



B.E. / B.Tech. (Full Time) DEGREE ARREAR EXAMINATIONS, APRIL / MAY 2011

MATERIALS SCIENCE AND ENGINEERING BRANCH

FOURTH SEMESTER – (REGULATIONS 2004)

**ML 286 – POLYMER PROCESS ENGINEERING**

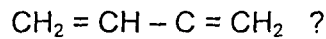
Time : 3 hrs

Max Marks: 100

Answer ALL Questions

Part – A (10 x 2 = 20 Marks)

1. Write down any two differences between Addition Polymers and Condensation Polymers.
2. What alternative polymer structures are formed from the isoprene molecule



3. What are the significant differences in the melting behaviour of LPE and BPE?
4. What are the chemical structures of PTFE and PMMA?
5. What are called stereo isomers?
6. Name any four polymer products that are manufactured by extrusion process.
7. What are the functions of an extruder screw?
8. What are the advantages of Reinforced Reaction Injection moulding process over Conventional processes?
9. Define Pultrusion.
10. What is shear thinning phenomena in polymers?

Part – B (5 x 16 = 80 Marks)

11. a. (i). What are the two broad categories of polymers? Explain with example. (6)  
(ii). Describe in detail the effect of temperature, Molecular weight and polarity on Polymers. (10)
12. a. Derive an expression for the velocity profile of a Power-Law fluid for pressure flow through a capillary.

(OR)

- b. Explain the process of calendering for the production of plastic sheets.

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