No. of Printed Pages : 3

BFWE-018

B.Sc. FOOTWEAR TECHNOLOGY (BSCFWT)

Term-End Examination

June, 2017

00454

BFWE-018 : POLYMER TECHNOLOGY – I

Time : 3 hours *Maximum Marks : 70*

Note : *Questions no. **1** and **2** are **compulsory**. Attempt any **five** questions from questions no. 3 to 9.*

1. (a) Define 'Copolymer'.

(b) What do you mean by fibre ?

(c) The monomer of PVC is _____ .

(d) What does TPU stand for ?

(e) Define 'average molecular weight'.

(f) Define 'Polydispersity'.

(g) Name a few polymeric materials for shoe uppers.

(h) What do you understand by 'Outsole' ?

(i) Define 'thermoplastic materials'.

(j) Define 'Vulcanization'. *10×1=10*

2. (a) Write the main properties of cellular polyurethane.

(b) Classify polymers on the basis of origin and synthesis.

(c) Discuss the physical properties of TPU as soling material.

(d) What are the various properties of SBR rubber as soling material ?

(e) Which polymeric materials can be used for shoe soles ? *5×3=15*

3. Explain the production of a PVC sole unit with the help of a flow chart. *9*

4. Define glass transition temperature. Discuss the various factors affecting glass transition temperature. *9*

5. What do you know about DMS technology ? Discuss the DIP method in detail. *9*

6. Why is midsole used in sports shoes ? Discuss the various properties of EVA as midsole material. *9*

7. Discuss the various vital properties of soling materials to achieve an upgraded quality of footwear sole. *9*

8. How do you manufacture TPR ? Explain. Mention about the applications, advantages and disadvantages of TPR rubber. *9*

9. Write short notes on the following : *3×3=9*

(a) Macromolecules

(b) Tapping of latex

(c) Compounding of rubber

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