

# ECM63 - Biomedical Instrumentation and Telemedicine

842

REG. NO

OCTOBER 2021

Time: Three hours

Maximum Marks: 75

- Note:
1. Answer ALL the questions in PART-A (1 mark each)
  2. Answer any ONE question from each unit in PART-B (3 marks each)
  3. Answer any ONE question from each unit in PART-C (10 marks each)
  4. The question paper contains TWO Pages

## PART-A (1x10=10)

1. Define a cell.
2. Define lung volume.
3. What are the different types of EEG waves?
4. Define conduction velocity.
5. Define pacemaker.
6. List the type of blood pumps.
7. List the any two telemetry application.
8. Define Letgo current.
9. Expand ND-YAG.
10. Define Angiography.

## PART-B (3x5=15)

### UNIT-I

11. Draw the waveform of Action Potential.
12. Discuss about Skin Temperature Measurement.

### UNIT-II

13. Discuss about brain tumour.
14. What is an audiometer? List the application of audiometer.

### UNIT-III

15. Draw the circuit diagram of DC defibrillators.
16. List the application of Endoscopic.

### UNIT-IV

17. List the problem associated with implantable telemetry.
18. Discuss about Micro and Macro Shock.

### UNIT-V

19. Draw the block diagram of Ultrasonic Imaging techniques.
20. Discuss about Telesurgery.

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PART-C (10x5=50)

UNIT-I

21. Draw and explain working of Magnetic blood flow meter.
22. Explain about chromatographic technique for analyzing various constituents present in blood samples.

UNIT-II

23. Draw and explain the block diagram of ECG recording.
24. Explain EMG measurement with neat diagram.

UNIT-III

25. Draw the heart lung machine and explain its operation.
26. Explain the block diagram of Modern Ventilator.

UNIT-IV

27. Explain AM and FM transmitter in Biotelemetry system.
28. Explain any three method of accident prevention in detail.

UNIT-V

29. Explain the working of MRI scan with neat block diagram.
30. Write note on Medical informatics hospital information system.

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