

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Sixth Semester B.Tech Degree (Hons.) Examination June 2020



Course Code: EE372

Course Name: BIOMEDICAL INSTRUMENTATION

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

		Marks
1	With neat block diagram explain man instrument system.	(5)
2	Draw and explain the equivalent circuit of biopotential electrodes between electrodes & skin.	(5)
3	Explain how phonocardiography helps in medical diagnosis.	(5)
4	Write a short note on respiratory pneumography.	(5)
5	What is surgical diathermy? Explain the various electro surgery techniques available.	(5)
6	Explain the working of lithotripsy machine.	(5)
7	What is the difference between micro shock and macro shock?	(5)
8	Explain the working of Spectrophotometer.	(5)

PART B

Answer any two full questions, each carries 10 marks.

9	a) Distinguish between action potential and resting potential. Explain the propagation of action potential.	(6)
	b) What is sodium pump?	(4)
10	Explain with neat diagram the electro-conduction system of the heart	(10)
11	a) Compare EMG and ERG	(4)
	b) Explain ECG machine working with neat block diagram and also draw the Einthoven triangle.	(6)

PART C

Answer any two full questions, each carries 10 marks.

12	a) Explain how nerve conduction velocity is measured.	(5)
	b) Explain how Spiro meter can be used to measure respiratory volume.	(5)
13	Explain any two types of indirect method of blood pressure measurement.	(10)
14	a) What is Plethysmograph? Explain full body Plethysmograph with illustration.	(5)

- b) List different waves in EEG recording. Explain with block diagram how EEG recorder works. (5)

PART D

Answer any two full questions, each carries 10 marks.

- 15 With a neat block diagram explain the working of Ultrasonic Imaging System. (10)
- 16 a) Write short notes on a) telemedicine, (5)
b) Haematocrit (5)
- 17 a) Explain the working of Heart lung machine (5)
b) Give examples of the Physiological Effects of electrical current. (5)
