Q.20 Give Newton's law of viscosity.

Q.21 Write four applications of plastics composite material.

Q.22 Write bulk polymerization technique of polymerization.

SECTION-D

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

Q.23 Define various types of Co polymers. Give structure of each.

Q.24 Write the mechanism of free radical Polymerization technique.

Q.25 Write four factors which affect, Tg of polymers. Give details of any two.

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SECTION-A

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

Q.1 When two polymers are mixed together. The product formed is called

a) Blend   b) Co Polymer

c) Both a and b   d) Neither a nor b

Q.2 For turbulent flow the value of Reynolds number is

a) Less than 2000

b) More than 2000 but less than 4000

c) More than 4000

d) None of above

Q.3 Fluids have

a) Elasticity   b) Viscosity

c) Both a and b   d) Neither a nor b

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Q.4 Free radicals are used in

a) Condensation polymerization

b) Addition Polymerization

c) Both a and b

d) Neither a nor b

Q.5 If temperature of liquid is increased, its viscosity will

a) Increase   b) Decrease

c) No effect   d) None of above

Q.6 Which of polymer is polymerized using ring opening polymerization?

a) Nylon 6,6   b) Nylon 6

c) PC   d) PET

SECTION-B

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

Q.7 Define glass transition temperature.

Q.8 Expand the term DSC.

Q.9 Define amorphous polymers.

Q.10 Define Co polymer.

Q.11 Define rheology.

Q.12 Define viscoelastic material.

SECTION-C

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

Q.13 Define viscosity. What is the effect of temperature on the viscosity of liquid and gas?

Q.14 Define Compressible and incompressible fluids.

Q.15 How molecular weight of polymers affect its properties. Give any two.

Q.16 Define melt temperature of polymer. How is it related to glass transition temperature?

Q.17 Give difference between real fluid and ideal fluid.

Q.18 Calculate the molecular weight $CH_2 = CH_2$.

Q.19 What do you mean by Mw and Mn, For a given polymer which has high value?