

**Introduction to Polymer Science and Engineering (Elective IX-
CH 801)**

B. Tech. in Petrochemical Engineering

VIII Semester



Id	
Question	Polyurethane cannot be used for making
A	Mattresses & foam
B	Coating material
C	Adhesives
D	Bottles

Id	
Question	_____ resins are produced by the condensation polymerization of formaldehyde with urea or melamine.
A	Epoxy
B	Amino
C	Alkyd
D	Phenolic

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Question	Nylon-6, 10 which is used for bristles making is superior to nylon 6, 6 due to its lower water absorption capacity, is a/an
A	Polyester
B	Polyamide
C	Polyisoprene
D	Polystyrene

Id	
Question	Which of the following is an inorganic polymer?
A	Teflon
B	Perspex
C	Silicones
D	Bakelite

Id	
Question	Buna-S is a _____ material.
A	Fibrous
B	Plastic
C	Resinous
D	Rubbery

Id	
Question	Which of the following has the weakest intermolecular forces?
A	Polyisoprene
B	Nylon-66
C	Polystyrene
D	Bakelite

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Question	Polystyrene is a _____ plastic at room temperature.
A	Ductile
B	Brittle
C	Malleable
D	None of these

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Question	Transistor parts and refrigerator components are normally made of
A	Polystyrene
B	Polyester
C	High density polythene
D	Polyurethane

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Question	Condensation polymerization of _____ produces Bakelite.
A	Propylene
B	Phenol & formaldehyde
C	Phenol & acetaldehyde
D	Urea & formaldehyde

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Question	Thermoplastic resins usually
A	Remain hard as long as they are hot
B	Cannot be reclaimed from waste
C	Permanent setting resins
D	Less brittle than thermosetting resins

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A	Cellulose acetate
B	Regenerated cellulose
C	Cellulose nitrate
D	Cellulose acetate butyrate

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Question	Cation exchange resins (0.3 to 1 mm size) used in water treatment is prepared from _____ resins.
A	Epoxy
B	Phenol formaldehyde
C	Urea formaldehyde
D	Melamine formaldehyde

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Question	Tyres are made by
A	Injection moulding
B	Extrusion
C	Rotational moulding
D	Compression moulding

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Question	Automobile steering wheels are normally made of
A	Cellulose acetate
B	Cellulose nitrate
C	PVC
D	High density polythene

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Question	Main constituent of cotton fibre is
A	Lignin
B	Cellulose
C	Starch
D	Gelatine

Id	
Question	Teflon is
A	Phenol formaldehyde
B	An inorganic polymer
C	Polytetrafluoroethylene (PTFE)
D	A monomer

Id	
Question	Condensation polymerization of formaldehyde with _____ does not produce phenolic resin.
A	Resorcinol
B	Phenol
C	Para-cresol
D	Melamine

Id	
Question	The monomer for the production of neoprene rubber is
A	Acetylene
B	Chloroprene
C	Isoprene
D	None

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A	Produces high density polythene
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A	Harder
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B	Adipic acid and Hexamethylenediamine
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Question	Which of the following is not a thermoplastic material?
A	Epoxy polymer
B	PVC
C	Polystyrene
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Question	Which of the following types of polymers has the strongest inter particle forces?
A	Elastomers
B	Fibres
C	Thermoplastics
D	Thermosetting polymers

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Question	Addition polymerization is not involved in the manufacture of
A	Low density polythene
B	Poly vinyl chloride
C	Polystyrene
D	Polyhexamethylene adipamide

Id	
Question	Polyhexamethylene adipamide
A	Addition polymerization product
B	Condensation polymerization product
C	Thermosetting material
D	None

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Question	Addition of stabiliser during PVC manufacture is done to
A	Improve its impact strength
B	Improve its elasticity
C	Reduce the melt viscosity & glass transition temperature
D	Prevent its thermal degradation

Id	
Question	Maximum consumption of polymers is in
A	Electrical insulation
B	Toys making
C	Coating and films
D	Packaging

Id	
Question	The synthetic fibres produced from _____ are known as rayon.
A	Lignin
B	Cellulose
C	Polyamides
D	None

