

**SCHEME OF TEACHING & EXAMINATION
BIOMEDICAL ENGINEERING
III SEMESTER (BM)**

Subject Code	Title of the Subject	Teaching Dept.	Teaching hours/week		Examination			
			Theory	Practical	Duration (Hrs)	Marks		
						I. A	Theory/ Practical	Total
10MAT - 31	Engg. Mathematics - III	Mat	04		03	25	100	125
10ES – 32	Analog Electronic Ckts	BM	04		03	25	100	125
10ES – 33	Logic Design	BM	04		03	25	100	125
10ES – 34	Network Analysis	BM	04		03	25	100	125
10IT– 35	Electronic Instrumentation	BM	04		03	25	100	125
10BM – 36	Human Anatomy & Physiology	BM	04		03	25	100	125
10ESL – 37	Analog Electronics Lab	BM		03	03	25	50	75
10ESL – 38	Logic Design Lab	BM		03	03	25	50	75
		Total	24	06	24	200	700	900

**SCHEME OF TEACHING & EXAMINATION
BIOMEDICAL ENGINEERING
IV SEMESTER (BM)**

Subject Code	Title of the Subject	Teach Dept.	Teaching hours/week		Examination			
			Theory	Practical	Duration (Hrs)	Marks		
						I. A	Theory/ Practical	Total
10MAT - 41	Engg. Mathematics – IV	Mat	04		03	25	100	125
10ES- 42	Microcontrollers	BM	04		03	25	100	125
10ES – 43	Control Systems	BM	04		03	25	100	125
10BM – 44	Biomedical Transducers and Measurements	BM	04		03	25	100	125
10EC- 45	Fundamentals of HDL	BM	04		03	25	100	125
10EC – 46	Linear ICs & Applications	BM	04		03	25	100	125
10ESL – 47	Microcontrollers Lab	BM		03	03	25	50	75
10ECL – 48	HDL Lab	BM		03	03	25	50	75
		Total	24	06	24	200	700	900

Note : @ indicates concerned discipline. ES (for theory) & ESL (for Lab) in the subject code indicates that the subject is common to electrical and electronics stream consisting of EE/EC/IT/TC/ML/BM branches of engineering.

V SEMESTER

B.E. BIOMEDICAL ENGINEERING

Sl. No.	Subject Code	Title of the Subject	Teaching Dept.	Teaching Hrs / Week	Examination
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				Theory	Practical	Duration (Hrs)	Marks		
							IA	External Marks	Total
1	10AL51	Management & Entrepreneurship	@	04	-	03	25	100	125
2	10BM52	8086 Microprocessor & Peripherals	BM	04	-	03	25	100	125
3	10BM53	Signals & Systems	BM	04	-	03	25	100	125
4	10BM54	VLSI Design	BM	04	-	03	25	100	125
5	10BM55	Clinical Instrumentation-I	BM	04	-	03	25	100	125
6	10BM56	Biomedical Equipments	BM	04	-	03	25	100	125
7	10BML57	8086 Microprocessor Lab	BM	-	03	03	25	50	75
8	10BML58	Clinical Instrumentation Lab- I	BM	-	03	03	25	50	75
Total				24	06	-	200	700	900

VI SEMESTER

B.E. BIOMEDICAL ENGINEERING

Sl. No	Subject Code	Title of the Subject	Teaching Dept.	Teaching Hours / Week		Examination			
				Theory	Practical	Duration (Hrs)	Marks		
							IA	External Marks	Total
1	10BM61	Communication Systems	BM	04	-	03	25	100	125
2	10BM62	C++ & Data Structures	BM	04	-	03	25	100	125
3	10BM63	Digital Signal Processing & Applications	BM	04	-	03	25	100	125
4	10BM64	Analytical & Pharmaceutical Instrumentation	BM	04	-	03	25	100	125
5	10BM65	Clinical Instrumentation-II	BM	04	-	03	25	100	125
6	10BM66X	Elective-I (Group - A)	BM	04	-	03	25	100	125
7	10BML67	C++ & Data Structures Lab	BM	-	03	03	25	50	75
8	10BML68	Clinical Instrumentation Lab-II	BM	-	03	03	25	50	75
Total				24	06	-	200	700	900

