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G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.



UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.

(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: 11.11.2024 / FN

Time : 3 hours

Maximum: 75 Marks

Course Outcome	Bloom's K-level	Q. No.	SECTION – A (10 X 1 = 10 Marks) Answer <u>ALL</u> Questions.
CO1	K1	1.	Source of Bioelectric potential is _____ in nature. a) Electronic b) electric c) ionic d) mechanical
CO1	K2	2.	_____ are devices which convert one form of energy into another. a) transducers b) electrodes c) impulses d) opamp
CO2	K1	3.	Which type of electrodes are employed to study the electrical activities of individual cells? a) milli-electrodes b) micro-electrodes c) surface-electrodes d) pre-jelled electrodes
CO2	K2	4.	Recording electrical activities associated with heart is known as _____. a) EEG b) EOG c) EMG d) ECG
CO3	K1	5.	Which instrument is used to measure blood pressure? a) Barometer b) Hygrometer c) sphygmomanometer d) Thermometer
CO3	K2	6.	Which is the most important physiological parameter monitored in the intensive care unit? a) temperature b) heart rate c) blood pressure d) skin color
CO4	K1	7.	which of the imaging modality is the first test ordered by physicians? a) X- ray b) CT c) MRI d) Angiography
CO4	K2	8.	Echocardiography is essentially _____. a) ultrasound of the heart b) echoing sound of the heart c) another name for a treadmill test d) recording of heart sounds
CO5	K1	9.	How does an automatic external defibrillator (AED) help a person who is in cardiac arrest? a) An AED pumps blood b) An AED shocks the brain c) An AED restores normal heart rhythm d) An AED helps the person breathe
CO5	K2	10.	Which one of the following is not a transducer? a) Thermocouple b) Photovoltaic c) Electrooculogram d) Moving coil generator
Course Outcome	Bloom's K-level	Q. No.	SECTION – B (5 X 5 = 25 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K3	11a.	Write the components of a Man Instrument System? (OR)
CO1	K3	11b.	Write about cardiovascular system?

CO2	K3	12a.	List the types of electrodes and explain any one? (OR)
CO2	K3	12b.	Develop a short note on ECG.
CO3	K4	13a.	Identify the technique involved in direct measurement? (OR)
CO3	K4	13b.	Organize the different types of blood flow meters?
CO4	K4	14a.	Write a short note on MRI. (OR)
CO4	K4	14b.	Develop a short note on Colour Doppler.
CO5	K5	15a.	Distinguish between internal pacemaker and external pacemaker. (OR)
CO5	K5	15b.	Interpret the applications of Telemetry in Patient care?

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.	Determine the components of cardiovascular system. (OR)
CO1	K3	16b.	Organize the types of transducers and explain them.
CO2	K4	17a.	Examine the recording methods of PCG, EEG (OR)
CO2	K4	17b.	Inspect the recording methods of EMG, ERG
CO3	K4	18a.	Analyze the applications of Plethysmography (OR)
CO3	K4	18b.	Classify the comment on the Components of ICU
CO4	K5	19a.	Evaluate the usage of ECG in human health monitoring. (OR)
CO4	K5	19b.	Assess the Ultrasonic imaging system performance in diagnosis.
CO5	K5	20a.	Compile your opinion on need for Biotelemetry (OR)
CO5	K5	20b.	Evaluate the performance and applications of Defibrillators