

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE – SEMESTER VIII • EXAMINATION – WINTER - 2013****Subject code: 182602****Date: 09-05-2013****Subject Name: Belts, Hoses & Footwear Technology****Time: 10:30 pm to 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 Answer the following. (14)

- (i) Discuss the importance of neutral braid angle for hose design.
- (ii) What do you mean by band radius? Write the formula for calculation of band radius.
- (iii) List the advantages & disadvantages of shoe last made from steel.
- (iv) Give the name of fabric used as an upper material for fire fighter boot. List the properties of this fabric.
- (v) Give the comparison between Conveyor belt & V-belt.
- (vi) Which types of materials are used (fabric & Polymer) for manufacturing of light belt? Discuss the reasons for using it.
- (vii) Write the difference between overlap method & butt joint method used for joining the V-belt.

Q.2 (a) Discuss in detail about the manufacturing of Hand made footwear. (07)

- (b) Answer the following.
  - (i) Describe in detail about Rubber Shoe upper varnish. (04)
  - (ii) Write the composition, properties & uses of Gore-Tex fabric laminate. (03)

OR

- (b) Answer the following.
  - (i) Explain in detail about the Water jet cutting system. (04)
  - (ii) Discuss about the injection moulding process for manufacturing of heels & soles. (03)

Q.3 (a) What do you mean by dross? Discuss the different ways of occurring & removing of dross. (07)

- (b) Describe the different principles used for the fitting of hose couplings in general. (07)

OR

Q.3 (a) Explain in detail about the storage & general care & maintenance for hose. (07)

- (b) Answer the following.
  - (i) Write about the manufacturing of steam hose. (04)
  - (ii) Give the comparison between wrapped Vs. braided construction. (03)

Q.4 (a) Discuss in detail about Carcass reinforcement material used for manufacturing Conveyor belt. (07)

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- (b) What do you mean by Breakers? Why they are referring as leno breakers? List the purpose survived by it. (07)

OR

- Q.4 (a) Explain in detail about Conveyor belt strength calculations. (07)  
(b) Discuss the properties required for conveyor belt in general. (07)
- Q.5 (a) Short note on Repair of Flat belting. (07)  
(b) Answer the following.  
(i) List the main points in cord processing for V-belt. (04)  
(ii) Discuss about the selection of yarn for V-belt. (03)

OR

- Q.5 (a) Write about building & skiving for manufacturing of wrapped V-belt. (07)  
(b) Short note on Types of Grinding Stones used for manufacturing of V-ribbed belt. (07)