



## Medical Electronics (1010)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answer sheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Solve **any two** questions from each unit.
5. Draw diagrams wherever required.
6. Black figures to the right indicate full marks.

### UNIT – I

1. Enlist the factors to be considered for design of medical instrumentation system. Explain in detail any two of them. **10**
2. Draw & discuss communication of human with the environment. **10**
3. With the help of its constructional details explain any one type of pressure transducer. **10**

### UNIT – II

4. Sketch the electrical conduction system of Heart & explain the same. **10**
5. Sketch the graphic recording of heart sounds, Label it & give the specifications. **10**
6. With the help of diagram, explain electrodes arrangements used for measurement of ECG & placement of the leads. **10**

### UNIT – III

7. What is the basic unit of nervous system? Sketch the same. **10**  
Explain how the communication takes place within nervous system.

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| 8. | Explain the electroencephalogram measurements in detail. | 10 |
| 9. | Draw & discuss the instrumentation used for myograph.    | 10 |

**UNIT – IV**

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| 10. | Write a detailed account on Lung volumes & capacities.  | 10 |
| 11. | Explain the principle of infrared gas analyzers. Draw & explain anyone type of gas analyzers. | 10 |
| 12. | Explain the principle of magnetic induction. Explain working of magnetic blood flow meter.    | 10 |

**UNIT – V**

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| 13. | Enlist typical applications of telemetry.                        | 10 |
| 14. | Draw & explain working of biotelemetry transmitter.              | 10 |
| 15. | Give detailed account on computerized Axial Tomography scanners. | 10 |

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