

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI EXAMINATION – SUMMER 2025****Subject Code:3160310****Date:26-05-2025****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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Answer the following terms: 1. Activities of daily living (ADL) 2. Pathophysiology 3. Residual function	03
	(b) Describe the concept of preventive rehabilitation and its various forms. Define the different levels of prevention.	04
	(c) Define the concept of handicap. Explain how the World Health Organization has categorized handicap and the criteria used for classification.	07
Q.2	(a) What do you understand by primary and secondary disabilities?	03
	(b) List and explain different goals of rehabilitation.	04
	(c) Write a note on rehabilitation team with their functions.	07
	OR	
	(c) Draw and explain an information processing model of the human operator of assistive technologies. (Human component model).	07
Q.3	(a) Explain five major misconceptions that exist in the field of assistive technology.	03
	(b) List and explain various phases of disability in an individual.	04
	(c) Enlist and explain general principles of orthosis.	07
	OR	
Q.3	(a) Draw and explain three point mechanism of system of Jordan.	03
	(b) What is osteoarthritis? Explain with detailed classification.	04
	(c) Explain path sounder and ultrasonic torch.	07
Q.4	(a) What are the disadvantages of orthosis?	03
	(b) Explain about materials and their consideration for selection of orthosis.	04
	(c) Describe the categorization of wheelchairs and the materials utilized in their construction.	07
	OR	
Q.4	(a) Define types of Visual Impairments with two examples.	03
	(b) Explain braille reader and enlist its disadvantages.	04
	(c) Explain brain computer interface with its main constructional diagram.	07
Q.5	(a) Explain tactile visual substitution with example.	03
	(b) What are the types of deafness? Describe hearing aids.	04
	(c) What is neuro-prosthetics? Explain it with its applications.	07
	OR	
Q.5	(a) What is epidemiology of rehabilitation?	03
	(b) Explain Ankle Foot orthosis (AFO).	04
	(c) Explain Laser cane with constructional diagram and compare with standard cane.	07
