Q.24 Discuss Emulsion polymerisation technique and its advantages and disadvantages.

Q.25 Explain :

a) Molecular weight and its distribution

B) Mechanism for free radical polymerisation

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Sem. 1 NEP
Plastic Technology
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 For pipes, laminar flow occurs when Reynolds number is

a) Less than 2000 b) Between 2000 to 4000
c) More than 4000 d) Less than 4000

Q.2 Newton's law of viscosity is a relationship between_____.

a) Shear stress and the rate of angular distortion
b) Shear stress and viscosity
c) Shear stress, velocity and viscosity
d) Pressure, velocity & viscosity

Q.3 Which one of the following is not an example of Thermoplastic.

a) Polyvinyl chloride b) Nylon
c) Polyamides d) Epoxy

Q.4 The cryoscopy refers to _____.

a) Osmotic pressure measurement
b) Elevation in boiling point measurement

c) Freezing point depression measurement
d) Increase in solubility measurement

Q.5 On the basis of mode of formation polymers can be classified:
a) As addition polymers only
b) As condensation polymers only
c) As copolymers
d) As addition and condensation polymers

Q.6 Which type of forces exists in polymers?
a) Vander waal forces b) Secondary forces
c) H-bonding d) All of the above

Section-B

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

Q.7 Higher molecular weight polymers are tougher and more heat resistant. (True/False)

Q.8 DP denotes_____.

Q.9 _____ are polymers containing two or more types of monomers.

Q.10 the process in which the molecular weight of polymer almost remains unchanged with the progress of reaction is a_____.

Q.11 give two examples of Homo-polymers.

Q.12 Give relation between Tm and Tg.

Section-C

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

Q.13 Explain any one technique of determination of glass transition temperature.

Q.14 Discuss chain growth polymer reaction.

Q.15 Discuss importance of polymer blending.

Q.16 Explain reactivity ratio and its importance.

Q.17 Explain Bulk polymerisation technique.

Q.18 Briefly explain vapour osmometry technique of Molecular weight determination.

Q.19 Give difference between amorphous and crystalline polymers.

Q.20 Explain classification of fluids.

Q.21 Discuss Maxwell and voigt Model of Visco-elasticity.

Q.22 Explain effect of glass transition temperature on properties of Polymers.

Section-D

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

Q.23 Discuss :
a) Brief history of polymers
b) Polymers physical modification