Seat No.: _____ Enrolment No._____

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 & maintance 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)

-----P.T.O.-----

	(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 ñRepair of Flat belting.ò	(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 ñTypes of Grinding Stones used for manufacturing of V-ribbed beltò.	(07)