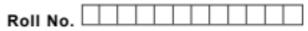


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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(EE/Electrical & Electronics) (2011 Onwards E-I) (Sem.-6) BIOMEDICAL INSTRUMENTATION Subject Code : BTEE-605D M.Code : 71155

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer briefly :

- a) Why instrumentation is required in biomedical?
- b) Explain the principle of capacitive transducer.
- c) What is EEG? Discuss.
- d) List the various methods of blood flow.
- e) What is plethysmograph? Explain.
- f) What do you mean by isotopes? Explain.
- g) Discuss the applications of ultrasonic in biomedical.
- h) Discuss the importance of X-rays in biomedical.
- i) What is the need of a diathermy? Explain.
- j) List the various frequency design considerations in biotelemetry.

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SECTION-B

- 2. What is a thermistor? Why is it used? Discuss the characteristics of a thermistor.
- Discuss the principle and working of Linear variable differential transformer. Also discuss where it is used in biomedical applications.
- What is the need of telemetry in biomedical? Explain in detail the radio telemetry of biological signals.
- 5. Explain in detail the construction and working of electromagnetic blood flow meter.
- What do you mean by prosthesis? Explain the EMG-controlled externally powered prosthesis in detail.

SECTION-C

- Explain (in detail) the need of :
 - a) Pacemakers

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- b) Defibrillators
- a) Explain the principle of working of piezoelectric transducer. Draw its equivalent circuit and discuss its applications in biomedical.
 - b) What is EMG? Explain the different instruments used for picking and reproducing EMG signals.
- 9. Explain the measurement and recording of :
 - a) Pressure
 - b) Respiration rate

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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