitrogen

Answer: A

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29. Which of the following monomer gives the polymer neoprene on polymerisation?

A. $CH_2 = CH - Cl$

B. $Cl_2C = CCl_2$

C. $F_2C = CF_2$

D. $CH_2 = \underset{\underset{Cl}{|}}{C} - CH = CH_2$

Answer: D

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30. A condensation polymer among the following is

A. Dacron

B. Polythene

C. Buna-N

D. Natural rubber

Answer: A

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31. Bakelite is a product formed from:

A. Reaction of HCHO and phenol

B. Reaction of polythene with HCL

C. Reaction of ethylene with phenol

D. Reaction of melamine with HCHO

Answer: A

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32. Which of the following is currently used as a tyre cord?

A. Teryline

B. Nylon-6

C. Bakelite

D. Polyethylene

Answer: A

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33. Which of the following is fully fluorinated polymer?

A. Neoprne

B. Teflon

C. PVC

D. Orion

Answer: B

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34. Which of the following is biodegradable polymer?

A. PHBV

B. Nylon-6

C. Polyethene

D. Nylon-6,10

Answer: A

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35. Monomers of nylon 2-nylon 6 are-

A. Glycine and glycerol

B. Glycine and amino caproic acid

C. Glycine and caprolactum

D. Hexamethylene diamine and adipic acid

Answer: B

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36. The monor unit of the following polymer

$\{NH - CO - NH - CH_2\}_n$

A. Glycine and formadehyde

B. Urea and ethanol

C. Urea and formaldenyde

D. Glycine and adipic acid

Answer: C

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37. Melamine resin is obtained from melamine by reacting with

A. $\underset{|}{\overset{OH}{CH_2}} - \underset{|}{\overset{OH}{CH_2}}$

B. $CH_3 - CHO$

C. $CH_3 - \underset{\underset{O}{||}}{C} - CH_3$

D. $HCHO$

Answer: D

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38. In propagation step, the reaction intermediate of radical polymerisation is

A. Carbocation

B. Carbanion

C. Free radical

D. Carbene

Answer: C

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39. Which of the following polymer is preapred from caprolactam

A. Nylon 6,6

B. Nylon 6,10

C. Nylon, 6

D. Nylon 2-Nylon 6

Answer: C

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40. Given th polymers,

$A =$ Nylon-6,6, $B =$ Buna-S, $C =$ Polythene

Arrange these in decreasing order of their intermolecular forces:

A. $A > B > C$

B. $B > C > A$

C. $C < A < B$

D. $B < C < A$

Answer: A

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41. Which of the following statements is correct?

A. Caprolactum is the monomer of nylon 6,6

B. Terylene is a polyamide

C. Phenol formaldehyde resin is known as bakelite

D. Butadiene is not the monomer of natural rubber

Answer: C

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42. The monomer unit of PHBV is

A. 3Hydroxybutanoic acid and 3-kHydroxypentanoic acid

B. 2-Hydroxybutanoic acid and 2-Hydroxypentanoic and

C. Glycine and amino caproic acid

D. 3-Hydroxybutanoic acid and amino caproic acid

Answer: A

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43. Cis-1, 4 polyisoprene is known as

A. Neoprene

B. Natural rubber

C. PVC

D. Bura-N

Answer: B

Watch Video Solution

44. Which polymer is used in the manufacture of unbreakable crockery?

A. Bakalite

B. Malamine resin

C. Dacron

D. PAN

Answer: B

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Assignment Section B

1. Which is not an example of addition polymer?

A. Neoprene

B. PMMA

C. PVC

D. Dacron

Answer: D

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2. The monomers of Bakelite are

A. Ethylene glycol+phthalic acid

B. Phenol+formaldehyde

C. Ethylene glycol+terephthalic acid

D. Phenol+methanoic acid

Answer: B

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3. Polymerisation of acrylonitrile will best take place by

