Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII • EXAMINATION – WINTER • 2014

Subject Code: 180301 **Date: 04-12-2014**

Subject Name: Rehabilitation Engineering

Time: 02:30 pm - 05:00 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	**(a)**	Explain working of Nottingham Obstacle Sensor with schematic.	**07**
	(b)	Explain engineering concept in sensory and motor rehabilitation.	**07**
Q.2	**(a)**	Write a short note on Laser cane.	**07**
	(b)	Explain wheelchair Structure and their Component Design.	**07**
		OR	
	(b)	Explain meaning of following words with example Impairment, Prosthesis, residual capacity	**07**
Q.3	**(a)**	Explain Augmentation and Substitution of Tactual system.	**07**
	(b)	Explain substitution of visual sensory system by other sensory systems.	**07**
		OR	
Q.3	**(a)**	Explain Visual Auditory Substitution and Tactual Auditory Substitution.	**07**
	(b)	Write a short note for restoration of standing & walking.	**07**
Q.4	**(a)**	Explain working of an intelligent artificial knee.	**07**
	(b)	Explain myoelectric hand and arm prostheses.	**07**
		OR	
Q.4	**(a)**	Write a short note on FES role in rehabilitation engineering.	**07**
	(b)	Explain Tadoma method & Tactile vocoders.	**07**
Q.5	**(a)**	Explain Ergonomics of Wheelchair Propulsion.	**07**
	(b)	Describe Measurement Objectives and their Approaches.	**07**
		OR	
Q.5	**(a)**	Explain subjective and objective measurement methods**.**	**07**
	(b)	Write a short note on Seating, walking & Postural aids for rehabilitation.	**07**

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