

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- IVth SEMESTER-EXAMINATION – MAY/JUNE- 2012****Subject code: 140302****Date: 31/05/2012****Subject Name: Physiological Measurement Techniques****Time: 10:30 am – 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.

- Q.1** (a) What is tissue regeneration? Define Labile, Stable & Permanent cells. **07**
(b) Explain the difference between below given terms. **07**
1. CNS & PNS
2. Sensory nerves & Motor nerves
3. Voluntary & Involuntary Nerves

- Q.2** (a) Enlist & Explain the types of Cell division. **07**
(b) Explain the use of piezo crystal as Pressure, Capacitive & Displacement transducer. **07**

OR

- (b) Explain the propagation of an impulse in a non-myelinated nerve fibre with neat sketch. **07**

- Q.3** (a) Discuss the conductively coupled interference. **07**
(b) Describe the flow of cerebrospinal fluid in the brain. **07**

OR

- Q.3** (a) Explain the structure of micropipette electrodes. Discuss the applicability of it. **07**
(b) What is a cardiac rhythm? Explain the abnormalities that may arise in cardiac rhythm. **07**

- Q.4** (a) Describe the working of heart. Explain the effect of high blood pressure in arteries. **07**
(b) Enlist the types of surface electrodes. What precautions should be taken while measuring EMG using surface electrodes? **07**

OR

- Q.4** (a) Explain the difference between capacitive & Inductive interference. Discuss the techniques to remove it. **07**
(b) Describe the functions of Pharynx. **07**

- Q.5** (a) Discuss the effect of mutation. What are the effects of mutation on evolution? **07**
(b) Explain the respiratory track with neat diagram. **07**

OR

- Q.5** (a) Describe the structure and functions of these tissues: **07**
Epithelial, Connective, Muscle, Nervous.
(b) Give a brief description of retina. What is the function of macular region? **07**
