Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII EXAMINATION – SUMMER 2016

Subject Code: 180301 **Date:05/05/2016**

Subject Name: Rehabilitation Engineering

Time: 10:30 AM 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	**(a)**	Define Substitution. Explain different augmentation techniques used for Auditory Impaired person.	**07**
	(b)	What is Disability? Explain Engineering concepts in sensory Rehabilitation	**07**
Q.2	**(a)**	Define Rehabilitation. Explain need of Physical, Psychological, Physio-psychological rehabilitation with proper examples.	**07**
	(b)	Discuss Goal oriented restoration of hand and Arm Movements using FES.	**07**
		OR	
	(b)	What is HAS? Explain EMG controlled Arm Prostheses.	**07**
Q.3	**(a)**	Give Classification of Wheelchair & explain powered wheel chair with its basic electrical system.	**07**
	(b)	Enlist different types of Mobility AIDs & explain LASER cane.	**07**
		OR	
Q.3	**(a)**	Discuss Ergonomics of Wheelchair Propulsion.	**07**
	(b)	Write a Short note on: 1. Mowat Sonar sensor as a Travel Aid 2. Nottingham Obstacle Detector.	**07**
Q.4	**(a)**	Discuss importance of Computer Aided design & explain Intelligent prosthetic knee with necessary diagram.	**07**
	(b)	Explain Various Augmentation and substitution device used for Blind Person.	**07**
		OR	
Q.4	**(a)**	Define Rectification for artificial limb design. & explain Controlled Prosthetic Hand.	**07**
	(b)	Explain Visual Auditory substitution techniques in detail.	**07**
Q.5	**(a)**	Explain scope of measurement in Rehabilitation.	**07**
	(b)	Enlist and Explain different Impairments and Related Assistive Technologies developed for Disable.	**07**
		OR	
Q.5	**(a)**	Explain different measurement Objectives and approaches.	**07**
	(b)	Explain Conceptual framework of Technology and disability.	**07**

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