

D 50524

(Pages : 2)

Name

Reg. No.



**SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, NOVEMBER 2013**

EC/PTEC 09 L25—BIOMEDICAL INSTRUMENTATION

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.

1. Define absolute refractory period.
2. List out the drawbacks of surface electrodes.
3. Define systole and diastole.
4. What are defibrillators ?
5. What are microshocks ?

(5 × 2 = 10 marks)

Part B

Answer any four questions.

6. Differentiate between Polarisable and Non-polarisable electrodes.
7. Explain about phonocardiography.
8. Discuss working principle of an impedance plethysmograph.
9. What are cardioconverters ?
10. Explain the principle of an ultrasonic stimulator.
11. Discuss the principle of a Line Isolation Monitor.

(4 × 5 = 20 marks)

Part C

Answer all questions.

12. Explain in detail about resting and action potentials with a neat sketch.

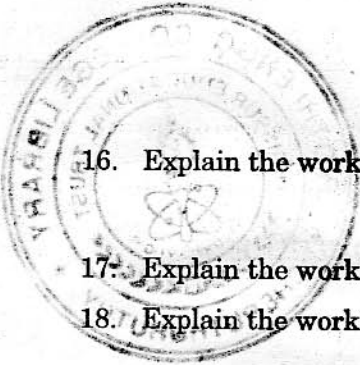
Or

13. Explain the different lead systems employed for recording ECG.
14. Explain the working principle of a doppler based ultrasonic blood flow meter.

Or

15. Explain in detail about various lung volumes and lung capacities with a neat sketch.

Turn over



16. Explain the working of a lithotripsy unit with a neat block diagram.

Or

17. Explain the working principle of a volume limited ventilator with a neat block diagram.

18. Explain the working principle of a PCO_2 gas analyzer.

Or

19. Explain the methods for preventing accidents/hazards in hospitals.

(4 × 10 = 40 marks)