

**M.Sc. FOOTWEAR TECHNOLOGY
(MSCFWT)**

Term-End Examination

December, 2013

**MFW-034 : POLYMER AND DMS SPORTS SHOE
TECHNOLOGY**

Time : 3 hours

Maximum Marks : 70

Note : Attempt any five questions. Each question carry equal marks.

1. How is Natural Rubber extracted and from which plant ? Describe the complete process of extraction, solidification till final manufacturing. Also mention the nomenclature and grading system of Natural Rubber. 14
2. How SBR Rubber plays vital role as a soling material in footwear industry ? What are its basic properties ? Discuss various advantages and disadvantages of SBR Rubber. 14
3. Explain the manufacturing process of polyurethane. What are the various applications of polyurethane in footwear industry ? Discuss the different advantages of polyurethane. 14

4. Explain the following terms by giving suitable examples : **14**
- (a) Monomer
 - (b) Repeat Unit
 - (c) Network
 - (d) Degree of polymerization
 - (e) Homopolymer
5. Explain the importance of addition of different chemical ingredients during the processing of rubbers ? Write the functions of these ingredients for the same. **14**
6. What do you understand by macromolecular concept of polymers ? Elaborate this concept with suitable examples ? **14**
7. Explain the following processing techniques with diagrammatic details of the equipments used for rubber processing. **14**
- (a) Rubber Mixer,
 - (b) Extruder and
 - (c) Compression Moulding
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