

Reg. No.

--	--	--	--	--	--	--	--	--	--

G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.**UG DEGREE END SEMESTER EXAMINATIONS - APRIL 2025.**

(For those admitted in June 2021 and later)

PROGRAMME AND BRANCH: B.Sc., ELECTRONICS

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
V	PART-III	CORE	U21EL508	MEDICAL ELECTRONICS

Date & Session: 29.04.2025/AN**Time :3 hours****Maximum: 75 Marks**

Course Outcome	Bloom's K-level	Q. No.	SECTION – A (10 X 1 = 10 Marks) Answer ALL Questions.
CO1	K1	1.	The heart pumps the blood by a movement is termed as. a) Heart Sounds b) Heart Beat c) Blood flow d) Blood Pressure
CO1	K2	2.	Which one of the following transducer is used as Pressure sensor? a) Photodiode b) LVDT c) Thermistor layer d) Magnetic transducer
CO2	K1	3.	The level of consciousness can be followed by means of. a) ECG b) EMG c) EEG d) PCG
CO2	K2	4.	Which of the following material used to made a needle electrode? a) Tungsten b) Stainless steel c) Iron d) Copper
CO3	K1	5.	Ultrasonic Blood flow meters uses _____ transducer. a) Photoelectric b) Piezoelectric c) Capacitive d) Inductive
CO3	K2	6.	GSR stands for. a) Galvanic Skin Resistance b) Galvanic Skin Response c) Galvanic System Response d) Galvanic System Resistance
CO4	K1	7.	The detailed X –Ray images of slices of the body is obtained by means of. a) MRI b) CT c) Fluoroscopy d) Endoscopy
CO4	K2	8.	A component of our body that reflects X – rays is known as. a) heart b) bones c) stomach d) stomach
CO5	K1	9.	Which one of the following Pacemaker uses Endocardiac Electrode? a) Internal b) External c) Demand d) Standby
CO5	K2	10.	The instrument for administering the electrical shock is. a) Endoscopy b) Defibrillator c) Diathermy d) Stimulator
Course Outcome	Bloom's K-level	Q. No.	SECTION – B (5 X 5 = 25 Marks) Answer ALL Questions choosing either (a) or (b)
CO1	K3	11a.	What is a transducer? Give its Types. (OR)
CO1	K3	11b.	Draw the circuit of a micro electrode and explain its electrical nature.

CO2	K3	12a.	Explain the action of a needle Electrode. (OR)
CO2	K3	12b.	Briefly mention the uses of ECG.
CO3	K4	13a.	Explain the working of ultrasonic blood flow meters. (OR)
CO3	K4	13b.	Discuss the Fingertip oximeter.
CO4	K4	14a.	List the applications of computer tomography. (OR)
CO4	K4	14b.	Mention the features and application of MRI system.
CO5	K5	15a.	What are pacemakers? Mention its different modes of operation. (OR)
CO5	K5	15b.	What is meant by defibrillation?

Course Outcome	Bloom's K-level	Q. No.	SECTION – C (5 X 8 = 40 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K3	16a.	Briefly explain the transducer in Bio medical applications. (OR)
CO1	K3	16b.	What are resting and action potential? Discuss the development of action potential and muscular contraction.
CO2	K4	17a.	Draw the block diagram of an ECG recorder and explain each building block (OR)
CO2	K4	17b.	Distinction between ECG and EMG.
CO3	K4	18a.	Draw the block diagram of a biotelemetry Transmitter and Receiver and explain each block. (OR)
CO3	K4	18b.	Explain how ESR and GSR are simultaneously measured and recorded.
CO4	K5	19a.	What do you mean by CT? Draw the block diagram of CT scanner and explain the functions of each block. (OR)
CO4	K5	19b.	Draw the block diagram of MRI system and explain the image reconstruction process.
CO5	K5	20a.	Draw the block diagram of pacemaker and explain its working. (OR)
CO5	K5	20b.	Discuss the different types of defibrillator.