

M.Sc. FOOTWEAR TECHNOLOGY
(MSCFWT)

00335

Term-End Examination

December, 2014

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

Time : 3 hours

Maximum Marks : 70

Note : All questions are compulsory.

1. (i) What do you understand by vulcanisation ?
- (ii) Give two examples of copolymers.
- (iii) Write various polymer processing techniques.
- (iv) Define rubber compounding.
- (v) State the materials used for shoe outsole.
- (vi) Define blends.
- (vii) What do you understand by DIP method ?
- (viii) What do you mean by rubber mastication ?
- (ix) What are the different adhesives used in sports shoe manufacturing ?
- (x) Define midsoles. *10×1=10*

2. (i) Discuss the uses of different polymeric materials in footwear industry.
- (ii) Why is midsole important in a sports shoe ? Discuss.
- (iii) State the advantages of compression moulding.
- (iv) With the help of a flow chart, discuss the production of rubber sole.
- (v) State the various properties of EVA. $5 \times 3 = 15$
3. Attempt any **four** of the following : $4 \times 7 = 28$
- (i) Discuss the sequence of operations in injection moulding.
- (ii) Explain the important properties of a soling material in a sports shoe.
- (iii) What do you understand by DMS method ? Discuss the types of DMS method in detail.
- (iv) Describe the sequence of operations of canvas shoe manufacturing.
- (v) What are the different ingredients used in PVC compound ? Discuss.
4. What are the various ingredients of vulcanised rubber compound ? Discuss each ingredient. Also discuss the various types of vulcanised rubber. 17

OR

How will you use the knowledge of polymers in different areas of sports shoe industry ? Discuss in detail. 17