Q.31 Give difference between amorphous and crystalline polymers.

Q.32 Discuss Bulk Polymerisation technique.

SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions. (3x10=30)

Q.33 Explain:-

   a) Maxwell- voight model of viscoelastic material.

   b) Thermodynamics of polymer solution.

Q.34 Give difference between Polymers and conventional materials (like wood & metals)

Q.35 Discuss various types of classifications of polymers.

Q.36 Explain Emulsion polymerisation techniques of polymers.

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3rd Sem. / Plastic / Chem. Engg. / Rubber Tech.

Subject : Polymer Science

Time : 3 Hrs.   M.M. : 100

SECTION-A

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

Q.1 Give two examples of natural polymers.

Q.2 Define Plastics.

Q.3 State two biomedical applications of polymers.

Q.4 Give monomer of phenol formaldehyde.

Q.5 Name two polymers formed by free radical polymerization.

Q.6 Name two engineering polymers.

Q.7 Define cryoscopy.

Q.8 Give two examples of polymer blends.

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Q.9 Name two techniques for the determination of glass transition temperature.

Q.10 Define ceiling temperature.

SECTION-B

Note: Very short answer type questions. Attempt any ten questions out of twelve questions. (10x2=20)

Q.11 Discuss Polydispersity.

Q.12 Give significance of Tg.

Q.13 What are crystalline polymers? Give example.

Q.14 Define weight average molecular weight of polymers.

Q.15 State carother's equation.

Q.16 Explain in shorts the concept of functionality.

Q.17 Define gelation effect.

Q.18 Write poiseuille equation.

Q.19 Give an example of condensation polymerisation.

Q.20 Define Rheology.

Q.21 Name secondary bonding in polymers.

Q.22 Give two applications of polymers in membrane osmometry.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x5=40)

Q.23 Explain the concept of zero shear viscosity.

Q.24 Discuss time dependent behaviour of polymers.

Q.25 Explain heat of dissolution.

Q.26 Explain free radical polymerisation mechanism.

Q.27 How reactivity ratio helps in governing the copolymerisation behaviour of polymers.

Q.28 Discuss any one method for determination of glass transition temperature.

Q.29 Explain conducting polymers.

Q.30 Discuss stereo isomerism in polymers.