

[Time: Three Hours]

[Marks:80]

- N.B: 1. Question.No.1 is compulsory.
2. Attempt any three questions from remaining five questions.
3. Assume suitable data wherever necessary.

- 1 Attempt the following. 20
- a. What is the function of electrode-electrolyte interface, explain with suitable diagram.
- b. Explain any two characteristics of biosensor.
- c. What are the different sources of noise? Describe techniques for reduction of noise.
- d. How biosensor is used in food industry.
- 2 a. Explain generation and propagation of biopotentials with suitable diagram. 10
- b. Explain working of ion exchange membrane electrode. 10
- 3 a. Elaborate working principle of Clark electrode with suitable diagram. 10
- b. Classify chemical sensors and explain the principle and working of any one
Chemical sensor. 10
- 4 a. Explain working of amperometric sensor. 10
- b. Explain Fourier transform signal processing technique used for biosensor measurement. 10
- 5 a. How will you classify biosensors with its applications? 10
- b. Explain working of any one fiber optic biosensor. 10
- 6 Write a short note on :- 20
- a. Immuno-sensor.
- b. Glucose meter.