

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2023****Subject Code:3160310****Date:07-12-2023****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.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) Explain Principle and goals of Rehabilitation Engineering.	03
(b) Explain Ultrasound cane.	04
(c) Explain design of lower limb prosthesis in detail.	07
Q.2 (a) Describe laser cane with its limitations.	03
(b) Explain working of Optacon in detail.	04
(c) Explain design of upper limb prosthesis in detail.	07
OR	
(c) Explain design of upper limb orthosis in detail.	07
Q.3 (a) What are factors to be considered while designing Assistive Technology?	03
(b) Describe characteristics of good prosthesis.	04
(c) Explain in detail Braille and optical devices for blind people.	07
OR	
Q.3 (a) Define: Disability, Rehabilitation Engineering, Assistive Technology.	03
(b) Explain classifications of Amputation types.	04
(c) Explain design of Myoelectric arm.	07
Q.4 (a) Describe classification of Wheelchair.	03
(b) Explain working of Path sounder.	04
(c) Explain structure and design of wheelchair.	07
OR	
Q.4 (a) Explain anatomy of eye.	03
(b) Explain electric power wheelchair. Write standards for wheelchair.	04
(c) Explain types of retinal implant in detail.	07
Q.5 (a) Write applications of rehabilitation engineering in sports.	03
(b) Explain Tadoma method for deaf people.	04
(c) Explain design of different types of Hearing Aids.	07
OR	
Q.5 (a) Describe application of rehabilitation engineering for brain computer interface.	03
(b) Explain anatomy of ear.	04
(c) Explain Cochlear implants in detail.	07
