

Faculty of Information and Communication Engineering

B.E. Biomedical Engineering

(R 2021) Semester – II

Course Code: BM3271		Course Title: BIOSCIENCES LABORATORY
Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)
1.	Colorimeter	2 Nos
2.	Spectrophotometer	1 No.
3.	pH meter	1 No
4.	Weighing balance	1 No
5.	Refrigerator	1 No
6.	SDS gel electrophoresis	1 No
7.	TLC, ready TLC plates	1 No
8.	Wintrobe's tube	2 Nos
9.	Centrifuge Normal	1 No
10.	Microslides	2 packets
11.	Lancet	5 boxes
12.	Microscope	1 No
13.	Neubaur's Chamber	2 Nos
14.	Heparinized Syringe	1box
15.	Haemoglobinometer	1 No
16.	Capillary tubes	1 box

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(R 2021) Semester – III

BM3361 Fundamentals of Electronic Devices and Circuits Laboratory

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)
1.	CRO 30MHz	10
2.	DC Digital Ammeter	02
3.	DC Digital Voltmeter	02
4.	Function Generator (3MHz)	10
5.	Analog IC Tester	01
6.	Digital IC Tester	01
7.	Digital IC Trainer Kit	-
8.	Dual Regulated Power supply (0-30) V/2A	10
9.	Multiple Regulated Power supply(+5) V/2A, (015)V/2A	-
10.	Single Regulated Power supply (0-30) V/2A	05
11.	Decade Inductance Box (6Dial)	05
12.	Variable Resistance Box (6Dial)	10
13.	Decade Capacitance Box (6Dial)	05
14.	Analog Ammeter (0-1) mA,(0-10)mA, (0-100)mA, (0-200) μ A	Each 10
15.	Analog Voltmeter (0-5)V, (0-10)V, 0-100 mV	Each 10
16.	Digital Multimeter	03
17.	Transformer (9-0-9) V	04
18.	IC - BC107, BC148,2N2646, BFW10, IN4007	Each 25
19.	Zener diode , Resistor, Capacitor, Inductors	Each 25
20.	Bread Board	15
21.	Photodiode and SCR	each 20

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(R 2021) Semester – III

BM3311 Sensors and Measurements Laboratory

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)
1.	Thermocouple	15 Nos
2.	RTD	15 Nos
3.	Strain Gauge (bonded and unbounded type)	15 each
4.	Photo transistor, photo diode	15 Nos/each
5.	Resistors-Range between 1-0.0001 ohm	30 Nos/each
6.	CRO	10 No
7.	DSO	5 Nos
8.	LVDT	5 Nos
9.	Hall effect transducer	15 Nos
10.	Piezoelectric Transducer	15 Nos
11.	Potentiometer, Thermistor, LDR	15 Nos
12.	Trainer kits- Schering Bridge, Maxwell's bridge, Hay's bridge,	1 No each
13.	Gas sensor	5 Nos

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(R 2021) Semester – IV

BM3411 BIOMEDICAL INSTRUMENTATION LABORATORY

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)
1.	pH meter and conductivity meter	1 No
2.	Photo transducer for pulse measurement	1 No
3.	Sphygmomanometer and Stethoscope	1 No
4.	Blood flow measurement system	1 No
5.	Multiparameter(ECG, EMG, EEG) Simulator	2 No
6.	Function generator, DSO, Regulated Power supplies, Bread boards	8 each
7.	IC LM 324, AD 620, INA series (126,128 etc.), 555 Timer	20 each
8.	Opto Isolator IC	1 No
9.	Software tool for PCB design	1
10.	IC 741	50 Nos

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(R 2021) Semester – IV

BM3412 Analog and Digital Integrated

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)
1.	Digital Trainer Kit -. (with 5 V, Variable and fixed frequency Clock, Bread Board, Four Seven Segment displays, LEDs for output display, Logic 1 and 0 Input switches)	10 Nos
2.	Logic ICs - (7400, 7402, 7404, 7408, 7410, 7420, 7432, 7447, 7448, 7474, 7476, 7483, , 7485, 7486, 7490, 7495, 74151, 741 Common Anode and cathode 7-segment displays, LEDs)	Each 25Nos
3.	NE555	25 nos
4.	LM317 and LM723	Each 10 Nos
5.	Resistors	50 nos
6.	capacitors	50 nos
7.	Dual power supply	10 Nos
8.	Bread boards	15 Nos
9.	IC 741	30 Nos
10.	CRO , DSO, Function Generator	10 Nos
11.	Circuit Simulation Software	1 No

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(R 2021) Semester – V

BM3562 Embedded systems and IOMT Laboratory

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)
1.	ARM Controller boards	10
2.	Arduino board	10
3.	DHT 11 sensors	03
4.	Temperature sensor	03
5.	ECG sensor	03
6.	Infrared sensor	03
7.	RaspberryPi, Bluetooth/ WiFi modules	5 Nos
8.	DC/Stepper motor	10 Nos
9.	Pulse sensor	10 Nos
10.	Pulse oximeter	1 No

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(R 2021) Semester – V

BM3561 Diagnostic and Therapeutic Equipment Laboratory

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)
1.	EEG Machine with Visually and Auditory evoked potential setup	1 No.
2.	GSR setup	1 No.
3.	Multi-output power supply (+15v, -15v, +30V variable, +5V, 2A)	2 Nos.
4.	Short wave Diathermy	1 No.
5.	Ultrasonic diathermy	1 No.
6.	Multiparameter biotelemetry system	1 No.
7.	Electrical Safety Analyser	1 No.
8.	ECG Simulator	1 No.
9.	Medical stimulator	1 No.
10.	Surgical diathermy with analyzer	1 No.
11.	Audiometer	1No.
12.	Pacemaker and Defibrillator	1 No. each
13.	Hemodialysis model and Heart lung Model	1 No. each
14.	Ventilator	1 No.
15.	Ultrasound Scanner	1 No.