

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-2008

III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS
POLYMER ENGINEERING
(CHEMICAL ENGINEERING)

AUG/SEP 2008

TIME:3HOUR
MARK:80

ANSWER ANY FIVE QUESTIONS ALL QUESTIONS CARRY EQUAL MARKS.

MARK [16*5=80]

1. (a) Explain the process of vulcanization of rubber.
(b) What are the different additives used in compounding of natural rubber. Explain the specific function of each.
2. Explain briefly:
 - (a) solution polymerization,
 - (b) mass polymerization.
3. Explain briefly various methods used for the measurement of molecular weight and its distribution
4. Discuss briefly about
 - (a) Mechanical properties
 - (b) Thermal properties
 - (c) Physical properties
 - (d) Chemical properties
5. (a) Discuss briefly about the rubbery and fibrous filters.
(b) Discuss briefly about the necessity of coupling agents in polymers.
6. Give structural differences of isotactic, syndiotactic and atactic polypropylene. How is isotactic polypropylene is prepared? Compare the important characteristics of the isotactic polypropylene with atactic polypropylene.
7. (a) Write short notes on alkyd resins.
(b) Explain in detail about the applications of polyester both in fibre and plastic form.
8. (a) What type of curing agents are used in molding techniques.
(b) Which type of plastic product does not require compounding?
(c) What is the modification of injection molding? What are their advantages?