Id	
Question	A copolymer is formed by the combination of two or more monomer molecules
A	In a chain without the elimination of water
B	With the elimination of small amount of water
C	Of the same monomer by elimination of small molecules of water
D	None

Id	
Question	Pick out the wrong statement regarding the solubility characteristics of high polymers.
A	Greater the degree of cross-linking in the polymer, lesser is its solubility
B	High molecular weight polymers on dissolving gives solution of very low viscosity
C	Swelling tendency or solubility of polymers in a particular solvent decreases with increase in molecular weight of the solvent
D	None

Id	
Question	Viscosity of a polymer solution or melt
A	Decreases with increase in molecular weight
B	Decreases with increase in temperature
C	Increases with increase in temperature
D	None

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Question	Caprolactam, a raw material for the manufacture of nylon-6, is produced from
A	Phenol
B	Naphthalene
C	Benzene
D	None

Id	
Question	Vulcanisation of rubber decreases its
A	Tensile strength
B	Resistance to organic solvents
C	Tackiness
D	None

Id	
Question	Polyvinyl alcohol is used as a
A	Cation/anion exchanger
B	Water soluble adhesive
C	Textile fibre
D	None

Id	
Question	Molecular weights of plastics ranges from
A	1000 to 5000
B	5000 to 1000
C	20000 to 25000
D	None

Id	
Question	Poly-methyl-methacrylate (PMMA) is known as
A	Bakelite
B	Teflon
C	Perspex
D	None

Id	
Question	Orion is
A	A copolymer
B	A condensation polymer
C	Obtained by polymerising vinyl cyanide
D	None

Id	
Question	A copolymer of vinyl and vinylidene chloride is called
A	Treylene
B	Saran
C	Orlon
D	None

Id	
Question	Pick out the wrong statement.
A	Linear polymers are formed from bifunctional groups only and are normally thermoplastic
B	Cross-linked branched chain polymers are either elastometric or thermosetting
C	Dibasic acids reacts with dihydric alcohols to give polyesters using addition polymerization reaction
D	None

Id	
Question	Thermosetting polymers as compared to thermoplastic polymers
A	Are formed by addition polymerization
B	Have three dimensional structure
C	Have linear structure
D	None

Id	
Question	In nylon-66, the first and second numbers (i.e., 6) respectively designate the number of carbon atoms present in the
A	Hexamethylene diamine and the ring
B	Hexamethylene diamine and the adipic acid
C	Adipic acid and the ring
D	None

Id	
Question	Which of the following is not a polymer of two monomers?
A	Teflon
B	Bakelite
C	SBR
D	None

Id	
Question	The monomer of poly vinyl chloride (PVC) is
A	Chloroethane
B	Ethylene dichloride
C	Chloroform
D	None

Id	
Question	Thermocol (expanded polystyrene) is not used for
A	Low temperature thermal insulation as in refrigerator and air conditioners
B	Acoustic control and ceiling for building
C	High temperature thermal insulation in furnaces
D	Packing of delicate electronic gadgets

Id	
Question	Bakelite is a/an
A	Addition polymer
B	Elastomer
C	Thermoplastic
D	None of these

Id	
Question	_____ is an addition polymer
A	Nylon
B	Bakelite
C	Polythene
D	None

Id	
Question	Number average molecular weight gives_____
A	Kinetics
B	Melt viscosity
C	Load bearing properties
D	None

Id	
Question	Which Of the following polymers are polydisperse?
A	Nonsynthetic
B	Synthetic
C	Both
D	None

Id	
Question	Volume is measured as a function of temperature by technique called
A	Osometry
B	Dialatometry
C	Both
D	None

Id	
Question	Glass Transition approximates _____ order Transition
A	Zero
B	First
C	Second
D	Third

Id	
Question	Single phase polymerization technique is _____
A	Bulk
B	Emulsion
C	Both
D	Non

Id	
Question	Cellulose is the main constituent of most _____ fibres
A	acrylic
B	synthetic
C	natural
D	None

