



## LESSON PLAN

Name of the Subject: **BIO-MEDICAL ENGINEERING**

Year & Sem: **III & II**

Dept: **ECE A & B**

S.No	Date	Topic Planned	Classes Required	Cumulative Classes
<b>UNIT-I (Introduction)</b>				
1	20/11/2017	Age of Bio medical Engineering	1	1
2	21/11/2017	Development of Biomedical Instrumentation	2	3
3	23/11/2017	Man Instrumentation System, Components of the Man-Instrument System	2	5
4	25/11/2017	Physiological System of the Body	1	6
5	27/11/2017	Problems Encountered in Measuring a Living System	1	7
6	28/11/2017	Sources of Bioelectric Potentials, Muscle, Bioelectric	1	8
7	30/11/2017	Potentials, Sources of Bioelectric Potentials, Resting and Action Potentials	1	9
8	1/12/2017	Propagation of Action Potential, Bioelectric Potentials + <b>Tutorial</b>	1	10
9	4/12/2017	ECG, EEG and EMG, Evoked Responses.	1	11
<b>UNIT – II (ELECTRODES AND TRANSDUCERS)</b>				
11	6/12/2017	Electrode Theory, Biopotential Electrodes, Examples of Electrodes	2	13
12	8/12/2017	Basic Transducer Principles, Biochemical Transducers	1	14
13	9/12/2017	The Transducer and Transduction Principles, Active Transducers	1	15
14	11/12/2017	Passive Transducers, Transducers for Biomedical Applications	1	16
15	13/12/2017	Pulse Sensors, Respiration Sensor	1	17
16	15/12/2017	Transducers with Digital Output. + <b>Tutorial</b>	2	19
<b>UNIT – III (CARDIOVASCULAR SYSTEM AND MEASUREMENTS)</b>				
17	16/12/2017	The Heart and Cardiovascular System, Electro Cardiography	2	21
18	19/12/2017	Blood Pressure Measurement, Measurement of Blood Flow and Cardiac Output	1	22
19	21/12/2017	Measurement of Heart Sound, Plethysmography	2	24
20	23/12/2017	The Physiology of The Respiratory System	1	25
21	26/12/2017	Tests and Instrumentation for The Mechanics of Breathing+ <b>Tutorial</b>	1	26
22	28/12/2017	Respiratory Therapy Equipment.	1	27
<b>UNIT – IV(PATIENT CARE AND MONITORING)</b>				
23	30/12/2017	Elements of Intensive-Care Monitoring	1	28
24	3/1/2018	Patient Monitoring Displays	1	29
25	4/1/2018	Diagnosis, Calibration and Repairability of Patient-Monitoring	1	30
26	5/1/2018	Equipment Other Instrumentation for Monitoring Patients	1	31
27	22/1/2018	Organization of the Hospital for Patient-Care Monitoring	2	32
28	24/1/2018	Pacemakers, Defibrillators+ <b>Tutorial</b>	2	34
29	27/1/2018	Radio Frequency Applications of Therapeutic use	1	35
30	29/1/2018	Audiometers and Hearing Aids.	1	36



# Amrita Sai Institute of Science and Technology

Approved by AICTE, New Delhi; Permanently Affiliated to JNTUK, Kakinada

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Amrita Sai Nagar, Paritala, Krishna District, Andhra Pradesh – 521 180

[www.amritasai.edu.in](http://www.amritasai.edu.in), 0866 2428399



31	30/1/2018	Myoelectric Arm, Laparoscope, Ophthalmology Instruments, Anatomy of Vision	2	38
<b>I MID EXAMINATION 17/1/2018-20/1/2018</b>				
32	31/1/2018	Electrophysiological Tests, Ophthalmoscope, Tonometer for Eye Pressure Measurement.	2	40
33	2/2/2018	Diathermy, Clinical Laboratory Instruments, Bio materials, Stimulators. Issues in Hardware Software Co-Design	1	41
<b>UNIT-V( DIAGNOSTIC TECHNIQUES AND BIO-TELEMETRY)</b>				
34	5/2/2018	Principles of Ultrasonic Measurement, Ultrasonic Imaging	1	42
35	7/2/2018	X-Ray and Radio-Isotope Instrumentations	1	43
36	9/2/2018	Computerized Tomography, MRI, Introduction to Biotelemetry	1	44
37	12/2/2018	Physiological Parameters Adaptable to Biotelemetry, The Components of Biotelemetry System+ <b>Tutorial</b>	1	45
38	14/2/2018	Implantable Units, Telemetry for ECG Measurements during Exercise	1	46
39	16/2/2018	CAT Scan, Emission	1	47
40	17/2/2018	Ultrasonic Applications of Therapeutic Uses, Ultrasonic Diagnosis	1	48
41	20/2/2018	Telemetry for Emergency Patient Monitoring.	1	49
<b>UNIT-VI (MONITORS, RECORDERS AND SHOCK HAZARDS )</b>				
42	22/2/2018	Biopotential Amplifiers, Monitors, Recorders, Shock Hazards and Prevention	2	51
43	24/2/2018	Physiological Effects and Electrical Current	2	53
44	28/2/2018	Shock Hazards from Electrical Equipment + <b>Tutorial</b>	2	55
45	3/3/2018	Methods of Accident Prevention	1	56
46	5/3/2018	Isolated Power Distribution System	2	58
<b>ADD ON TOPICS</b>				
47	7/3/2018	Bio Signal Analysis	1	59
48	9/3/2018	PCG signals	1	60
<b>II MID EXAMINATION 17-03-2018</b>				

Signature of faculty

HOD

Principal