

b)	i.	Relate to spinal column and limbs, extend the following.	7	K2	CO1
	a.	Various regions of spine, upper and lower limbs			
	b.	Physical functions and aiding region			
	c.	Integration of Spine and limb action for balance movement			
	ii.	Discuss the important factors to be considered during selection of bioelectric transducers.	6	K2	CO1
12.	a)	Demonstrate the functioning of a blood gas analyzer with neat block diagram to measure pH, partial pressure of O ₂ & CO ₂ and Oxygen saturation.	13	K2	CO2
		(OR)			
	b)	Outline the instrumentation part of a pulse oximeter and infer the stages to measure the oxygen saturation and pulse rate.	13	K3	CO2
13.	a)	Explain in detail about various types of electrodes used for the measurement of bio potential signals.	13	K3	CO3
		(OR)			
	b)	Analyse the origin of EEG and examine 10 – 20% electrode system for EEG signal acquisition with a sketch.	13	K3	CO3
14.	a)	Construct the operational blocks of MRI and utilise it to create medical image of brain.	13	K2	CO4
		(OR)			
	b)	i. Summarise the working of thermal imaging with a diagram and use in medical diagnosis.	7	K2	CO4
		ii. List the types of retinal imaging and illustrate the imaging techniques.	6	K2	CO4
15.	a)	Make use of heart-lung machine; identify and discuss the functional element with a block diagram used during by-pass surgery.	13	K3	CO5
		(OR)			
	b)	Apply the following dialysis techniques with diagrams to treat acute and chronic renal failures.	13	K3	CO5
		i. Hemodialysis			
		ii. Peritoneal Dialysis			

PART – C

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	Analyse the procedure of hearing level of human using Bekesy audiometer showing the functional blocks with a sketch.	15	K3	CO5
	(OR)			
b)	Explain the various types of orthopaedic prosthesis fixations and comment on the use for different physically challenged or injured persons.	15	K3	CO5