A. Cationic polymerisation

B. Anionic polymerisation

C. Free radical polymerisation

D. All of these

Answer: B

Watch Video Solution

4. Fibre among the following is

A. Rubber

B. Buna-S

C. Nylon-66

D. Bakelite

Answer: C

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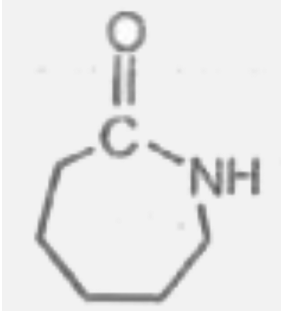
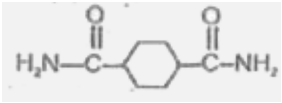
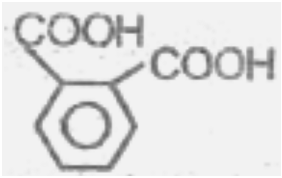
5. Monomer of $\left[NH-(CH_2)_5-\overset{O}{\overset{||}{S}}\right]_n$ is

A. 

B. 

C. 

D. H_2NCONH_2

Answer: A

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6. Polymer of perfluoroethylene is

A. Polythene

B. PVC

C. Teflon

D. Buna-N

Answer: C

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7. Which among the followning is a branched chain polymer?

A. Starch

B. Nucleic acid

C. Polysthrene

D. Protein

Answer: C

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8. Orlon is a polyrher of

A. Styrene and butadiene

B. Vinyl chloride

C. Tetrafluoroethylene

D. Acrylonitrile

Answer: D

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9. Which of the following is a thermosetting polymer?

A. PVC

B. Neoprene

C. Bakelite

D. Polythene

Answer: C

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10. Which of the following is a semisynthetic polymer?

A. Natural rubber

B. Gun cotton

C. Cellulose

D. Nucleic acids

Answer: B

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11. Which of the following is correct statement?

A. Low density polyethylene is obtained under high pressure and room temperature

B. High density polyethylene has highly branched structure

C. High density polyethylene is obtained at atmospheric pressure

D. High density polythlene is more flexible than low density polyethylene

Answer: C

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12. Which is not the biodegradable polymer?

A. Nylon-2-Nylon-6

B. Poly (Glycolic acid) and Poly (Lactic acid)

C. Glyptal

D. PHBV

Answer: C

Watch Video Solution

13. Which of the following is a biodegradable polymer?

A. Cellulose

B. Polythene

C. Polyvinyl chloride

D. Nylon-6,10

Answer: A

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14. Polythylene is obtained from calcium cabide .

$CaC_2 + 2H_2O \rightarrow Ca(OH)_2 + C_2H_5$

$C_2H_2 + H_2 \rightarrow C_2H_4$

$nC_2H_4 \rightarrow (\ -\ -CH_2 - CH_2 -\ -\ )_n$

Therefore , the amount of polyethylen obtained for 64 kg CaC_2 is

A. 7kg

B. 14kg

C. 21 kg

D. 28 kg

Answer: D

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15. Which is used for the formation of nylon-66 ?

A. Sulphur hexafluoride

B. Adipic acid

C. Sulphurous acid

D. Phthalilc acid

Answer: B

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16. Mnomer of $\left[-\overset{CH_3}{\underset{CH_3}{\overset{|}{\underset{|}{C}}}} - CH_2 - \right]_n$ *is*

A. 2-methylpropene

B. Styrene

C. Propylene

D. Ethene

Answer: A

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17. Polymer formation from monomers starts by:

A. Condensation reaction between monomers

B. Coordination reaction between monomers

C. Conversion of monomer to monomer ion by protons

D. Hydrolysis of monomers.

Answer: A

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18. In a polymer sample, 30% of molecules have a molecualr mass of $20,000$, 40% have 30,000 and the rest 60,000. What is the weight

average molecular mass of the polymer?

A. 40300

B. 30600

C. 43333

D. 50400

Answer: C

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19. Which one of the following polymers is prepared by condensation polymerization?

A. Styrene

B. Nylon-66

C. Teflon

D. Rubber

Answer: B

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20. Which one of the following is not a correct match?

