

**B.Sc. FOOTWEAR TECHNOLOGY (BSCFWT)**

**Term-End Examination**

00274

**June, 2014**

**BFWE-018 : POLYMER TECHNOLOGY – I**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Attempt any **five** questions. Each question carries equal marks.

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1. Explain the characteristics, applications and advantages of the following : 14
  - (a) LDPE and HDPE
  - (b) PVC
  - (c) PU
  
2. (a) Explain the complete extraction process of Natural Rubber.  
(b) Mention the nomenclature and grading system of Natural Rubber. 7+7=14
  
3. (a) Explain the widespread application of PVC in different Industrial and Commodity products, including footwear.  
(b) What are the various advantages and disadvantages of PVC as soling material ? 6+8=14

4. Explain the processing techniques with diagrammatic detail of the following equipments used for rubber processing : 14
- (a) Rubber Mixer
  - (b) Extruder
  - (c) Compression Moulding
5. Discuss various applications and main characteristic qualities of the following rubbers as soling material : 14
- (a) EVA
  - (b) TPR
  - (c) NBR
6. Define the following terms with suitable examples :  $3\frac{1}{2} \times 4 = 14$
- (a) Homo-polymer
  - (b) Co-polymer
  - (c) Hetero-polymer
  - (d) Monomer
7. Explain the processing characteristics and sequence of application of following ingredients added during processing of polymers :  $3\frac{1}{2} \times 4 = 14$
- (a) Reinforcing fillers
  - (b) Process aids
  - (c) Anti-oxidants
  - (d) Accelerators