

# COLLEGEDUNIA

1. Which of the following is not a biopolymer?

- a) Protein
- b) Polysaccharide
- c) Polyurethane
- d) RNA

2. An elastomer will fail to regain its original dimensions following a distortion beyond its \_\_\_\_\_.

- a) Phase boundary
- b) London force
- c) Crystallinity
- d) Elastic limit

3. Thermosetting resins fabricated by transfer moulding which uses the principle

- a) Blowing
- b) Extrusion moulding
- c) Injection moulding
- d) Compression moulding

4. If the arrangement of functional groups on carbon chain is alternating. It is called

- a) Isotactic
- b) Syndiotactic
- c) Atactic
- d) Tacticity

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5. A thermo plastic resin is formed formed by the phemomenon of

- a) Chlorination
- b) Condensation polymerization
- c) Nitration
- d) Chain polymerization

6. Ebonite is

- a) Natural rubber
- b) Synthetic rubber
- c) Vulcanized with >30% sulphur
- d) Vulcanized with 3-5% sulphur

7. One of the important uses of bakelite is for making

- a) Cables
- b) Cloth
- c) Electrical switches
- d) Conveyor belts

8. The common catalyst used in coordination chain polymerization

- a) Nickel
- b) Zeiglar- Natta catalyst
- c) Zeolite

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d) Platinum

9. The only rubber which cannot be vulcanized is

a) Butyl rubber

b) Thiokol rubber

c) Neoprene

d) Nitrile

10. Butyl rubber is produced by co- polymerization of

a) Isobutene & Chloroprene

b) Isobutene & Isoprene

c) Isoprene & Chloroprene

d) Isoprene & Ethylene glycol

11. Compression moulding is used for moulding of

a) Thermoplastic & Thermosetting resins

b) Only thermoplastic

c) Only thermosetting resins

d) Neither thermosetting resins nor thermoplastic

12. High polymers are

a) Liquids

b) Gases

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c) Solids

d) Colloids

13. A 250 mL solution containing 21.4 g of a polymer in toluene had an osmotic pressure of 0.055 atm at 27 °C. What is the apparent formula weight of the polymer?

a) 18,000 g/mol

b) 26,000 g/mol

c) 32,000 g/mol

d) 38,000 g/mol

14. A co-ordination polymer is

a) Polyphosphates

b) Polysiloxanes

c) Haemoglobin

d) PVC

15. Zinc butyl xanthate is an example of

a) Plasticizer

b) Flame retardant

c) Antioxidant

d) Curing agent

16. Which is not true for polyesters

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- a) Have good resistance to sunlight
- b) Basic at room temperature
- c) Resistant to organic solvents
- d) Disintegrate on boiling in strong alkali solution

17. Equal masses of polymer molecules with  $M_1 = 10,000$  and  $M_2 = 1,00,000$  are mixed. The weight average molecular weight should be

- a) 18,000
- b) 55,000
- c) 50,000
- d) 5000

18. With the help of GPC which can't be measured for a polymer

- a) MWD
- b) Weight average molecular weight
- c) Z average molecular weight
- d) Number average molecular weight

19. Dehydrogenation of 1,1,1-chlorodifluoroethane gives the monomer of

- a) Polyvinyl fluoride
- b) polyvinyl acetate
- c) polyvinilidene fluoride

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d) polytetrafluoroethylene

20. PVP can be used as

a) Antibacterial agent

b) Plasma extender

c) Antisilicosis

d) Anticoagulant

21. Pearl polymerization may be employed to the synthesis of

a) PMMA

b) PVC

c) PE

d) PP

22. Phenol and formaldehyde are polymerized to a resultant product known as

a) PVC

b) Bakelite

c) Polyester

d) Teflon

23. Plastics are

a) Good conductors of heat

b) Good conductors of electricity

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c) Bad conductors of electricity

d) of high density

24. Determine the number of  $\text{CH}_2=\text{CH}_2$  monomeric units,  $n$ , in one molecule of polyethylene with a molar mass of 40,000 g. How many carbon atoms are in this molecule?

a) 2852

b) 2850

c) 2830

d) 2800

25. Acetate Rayon is prepared from

a) Acetic acid

b) Starch

c) Glycerol

d) Cellulose

26. Celluloid is

a) Thermoplastic material obtained from caprolactum and urea

b) Thermosetting material obtained from formaldehyde and urea

c) Thermoplastic material obtained from camphor and cellulose nitrate

d) Thermosetting material obtained from glycerol and phthalic anhydride

27. Which of the following is not correct regarding terylene

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- a) Step growth polymer
- b) Condensation polymer
- c) Synthetic fibre
- d) Also known as decron

28. Glyptal is

- a) Viscose rayon
- b) Polystyrene
- c) Nylon
- d) Alkyd resin

29. Nylon threads are made of

- a) Polyvinyl polymer
- b) Polyamide polymer
- c) Polyester polymer
- d) Polyethylene polymer

30. Hardening of plastics often involves cross-linking. This process is called

- a) Curing
- b) Vulcanization
- c) Compounding
- d) Plasticization



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31. The synthesis of polymers of low molecular mass using chain transfer agents is often described as

- a) Chain polymerization
- b) Step polymerization
- c) Emulsion polymerization
- d) Telomerization

32. Which of the following is a non-polar polymer

- a) Polyacrylic acid
- b) Polyvinyl alcohol
- c) Polypropylene
- d) Polyacrylonitrile