Id	
Question	Emulsion Polymerization is a type of _____ polymerization
A	Radical
B	Ionic
C	Both
D	None

Id	
Question	In oil-in-water emulsion polymerization, monomer is _____
A	Oil
B	Water
C	Both
D	None

Id	
Question	Emulsion polymerization are usually designed to operate at ____ conversion
A	Low
B	Medium
C	High
D	None

Id	
Question	Heat is readily dispersed in _____ polymerization
A	Bulk
B	Suspension
C	Both
D	None

Id	
Question	From which of the following, polymer product is obtained in granular form
A	Suspension
B	Solution
C	Both
D	None

Id	
Question	Reaction Exotherm is difficult to control in _____ polymerization
A	Bulk
B	Suspension
C	Both
D	None

Id	
Question	Washing occurs in _____ Polymerization
A	Bulk
B	Solution
C	Suspension
D	None

Id	
Question	Agglomeration may occurs in _____ Polymerization
A	Bulk
B	Suspension
C	Emulsion
D	None

Id	
Question	Possible Chain transfer occur in _____ polymerization
A	Bulk
B	Suspension
C	Solution
D	None

Id	
Question	In which polymerization chain transfer agent is required to control DP
A	Bulk
B	Solution
C	Suspension
D	Emulsion

Id	
Question	In which polymerization technique, Product need not to be altered
A	Bulk
B	Suspension
C	Emulsion
D	None

Id	
Question	Mechanical Dispersion is used in _____ Polymerization
A	Suspension
B	Emulsion
C	Both
D	None

Id	
Question	In solution Polymerization, _____ lined reactors are used
A	Stainless steel
B	Glass
C	Both
D	None

Id	
Question	In which polymerization technique, Small Yield per reactor volume is obtained
A	Solution
B	Bulk
C	Both
D	None

Id	
Question	In which polymerization technique, High Yield per reactor volume is obtained
A	Solution
B	Bulk
C	Both
D	None

Id	
Question	Which of the following is a polymerization technique
A	Bulk
B	Suspension
C	Solution
D	All of above

Id	
Question	Chromatography uses _____ technique
A	Adsorption
B	Absorption
C	Both
D	None

Id	
Question	Which of the polymers have rough texture?
A	Straight chain
B	Branched chain
C	Both
D	None

Id	
Question	Which of the following polymers are soft?
A	Straight chain
B	Branched chain
C	Both
D	None

Id	
Question	When three different monomers are attached in a branched chain, it is called _____ copolymer
A	Linear
B	Random
C	Graft
D	Ter

Id	
Question	In which polymers one group is placed on same side of the mother chain
A	Isotactic
B	Atactic
C	Syndiotactic
D	None

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Question	Polymerization reaction is a _____
A	Exothermic
B	Endothermic
C	Adiabatic
D	None

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Question	In which of the following polymerization process, molecular weight rises steadily
A	Chain
B	Step
C	Both
D	None

Id	
Question	Density of high density polythene is about _____ gm/c.c
A	1.18
B	1.05
C	0.95
D	0.55

Id	
Question	DP stands for
A	Degree of Polymerization
B	Degree of Progress
C	Demand of Polymerization
D	None

Id	
Question	Trade name of _____ is neoprene
A	polychloroprene
B	polyisoprene
C	polytetraflouroethylene
D	None

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Question	Ion exchange resins are made of
A	lucite
B	sulphonated bakelite
C	polystyrene
D	None

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Question	_____ is a thermosetting plastic
A	PVC
B	Polythene
C	polystyrene
D	Bakelite

Id	
Question	_____ is a natural fibre.
A	Cellulose
B	Dacron
C	Nylon-6
D	None

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Question	_____ is a homopolymer.
A	Neoprene
B	Bakelite
C	Terylene
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Question	Plastic tubes & pipes are generally made by _____ moulding
A	injection
B	transfer
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D	None

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Question	Pick out the correct statement.
A	Plastics are good conductors of heat and electricity.
B	Polymers can be vaporized by heating to a very high temperature.
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A	terylene
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C	Thermoplastics
D	Thermosetting polymers

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B	Suspension
C	Solution
D	None