

**M.Sc. FOOTWEAR DESIGN AND
PRODUCTION (MSCFDP)**

00441 **Term-End Examination**

December, 2017

**MFR-011 : POLYMER AND DMS SPORTS SHOE
TECHNOLOGY**

Time : 3 hours

Maximum Marks : 70

Note : Attempt any seven questions. All questions carry equal marks.

1. Compare the properties of polyurethane sole with rubber sole. 10

2. Write a short note on the classification of polymers. Differentiate between thermoset and thermoplastic polymers in detail. 10

3. What do you understand by vulcanization ? Discuss the vulcanization process for rubber sole manufacturing in detail. 10

4. What do you understand by direct injection moulding process ? Discuss the direct injection moulding process for school shoe manufacturing. 10

5. What are the various advantages and disadvantages of TPR material ? 10
 6. What do you understand by rubber compounding ? Discuss rubber compounding in detail. 10
 7. Differentiate between reaction injection moulding and simple injection moulding. 10
 8. Why are thermoplastic materials preferred over simple rubber and polyurethane in shoe outsole components ? Explain in detail. 10
 9. Explain the various polymers used for adhesives in the footwear industry. 10
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