

No. of Printed Pages : 03

Roll No. ....

**5764**

**M. Tech. EXAMINATION, May 2018**

(Second Semester)

(B. Scheme) (Main & Re-appear)

(MSN)

MSN608

POLYMER SCIENCE AND TECHNOLOGY

*Time : 3 Hours]*

*[Maximum Marks : 100*

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note :** Attempt any *Five* questions. All questions carry equal marks.

(3-53/14)M-5764

**P.T.O.**

1. Differentiate between the following using examples : **8+8+6=20**
  - (a) Thermoplastic and Thermosetting or polymers
  - (b) Homopolymer and copolymer
  - (c) Define Functionality.
2. How the properties of the polymers affected with structure ? Write down preparation, properties and uses of polyvinyl chloride and phenol formaldehyde. **20**
3. Explain different types of polymerization processes. Explain preparation, properties and applications of PVA and Urea formaldehyde. Comment on plasticizers and their role. **20**
4. Taking the example of Nylon-66, illustrate the mechanism of step growth polymerization. **20**
5. (a) What is chain polymerization and explain the steps involved ?  
 (b) Explain with examples the process of step growth polymerization. **10×2=20**
6. What are silicones and how are they prepared ? Discuss their important properties and applications. **20**
7. Write short notes on the following : **8+6+6=20**
  - (a) Fiber reinforced plastics
  - (b) Polymer blends
  - (c) Oxidation and Thermal degradation of Polymer.
8. Define the term crystallinity. How is it related to structure ? Explain, how is the chemical resistance of a plastic influenced by its structure. **20**