Q.16 discuss mechanism of ionic polymerisation.

Q17 What do you understand by Molecular weight distribution.

Q.18 Explain vapour phase osmometry technique.

Q.19 Discuss polymer blends and alloys with example.

Q.20 Discuss brief history of polymers.

Q.21 Give difference between Newtonian and Non-Newtonian fluids.

Q.22 Explain different types of copolymers and their importance.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Give difference between amorphous and crystalline polymers.

Q.24 Write short note on

a) Reactivity ratio

b) Poly condensation reaction

Q.25 Discuss

a) Technique for determination of Glass transition temperature

b) Poly dispersity index and its importance

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Sub : Introduction to Polymer Science & Technology

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

.Q.1 The flow in a pipe of channel is said to be non-uniform when

a) The liquid particles at all sections have the same velocities

b) The liquid particles at different sections have different velocities

c) The quantity of liquid flowing per second is constant.

d) Each liquid particle has a definite path

Q.2 For pipes, turbulent flow occurs when Reynolds number is

a) Less than 2000 b) between 2000 to 4000

c) More than 4000 d) less than 4000

Q.3 Which of the following reaction is not accompanied by elimination of a by-product molecule?

a) Addition polymerization

b) Condensation polymerization

c) Both of the mentioned

d) None of the mentioned

Q.4 Tg stands for _____

a) Melting temperature

b) Glass transition temperature

c) Processing temperature

d) None of the above

Q.5 DP denotes_____

a) Depth of polymer

b) Degree of polymerisation

c) Di-Functional groups in polymer

d) None of the above

Q.6 Condensation polymers will release bi-products like_____.

a) Ammonia b) HCI

c) Carbon-di-oxide d) Ozone

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Name two types of fluids.

Q.8 _____ are high molecular weight chemicals made of repeating units, which are linked by covalent bonds.

Q.9 Give two examples of Homo-polymers.

Q.10 Physical properties of polymers depend on the chain length of the polymer, that is, the number of monomers, known as the _____ of the polymer.

Q.11 The process in which the molecular weight of polymer almost remains unchanged with the progress of reaction is a _____.

Q.12 The simplest type of polymer is the_____ a polymer containing only one type of monomer.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Write short note on light scattering technique of molecular weight determination.

Q.14 Explain Emulsion polymerisation technique.

Q.15 Explain factors affecting glass transition temperature of polymers.