

LESSION PLAN

NAME OF THE FACULTY : RAVINDER KUMAR

DISCIPLINE : ECE

SEMESTER : VIth

SUBJECT : MEDICAL ELECTRONICS

LESSON PLAN DURATION : - 15 weeks (from January 2019 to April 2019)

WORK LOAD (LECTURE/PRACTICAL) PER WEEK (IN HOURS):- LECTURE-04, PRACTIACL-03 PER GROUP

WEEK	THEORY		PRACTICAL	
	LECTURE DAY	TOPIC (including assignment/test)	PRACTICAL DAY	TOPIC
1 st	1 st	Introduction about subject.	1 st Group-1	Introduction about Practical MEDICAL ELECTRONICS
	2 nd	Anatomy and physiology.		
	3 rd	Elementary ideas of cell structure.	2 nd Group-2	Introduction about Practical MEDICAL ELECTRONICS
	4 th	Elementary ideas of Heart.		
2 nd	5 th	Elementary ideas of circulatory system	3 rd Group-1	To operate and feminization with:B.P. Apparatus,ECG Machine
	6 th	Elementary ideas of Central nervous system.		
	7 th	Elementary ideas of Muscle action.	4 th Group-2	To operate and feminization with:B.P. Apparatus,ECG Machine
	8 th	Elementary ideas of Respiratory system.		
3 rd	9 th	Body temperature and reproduction system.	5 th Group-1	To measure the concentration of blood sugar with Glucometer (fasting, P.P., Random)
	10 th	Overview of Medical Electronics Equipments.		
	11 th	Classification of Medical Electronics Equipments	6 th Group-2	To measure the concentration of blood sugar with Glucometer (fasting, P.P., Random)
	12 th	Application and specifications of diagnostic.		
4 th	13 th	Application and specifications of therapeutic .	7 th Group-1	To measure the concentration of blood sugar with Glucometer (fasting, P.P., Random)
	14 th	Application and specifications of clinical laborat ory equipment.		

	15 th	Method of operation of all above instruments.	8 th Group-2	To measure the concentration of blood sugar with Glucometer (fasting, P.P., Random)
	16 th	Method of operation of all above instruments.		
5 th	17 th	Recap, Assignment-I	9 th Group-1	To measure the Respiration rate,Pulse rate
	18 th	Seminar		
	19 th	REVISION	10 th Group-2	To measure the Respiration rate,Pulse rate
	20 th	1st Sessional Test		
6 th	21 th	Electrodes	11 th Group-1	To measure the Respiration rate,Pulse rate
	22 th	Signals Bioelectric		
	23 th	Bio electrodes, Electrode	12 th Group-2	To measure the Respiration rate,Pulse rate
	24 th	Electrode tissue interface contact impedance.		
7 th	25 th	Types of Electrodes	13 th Group-1	Installation of small medical equipment in laboratories of Hospital precautions to be taken.
	26 th	Electrodes used for ECG , EEG		
	27 th	Transducers	14 th Group-1	Installation of small medical equipment in laboratories of Hospital precautions to be taken.
	28 th	Typical signals from physiological parameters.		
8 th	29 th	Pressure transducer	15 th Group-1	Study of large medical equipment in Hospital / Nursing home
	30 th	Flow transducer		
	31 th	Temperature transducer	16 th Group-2	Study of large medical equipment in Hospital / Nursing home
	32 th	Pulse sensor		
9 th	33 th	Respiration sensor	17 th Group-1	Study of large medical equipment in Hospital / Nursing home
	34 th	Bio Medical Recorders		
	35 th	ECG Machine	18 th Group-2	Study of large medical equipment in Hospital / Nursing home
	36 th	EEG Machine		

10 th	37 th	EMG Machine	19 th Group-1	Operation and use of Electro-physiotherapy
	38 th	Recap, Assignment-II		
	39 th	REVISION	20 th Group-2	Operation and use of Electro-physiotherapy
	40 th	2nd Sessional Test		
11 th	41 th	Patient Monitoring Systems.	21 th Group-1	Operation and use of Electro-physiotherapy
	42 th	Heart rate measurement.		
	43 th	Pulse rate measurement.	22 th Group-2	Operation and use of Electro-physiotherapy
	44 th	Respiration rate measurement.		
12 th	45 th	Blood pressure measurement.	23 th Group-1	Maintenance schedule for different equipment and their records in a hospital
	46 th	Principle of defibrillator and pace mark.		
	47 th	Use of Microprocessor in patient monitoring	24 th Group-2	Maintenance schedule for different equipment and their records in a hospital
	48 th	Blood Sugar Measurement		
13 th	49 th	Safety Aspects of Medical Instruments	25 th Group-1	Revision & Viva
	50 th	Gross current shock		
	51 th	Micro current shock	26 th Group-2	Revision & Viva
	52 th	Special design from safety consideration		
14 th	53 th	Safety standards.	27 th Group-1	Revision & Viva
	54 th	Recap, Assignment-III		
	55 th	Discussion	28 th Group-2	Revision & Viva
	56 th	Seminar		
15 th	57 th	REVISION	29 th Group-1	Revision & Viva
	58 th	REVISION		
	59 th	REVISION		
	60 th	3rd Sessional Test	30 th Group-2	Revision & Viva