

Lecture Schedule for session (aug-dec) , 2020


Course Code:- : **Biomedical Instrumentation**

Course Title:- **ECE-741**

S. No.	Topic Name	No. of lectures	Date of delivering lectures	Time slot
<b>UNIT I</b>				
1.	Introduction to Biomedical Engineering, Anatomy and physiology.	2	18/08, 19/08	2:00 to 3:00 11:00 to 12:00
2.	Biometrics.	1	20/08	10:00 to 11:00
3.	Block diagram of man Instrumentation system.	2	21/08,24/08	10:00 to 11:00
4.	Resting potential, action potential	1	25/08	2:00 to 3:00
5.	Waveform of action potential, propagation of action potential	1	26/08	11:00 to 12:00
6.	Recording of action potential.	1	27/08	10:00 to 11:00
<b>UNIT II</b>				
7.	Recording electrodes, electrodes tissue interface	2	28/08, 31/08	10:00 to 11:00
8.	polarization	1	1/9	2:00 to 3:00
9.	Skin contact impedance, motion artifacts	1	2/9	11:00 to 12:00
10	Silver-silver chloride electrodes	1	3/9	10:00 to 11:00
11	Electrodes for ECG	2	4/9, 7/9	10:00 to 11:00
12	Electrodes for EEG, EMG	1	8/9	2:00 to 3:00
13	Transducers and classification and static characteristics of transducers	1	9/9	11:00 to 12:00
14	Dynamic characteristics, potentiometric transducers	1	10/9	10:00 to 11:00
15	Variable capacitance, inductance, LVDT	1	11/9	10:00 to 11:00
16	Piezoelectric, pressure transducers	1	14/9	10:00 to 11:00
17	Transducers for body temperature measurements	1	15/9	2:00 to 3:00
18	Optical fiber sensors	1	16/9	11:00 to 12:00
19	<b>Biological amplifiers in unit III</b>			
<b>UNIT III</b>				
20	Basic recording system, general consideration for signal conditioners.	1	17/9	10:00 to 11:00

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21	Preamplifiers & differential amplifiers.	1	18/9	10:00 to 11:00
22	Instrumentation amplifiers.	1	21//9	10:00 to 11:00
23	Chopper amplifiers and instrumentation amplifiers	1	22/9	2:00 to 3:00
24	Block diagrams of ECG	1	23/9	11:00 to 12:00
25	ECG leads	1	24/9	10:00 to 11:00
26	Effects of artifacts on ECG recordings.	1	25//9	10:00 to 11:00
27	Block diagrams of EEG	1	28/9	10:00 to 11:00
28	Block diagrams of EMG	1	30/9	11:00 to 12:00
UNIT IV				
29	Cardiac pacemakers, classification of pacemakers	2	1/10, 2/10	10:00 to 11:00
30	Defibrillators , AC and DC defibrillators	2	5/10, 6/10	10:00 to 11:00 2:00 to 3:00
31	Indirect and direct measurement.	1	7/10	11:00 to 12:00
32	Magnetic blood flow meters.	1	8/10	10:00 to 11:00
33	Ultrasonic blood flow meters	1	9/10	10:00 to 11:00
UNIT v				
34	Introduction to properties and production of X-rays	2	12/10	10:00 to 11:00
35	Block diagram of X ray Machine	1	13/10	2:00 to 3:00
36	Ultrasonic Waves , types, A mode, M mode Doppler Mode	2	14/10 , 15/10	11:00 to 12:00 10:00 to 11:00
37	Introduction to MRI	1	16/10	10:00 to 11:00
38	Introduction of computed tomography.	1	19/10	10:00 to 11:00

  
 Teacher incharge  
 Manik Groach