A. (Polymer — Monomer(s))

(Teflon — Tetra fluoroethylene)

B. (Polymer — Monomer(s))

(Pierce glass — Methyl methacrylate)

C. (Polymer — Monomer(s))

(Buna-S — Styrene,1,3-butadiene)

D. (Polymer — Monomer(s))

(Thiokol — Sodium tetrasulphide)

Answer: B

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Assignement Section C

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

A. 

B. 

C. 

D. 

Answer: D

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2. Netural rubber has

A. Random cis-and tans-configuration

B. All cis-configuration

C. All trans-configuration

D. Alternate cis-and trans -configuration

Answer: B

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3. Caprolactum is used for the manufacture of

A. Terylene

B. Nylon-6,6

C. Nylon-6

D. Teflon

Answer: C

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4. Biodgradabnle polymer which can be produced from glycine and aninocapric acid is

A. Nylon 6,6

B. Nylon 2-nylon 6

C. PHBV

D. Buna-V

Answer: B

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5. Which of the following organic compounds polymerises to from the polyester dacron ?

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

B. Benzoic acid and ethanol

C. Terephtalic acid and ethylene gycol

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

Answer: C

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

A. $\left(CH_2-\underset{\underset{cl}{|}}{C}=CH-CH_2\right)_n$

B. $\left(CH_2 - \underset{Cl}{\underset{|}{CH}} \right)_n$

C. $\left(\overset{H}{\underset{|}{N}} - (CH_2)_6 - \overset{H}{\underset{|}{N}} - \overset{O}{\overset{||}{C}} - (CH_2)_4 - \overset{O}{\overset{||}{C}} \right)_n$

D. 

Answer: D

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

A. $CH_2 = \underset{CH_3}{\underset{|}{C}} - CH = CH_2$

B. $CH_2 = \underset{Cl}{\underset{|}{C}} - CH = CH_2$

C. $CH_2 = CH - C = CH$

D. $CH_2 = CH - CH = CH_2$

Answer: B

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8. Nylon is an example of

A. Polysachharide

B. Polyamide

C. Polythene

D. Polyester

Answer: B

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

A. Dacron

B. Neoprene

C. Me

D. Glyptal

Answer: B

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10. Which of the following monomers form biodegradable polymers?

A. $CH_2 = CH - CH$ and $CH_2 = CH - CH = CH_2$

B. $H_2N - CH_2 - COOH$ and $H_2N - (CH_2)_5 - COOH$

C. $HO - CH_2 - CH_2 - OH$ and 

D. 

Answer: B

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11. Which of the following statements is false?

A. The repeat unit in natural rubber is isoprene

B. Both starch and cellulose are polymers of glucose

C. Artificial silk is derived from cellulose

D. Nylon -66 is an example of elastomer

Answer: D

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12. Of the following which one is classified as polyester polymer ?

A. Nylon-6,6

B. Terylene

C. Bakelite

D. Malamine

Answer: B

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13. Which of the following structures represents neosprene polymer ?

A. $\left(-CH_2 - \underset{Cl}{\underset{|}{C}} = CH - CH_2 - \right)_n$

B. $\left(-CH_2 - \overset{CN}{\overset{|}{C}}H - \right)_n$

C. $\left(-CH_2 - \overset{Cl}{\overset{|}{C}}H - \right)_n$

D. $\left(-\underset{C_6H_5}{\underset{|}{CH}} - CH_2 - \right)_n$

Answer: A

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14. The straight chain polymer is formed by

A. Hydrolysis of CH_3SiCl_3 followed by condensation polymerisation

B. Hydrolysis of $(CH_3)_4$ Si by addition polymerisation

C. Hydrolysis of $(CH_3)_2SiCl_2$ followed by condensation polymerisation.

D. Hydrolysis of $(CH_3)_3$ SiCl. Followed by condensation polymerisation

Answer: C

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

A. Neoprene

$$\left[-CH_2 - \underset{\underset{Cl}{|}}{C} = CH - CH_2 - CH_2 - \right]_n$$

B. 

