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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (OLD) - EXAMINATION - SUMMER 2017 Subject Code:180301 Date:29/04/2017 **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. What is Rehabilitation and Rehabilitation Engineering? Explain engineering 0.1 07 (a) concepts in motor rehabilitation. What is Augmentation and Substitution? Explain various devices used for **(b)** 07 Auditory Augmentation. Explain cardinal considerations for designing of orthopedic orthosis and 0.2 07 (a) prosthesis. **(b)** Write a short note on Hybrid Assistive System. **07 (b)** What is FES? Explain restoration of standing and walking. 07 (a) Enlist various Mobility Aids and explain LASER cane as Mobility Device. 07 0.3 Explain Ergonomics of Wheelchair Propulsion. **(b)** 07 OR Give Classification of Wheelchair in detail. 07 0.3 (a) **(b)** Give structural aspects of walkers and crutches. 07 0.4 Enlist and Explain various augmentation device used for Visually Impaired 07 person. Explain subjective and objective measurement methods and assessment in **(b) 07** rehabilitation OR Explain various devices used for Visual Auditory Substitution and Tactual 07 0.4 Auditory Substitution. **(b)** Explain Scope of Measurement in Rehabilitation. 07 Write a Short note on Arm Prosthesis. 0.5 07 (a) Write a short note on following: 07 **(b)** 1) Mowet sensor 2) Ultrasonic binaural sensing device OR (a) Enlist and Explain different Impairments and related assistive Technologies 07 0.5 developed for Disable. **(b)** Write a short note on Path Sounder. 07
