TED (21) 6041A
(Revision - 2021)

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, NOVEMBER - 2025

MEDICAL ELECTRONICS

[Maximum marks: 75] [Time: 3 Hours]

PART A

I. Answer all the following questions in one word or one sentence. Each question carries 1 mark.

(9 x 1 = 9 Marks)

		Module outcome	Cognitive level
1	Define biopotential.	M1.01	R
2	Define EEG.	M1.03	R
3	List any two types of blood cells.	M2.01	R
4	Write the need of blood gas analyzer.	M2.03	R
5	Define defibrillator.	M3.01	R
6	Define hemodialysis.	M3.02	R
7	Define Respirators.	M3.03	R
8	Define MRI.	M4.02	R
9	Define micro shock.	M4.04	R

PART B

II. Answer any eight questions from the following. Each question carries 3 marks.

(8 x 3 = 24 Marks)

		Module outcome	Cognitive level
1	Explain resting potential with figure.	M1.01	U
2	Draw the block diagram of EMG.	M1.04	U
3	Explain Optical Method for blood cell counting.	M2.01	U
4	Explain Indirect method of blood pressure measurement.	M2.02	U
5	Write the need of pacemaker and list any three pacing modes of pacemaker.	M3.01	R
6	Compare pressure cycling and volume cycling respirators.	M3.04	U
7	Draw the block diagram of CT Scanner.	M4.01	U
8	Explain ultrasonic imaging.	M4.02	U
9	Explain the need of Bio telemetry.	M4.03	U
10	List six precautions to be taken while handling bio medical instruments.	M4.04	R

PART C

Answer all questions. Each question carries seven marks.

(6 x 7 = 42 Marks)

		Module outcome	Cognitive level
III	Explain three types of electrodes used in biopotential measurement.	M1.01	U
	OR		
IV	Explain the working of ECG machine with block daigram.	M1.02	U
V	Explain the working of PCO2 analyzer with neat figure.	M2.03	U
	OR		
VI	Explain the working principle of LASER and list three properties of laser.	M2.04	U
VII	Explain the working of Coulter counter method of blood cell counting with figure.	M2.01	U
	OR		
VIII	Explain the working of pulse oximeter with block diagram.	M2.03	U
IX	Explain ventricular synchronous demand pacemaker with block diagram.	M3.01	U
	OR		
X	Define fibrillation and Compare AC and DC defibrillators.	M3.01	U
XI	Explain Hemodialysis machine with block diagram.	M3.02	U
	OR		
XII	Compare shortwave and microwave diathermy with figure.	M3.04	U
XIII	List any seven application of Bio telemetry.	M4.03	R
	OR		
XIV	Explain working of X-ray machine with figure.	M4.01	U

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