C. Nylon -6,6

$$\left[NH(CH_2)_6 NHCO(CH_2)_4 - CO - l_2 \right.$$

D. Teflon

$$(-CF_2 - CF_2 -)_n$$

Answer: A

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16. Which of the following statements is not ture?

A. Natural rubber is 1,4- polymer of isoprene

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

C. Natural rubber has the trans configutation at every double bond

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

Answer: C

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17. Which one of the following polymers is prepared by condensation polymerization?

A. Styrene

B. Nylon-6,6

C. Teflon

D. Rubber

Answer: B

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18. ~ $\left[NH(CH_2)_6NHCO(CH_2)_4CO\right]$ ~ is a

A. Co-polymer

B. Addition polymer

C. Thermo-setting polymer

D. Homopolymer

Answer: A

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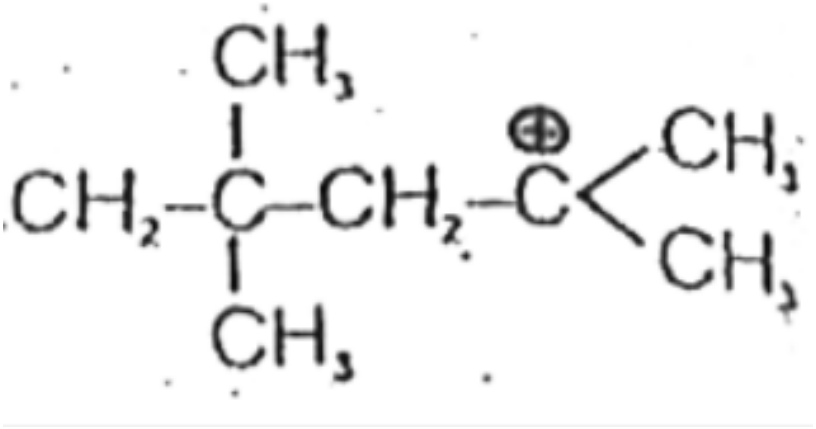
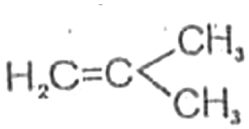
19. The monmer of the polymer



is



A.

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

C. $CH_3CH = CH.CH_3$

D. $CH_3CH = CH_2$

Answer: A

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20. Write brief notes on the following: (i) Homogeneous catalysis

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21. Which of the following set of polymers contains same monomer which is used to prepare urotropine on reaction with NH_3?

A. Glyptal, urea -formaldehyde resin, Nylon-6,6

B. Glyptal, urea-formaldehyde resin, melamine-formaldehyde resin

C. Nylon-6, urea formaldehyde resin, melamine-formaldehyde resin

D. Nylon-6, glyptal, Nylon-6,6

Answer: B

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22. Bakelite is prepared by the reaction between

A. Phenol and formaldehyde

B. Tetramethylene glycol

C. Urea and formaldehyde

D. Ethylene glycol

Answer: A

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23. Which one of the following is used to make 'non-stick' cookware

A. Poly-ethylene terephthalate

B. Polytetrafluoroethylene

C. PVC

D. Polystyrene

Answer: B

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24. Terylene is a condensation polymer of ethylene glycol and

A. Salicylic acid

B. Phthalic acid

C. Benzoic acid

D. Terephthalic acid and glycol

Answer: D

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25. Natural rubber is a polymer of

A. Styrene

B. Ethyne

C. Butadiene

D. Isoprene

Answer: D

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26. $CF_2 = CF_2$ is a monomer of

A. Teflon

B. orlon

C. Polythene

D. Nylon-6

Answer: A

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27. Which of the following is not correctly matched?

A. Neoprene:

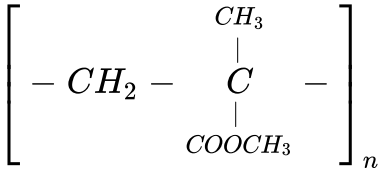
$$\left[-CH_2 - \underset{\underset{Cl}{|}}{C} = CH - CH_2 - \right]_n$$

B. Nylon-6,6

$$\left[-NH - (CH_2)_6 - NH - CO - (CH_2)_4 - \overset{\overset{O}{||}}{C} - \right]_n$$

C.