33. Which of the following will not dissolve in a solvent or melt on heating

- a) PVC
- b) Teflon
- c) Bakelite
- d) PMMA

34. Camphor, dibutyl phthalate, tricresyl phosphate are all examples of

- a) Antioxidants
- b) Plasticizers

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c) Curing agents

d) UV stabilizers

35. Lavatory cisterns are normally made of

a) Expanded polystyrene

b) Saturated polyester

c) Perspex

d) PVC

36. Automobile steering wheels are normally made of

a) Cellulose acetate

b) Cellulose nitrate

c) PVC

d) HDPE

37. 90% of the caprolactum is converted to Nylon 6 on its condensation polymerization in the reactor maintained at a temperature of

a)  $-5^{\circ}\text{C}$

b)  $10-30^{\circ}\text{C}$

c)  $250-280^{\circ}\text{C}$

d)  $500-600^{\circ}\text{C}$

38. Which of the following polymer is used in chewing gum

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a) Cellulose acetate

b) Polyvinyl acetate

c) Thiokol

d) PVC

39. Viscoelastic behavior exhibited by plastics is \_\_\_\_\_ like behavior

a) Solid

b) Liquid

c) Combination of solid and liquid

d) Neither solid nor liquid

40. Which is not true for thermoplastics

a) Weak attractive forces between chains broken by warming

b) Change shape can be remoulded

c) Crosslinks between chains

d) Weak forces reform in new shape when cold

41. The products made of HDPE can be recycled to form

a) Marine pilings

b) Carpet

c) Car battery

d) Picnic tables

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42. Synthetic fibres like Nylon 66 are very strong because

- a) They have high mw and high mp
- b) They have linear molecules consisting of very long chains
- c) They have a high degree of cross-linking by strong C-C bond
- d) They have linear molecules interlinked with forces like H-bonding

43. During step growth polymerization

- a) Monomer disappears early in the reaction
- b) Monomer molecules are still present in the final polymer
- c) Monomer breaks down to form free radicals
- d) Monomer breaks down to form ions

44. A copolymer can be formed by

- a) Polymerizing two identical polymers
- b) Mixing two different polymers
- c) Polymerizing two different monomers
- d) Mixing two identical polymers

45. In ionic polymerization “living polymer” is formed when

- a) Propagation reactions donot occur
- b) Termination reactions donot occur
- c) Initiation reactions occur faster than termination reaction

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d) Amino acids are used as monomers

46. Which of the following polymer soluble in water

a) Poly(ethyne)

b) Poly(ethenol)

c) Biopol

d) Kevlar

47. Which statement can be applied to polymeric esters

a) They are used for flavourings, perfumes and solvents

b) They are condensation polymers made by linking up of amino acids

c) They are manufactured for use as textile fabrics and resins

d) They are cross-linked addition polymers

48. Nature's monodispersed polymer is

a) Starch

b) Cellulose

c) Insulin

d) Natural rubber

49. Which of the following thermal methods cannot be used to determine  $T_g$

a) TGA

b) DTA

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c) TMA

d) DSC

50. Living anionic polymerization can be conveniently used to produce

a) Block copolymers

b) Homopolymers

c) Thermosetts

d) Thermoplasts

51. Which is not true for polymers

a) A small amount of dissolved polymer increases the viscosity of liquid

b) Polymer dissolution is a slow process involving swelling

c) Polymers do not show sharp m. pt. and liquid polymers cannot be changed into gaseous form on heating

d) Polymers sublime on heating

52. Polystyrene and poly (p-xylene) are

a) cis-trans isomers

b) Structural isomers

c) Stereoisomers

d) Functional isomers

53. Which of the following method only will give reliable estimate of number average molecular weight of a polymer with mol. wt. > 1,00,000?

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- a) Ebbluimetry
- b) Cryoscopy
- c) End of group analysis
- d) Membrane osmometry

54. Which of the following polymers possesses elastomeric properties

- a) Thiokol
- b) Polypropylene
- c) Polymethylmethacrylate
- d) Polyvinylidene chloride

55. Which of the following is a thermosett

- a) UF polymer
- b) Teflon
- c) PMMA
- d) SBR

56. In emulsion polymerization, the initiator is

- a) Soluble in water
- b) Soluble in monomer
- c) Insoluble in both
- d) Soluble in both

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57. Polyvinyl alcohol is obtained by the hydrolysis of polyvinyl acetate but not by the polymerization of vinyl alcohol monomer because the monomer is

- a) Difficult to purify
- b) Converted into acetaldehyde
- c) Difficult to polymerize
- d) Water soluble

58. Which of the following materials is used in the production of terylene

- a) DMT
- b) VAM
- c) Bisphenol
- d) Glycerol

59. The polymer used in making buckets, mugs, storage tanks, TV cabinets, etc. is

- a) HDPE
- b) PP
- c) PVC
- d) PS



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60. The catalyst used for the polymerization of olefins is

- a) Z-N catalyst
- b) Pd catalyst
- c) Wilkinson catalyst
- d) Zeise's salt catalyst

## Answer

1. c	2. d	3. c	4. b	5. d	6. c	7. c	8. b	9. b	10. b
11. a	12. c	13. d	14. c	15. d	16. b	17. b	18. d	19. c	20. b
21. a	22. b	23. c	24. a	25. d	26. b	27. b	28. d	29. b	30. a
31. d	32. c	33. c	34. b	35. a	36. a	37. b	38. b	39. b	40. c
41. d	42. d	43. a	44. c	45. b	46. b	47. c	48. c	49. d	50. a
51. d	52. b	53. d	54. a	55. a	56. a	57. b	58. a	59. b	60. a