Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (OLD) - EXAMINATION - SUMMER 2017

Subject Code: 140302 Date: 12/06/2017 **Subject Name: Physiological Measurement Techniques** 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. 0.1 (a) Define: 07 5. Polarization 1. Homeostasis 2. Exocytosis 6. Transducers 3. Endocytosis 7. Synapse 4. Action Potentials (b) Draw a neat diagram of cellular structure and enlist functions of its organelles. 07 **Q.2** (a) Explain the generation of action potential and phases with detailed sketches. **07** Briefly describe the methodology to record the action potentials from cell 07 membrane. Enlist and explain various types of body surface electrodes for measurement of 07 biopotential signals. Describe the generation of heart sounds with neat diagrams. 07 Q.3Enlist and explain the structures of spinal cord with their functions. **(b)** 07 Describe the generation of Electrocardiogram with neat diagrams. 0.3 07 Write a short note on reflex mechanism of human body with appropriate 07 examples. Draw and explain the anatomy of eye. 0.4 07 (a) (b) Explain the physiology of muscular movement and importance of Sarcomere. 07 Explain Electrooculogram and its measurement technique. 07 0.4 (a) **(b)** Describe the respiratory tract with necessary sketches. **07** 0.5 (a) Describe the technique used for pulmonary function testing. 07 **(b)** Enlist and explain various types of internal noises. 07 **Q.5** (a) What do you mean by ground loop interference? How to remove it? **07** Enlist and explain various pulmonary volumes and capacities. 07
