Q.24 With two examples, explain Co-polymerization.

Q25 Write down structure, two properties and two use of polyester.

Q.26 State four properties and uses of Teflon.

Q.27 Explain any five uses of Bakelite.

Q.28 Describe structure, two properties and two uses of Urea-formaldehyde Resin.

Q.29 With neat sketch explain blow molding technique for polymer processing.

Q.30 Write short notes on cross linking agents.

Q.31 Explain in brief the technique of bulk polymerization.

Q.32 Write down structure, two properties and two uses of Nylon-6, 6.

Q.33 With neat sketch, explain the technique of calendaring.

Q.34 Explain in brief chain growth polymerization with the help of one example.

Q.35 Write a note on elastomers.

Section-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x10=20)

Q.36 With neat and labeled sketch explain injection molding polymer processing technique.

Q.37 Define and explain the role of plasticizers and stabilizers in plastics.

Q.38 Describe solution polymerization and compare its advantage and disadvantages with Emulsion polymerization.

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4th Sem. Branch : Chemical Engineering
Subject : Polymer Technology

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice Questions. All Questions are compulsory. (10x1=10)

Q.1 Polymers are _____.

a) Macromolecules b) Sub-marcromolecules

c) Both A & B d) None

Q.2 Polythene is a/an _____.

a) Addition polymerization product

b) Condensation polymerization

c) Thermo setting material

d) None

Q.3 Condensation polymerization of _____ products Bakelite.

a) Propylene

b) Phenol & Formaldehyde

c) Phenol & Acetaldehyde

d) Urea & Formaldehyde

Q.4 Commercial production of polypropylene employs_____polymerization.

a) Emulsion b) Suspension

c) Solution d) None

Q.5 Polycaprolactum is

a) Nylon-6 b) Nylon-6,6

c) Dacron d) Rayon

Q.6 Which polymer additives are added to improve flexibility?

a) Plasticizers b) Stabilizers

c) Lubricants d) Reinforcement

Q.7 _____Polymer is used for making unbreakable crockery.

a) Thermoplastic b) Addition

c) Melamine d) None

Q.8 Polymerization process in which two or more monomers of chemically different nature take part is called

a) Co-Polymerization

b) Addition Polymerization

c) Chain Polymerization

d) None of the these

Q.9 Which of the following is a fiber?

a) Nylon b) Polythene

c) Rubber d) None of these

Q.10 Polystyrene is a _____ plastic at room temperature.

a) Ductile b) Brittle

c) Malleable d) None of these

Section-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Define Plastics.

Q.12 Define free Radicals.

Q.13 Define degree of polymerization.

Q.14 Name two Methods of Polymer Synthesis.

Q.15 Define suspension polymerization.

Q.16 Define addition polymerization.

Q.17 Give any two uses of polyethylene.

Q.18 Define Calendaring.

Q.19 List two additives used in Plastic.

Q.20 Name two fillers.

Section-C

Note: Short answer type Question. Attempt any twelve questions out of fifteen Questions. (12x5=60)

Q.21 With one example, explain number average molecular weight and viscosity average molecular weight.

Q.22 Explain the role of initiator in polymerization with the help of a suitable example.

Q.23 With two examples, explain condensation polymerization.