

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER- IV(NEW) EXAMINATION – SUMMER 2015

Subject Code: 2140306**Date:01/06/2015****Subject Name: Biosensors & Transducers****Time: 10:30am-1.00pm****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) Give classification of Transducers in detail. **07**
(b) Enlist different types of radiation sensors & explain GM counter. **07**
- Q.2** (a) Draw and explain basic structural unit of nervous system. **07**
(b) Enlist different types of temperature sensor and Describe Thermocouple as a temperature transducer. **07**
- OR**
- (b) Write a Short Note on Linear Variable Differential Transformer. **07**
- Q.3** (a) Explain blood pressure measurement using Sphygmomanometer. **07**
(b) What is Conductometry & explain Conductivity sensors. **07**
- OR**
- Q.3** (a) Explain working principle of Transit time and electromagnetic type flow meters. **07**
(b) Define oximetry. Explain working principle of Pulse Oximeter. **07**
- Q.4** (a) Describe Construction of Glass electrode for the pH measurement. **07**
(b) Enlist Biological biosensors & explain Enzyme based sensors in detail. **07**
- OR**
- Q.4** (a) Describe electrodes used for pO₂ Measurement. **07**
(b) Explain Silver - silver chloride electrodes in detail. **07**
- Q.5** (a) Write a short note on Gas sensors. **07**
(b) Enlist different types of Level Measurement Transducers & explain ultrasonic transducer for level measurement. **07**
- OR**
- Q.5** (a) Write a short note on smart sensors. **07**
(b) Discuss static characteristics of Transducers. **07**
