



QP CODE: 25024617



Reg No : .....

Name : .....

**M.Sc DEGREE (CSS) EXAMINATION, APRIL 2025**

**Fourth Semester**

**ELECTIVE - EL810402 - BIO-MEDICAL ELECTRONICS**

M Sc ELECTRONICS, M.Sc APPLIED ELECTRONICS

2019 ADMISSION ONWARDS

49A942B5

Time: 3 Hours

Weightage: 30

**Part A (Short Answer Questions)**

*Answer any **eight** questions.*

*Weight 1 each.*

1. What is stimulator?
2. Write a note on electrode-electrolyte interface.
3. Explain classification of transducer.
4. Discuss about optical fibre sensor.
5. What is Invasive blood pressure measurement?
6. What is an audiometer?
7. Describe biochemical examination of blood.
8. Explain spectrophotometer.
9. What is Cauterization?
10. Describe about safety standards in medical devices.

(8×1=8 weightage)

**Part B (Short Essay/Problems)**

*Answer any **six** questions.*

*Weight 2 each.*

11. With necessary diagrams explain microelectrodes.
12. Explain with diagram LVDT.
13. Describe strain gauge transducer.
14. With figures explain ultrasonic transit time flowmeter.
15. What is Einthoven triangle?





16. Discuss the scanning trajectories of CT scan.
17. Discuss about computer assisted patient monitoring system.
18. How tattoo removal can be performed using laser?

(6×2=12 weightage)

**Part C (Essay Type Questions)**

*Answer any **two** questions.*

*Weight 5 each.*

19. Explain different classification of biomedical instrument and also explain the performance parameters of instruments. Briefly explain the physiological system of human body.
20. What are photoelectric transducers? With suitable diagram explain Solar cell, Photoemissive cell, Photomultiplier tube and Photodiode
21. Explain Electroencephalograph. Describe origin of EEG signal. Explain EEG with 10-20 electrode system.
22. Explain about thermal imaging system. Explain its application. Discuss the technology used in IR imaging.

(2×5=10 weightage)

