

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.

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|------------|------------|--|-----------|
| 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 |