D. PMMA:



Answer: C

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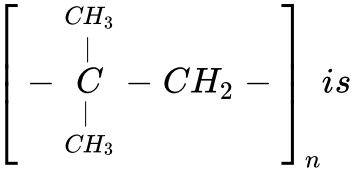
28. Mnomer of  *is*

A. 2-methyl propene

B. Styrene

C. Propylene

D. Ethene

Answer: A

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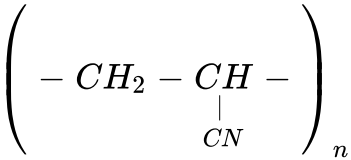
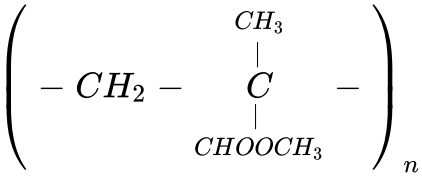
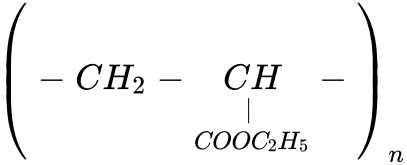
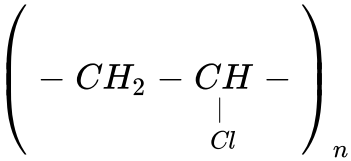
29. Acrolyn is a hard, horny and a high melting material. Which of the following represent its structure?

A. 

B. 

C. 

D. 

Answer: A

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30. Which of the following monomer gives the polymer neoprene on polymerisation?

A. $CH_2 = CHCl$

B. $\mathrm{CCl}_2 = \mathrm{CCl}_2$

C. $CH_2 = \overset{Cl}{\overset{|}{C}} - CH = CH_2$

D. $CF_2 = CF_2$

Answer: C

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31. Which one of the following is a chain growth polymer ?

A. Starch

B. Nucleic acid

C. Polystyrene

D. Protein

Answer: C

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Assignment Section D

1. A: $CH_3CH = CH_2$ can undergo cationic polymeisation with greater ease than $CH_2 = CH_2$.

R: $CH_3 -$ groups has +I effect.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: A

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2. A: During formation of condensation polymers, elimination of small molecules takes place.

R: Nylon -6,6 is a condensation polymer.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: B

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3. A: Nylon -6 is obtained by heating caprolactum with water.

R: It is used for making bristles for brushes.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: C

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4. A: Properties of copolymers are similar to homopolymers.

R:Copolymers are obtained by elimination of small molecules.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: D

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5. A: Phenol and formaldehyde are momers of Bakelite.

R: Bakelite is used for making combs.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: B

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6. A: Bakelite is hard and has high melting point.

R: Interparticle forces of attraction in it area H-bonding.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: C

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7. A:1,3-butadiene is the monomer for natural rubber.

R: Natural rubber is formed through anionic addition polymerisation.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: D

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8. A: Teflon has high thermal stability and chemical inertness.

R: Teflon is a thermosetting polymer.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: C

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9. A : Polypropylene is an addition polymer.

R:Addition polymerization occurs among molecules which contain double bonds.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: A

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10. A: Durability of a polymer is not altogether an advantage.

R: The enormous increase in the use of thrown away the packaging material poses a serious waste disposal problem.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: A

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11. A: Polybutadiene is an example of chain growth polymer.

R: Copolymerization of butadiene and styrene gives Buna-S.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: B

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12. A: PMMA is used for making lenser and light cover.

R:It has excellent light transmission properties.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: A

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13. A: Glyptal is obtained by condensation polymerization of ethylene glycol and terephthalic acid.

R: Glyptal is used in the manufacture of fabrics.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark 1.

B. If both Assertion & Reason are true but the reason is not the correct explanation of the assertion, then mark 2.

C. If Assertion is true statement but Reason is false, then mark 3.

D. If both Assertion and Reason are false statements the mark 4.

Answer: D

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