

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Subject Code: 2160310**Date: 26/10/2016****Subject Name: Rehabilitation Engineering****Time: 02:30 PM to 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 FES system with necessary schematics. **07**
(b) Draw and explain schematic of wheel chair for stair up or down mechanisms. **07**
- Q.2** (a) Explain design concept of various orthotics for lower limb. **07**
(b) Explain tactual vision substitution technique **07**
- OR**
- (b) Explain design concept of various prosthetics for upper limb. **07**
- Q.3** (a) Explain designing aspects of intelligent prosthetic knee. **07**
(b) Explain the ergonomic considerations in design of wheelchair. **07**
- OR**
- Q.3** (a) Write a short note on PHAATE model. **07**
(b) Write a short note on various Standards for assistive technology. **07**
- Q.4** (a) Explain engineering concept in sensory and motor rehabilitation **07**
(b) Explain designing aspects of wheelchair for sport activity. **07**
- OR**
- Q.4** (a) Explain LASER cane and give its advantages over standard cane. **07**
(b) Write a short note on Tactile devices for visually challenged person. **07**
- Q.5** (a) Explain structure and working of various surgical hearing aids. **07**
(b) How rehabilitation engineering helps to mentally impaired person? **07**
- OR**
- Q.5** (a) Discuss medical application of Muscle and nerve stimulator with necessary schematic. **07**
(b) Explain following terms: **07**
1) Rehabilitation engineering
2) Postural Aids
3) myoelectric arm