Electives-I (Group- A)		
Sl. No	Subject Code	Title of the Subject
1	10BM661	Operating Systems with Linux
2	10BM662	Bioinformatics
3	10BM663	Biomaterials & Artificial Organs
4	10BM664	Computer Organization

5	10BM665	Hospital Design, Planning & Management
6	10BM666	Rehabilitation Engineering

VII SEMESTER

B.E. BIOMEDICAL ENGINEERING

Sl. No	Subject Code	Title of the Subject	Teaching Dept.	Teaching Hours / Week		Examination			
				Theory	Practical	Duration (Hrs)	Marks		
							IA	External Marks	Total
1	10BM71	Computer Communication & Healthcare Networks	BM	04	-	03	25	100	125
2	10BM72	Biomedical Digital Signal Processing	BM	04	-	03	25	100	125
3	10BM73	Embedded System Design & Programming	BM	04	-	03	25	100	125
4	10BM74	Medical Image Processing	BM	04	-	03	25	100	125
5	10BM75X	Elective-II (Group - B)	BM	04	-	03	25	100	125
6	10BM76X	Elective-III (Group - C)	BM	04	-	03	25	100	125
7	10BML77	Biomedical DSP Lab	BM	-	03	03	25	50	75
8	10BML78	Medical Image Processing Lab	BM	-	03	03	25	50	75
Total				24	06	-	200	700	900
Electives-II (Group- B)				Electives-III (Group- C)					
Sl. No	Subject Code	Title of the Subject	Sl. No	Subject Code	Title of the Subject				
1	10BM751	Biomechanics & Biodynamics	1	10BM761	Biostatistics				
2	10BM752	Genetic Engineering	2	10BM762	Tissue Engineering				
3	10BM753	Medical Informatics	3	10BM763	Ergonomics				
4	10BM754	DSP Architecture	4	10BM764	ARM Processors & Programming				
5	10BM755	Low Power VLSI Design	5	10BM765	Wavelet Transforms				
6	10BM756	Speech Signal Processing	6	10BM766	Software Engineering				

VIII SEMESTER

B.E. BIOMEDICAL ENGINEERING

Sl. No	Subject Code	Title of the Subject	Teaching Dept.	Teaching Hours / Week		Examination			
				Theory	Practical	Duration (Hrs)	Marks		
							IA	External Marks	Total
1	10BM81	Data Base Management System in Healthcare	BM	04	-	03	25	100	125
2	10BM82	Medical Imaging Systems	BM	04	-	03	25	100	125
3	10BM83X	Elective-IV (Group - D)	BM	04	-	03	25	100	125
4	10BM84X	Elective-V (Group - E)	BM	04	-	03	25	100	125
5	10BM85	Project Work	BM	-	06		100	100	200
6	10BM86	Seminar	BM		-		50	-	50
Total				16	06	-	250	500	750

Electives-IV (Group-D)			Electives-V (Group-E)		
Sl. No	Subject Code	Title of the Subject	Sl. No	Subject Code	Title of the Subject
1	10BM831	Lasers & Optical Fibers in Medicine	1	10BM841	Bio-MEMS
2	10BM832	Biosensors & Smart Sensors	2	10BM842	Biological Control Systems and Modeling
3	10BM833	Nanotechnology	3	10BM843	Picture Archiving & Communication Systems
4	10BM834	Neural Networks & AI in Biomedical Engg.	4	10BM844	Pattern Recognition in Medicine
5	10BM835	Hardware-Software Co-design	5	10BM845	Digital Systems using Verilog
6	10BM836	Distributed Sensor Networks	6	10BM846	Real Time Systems

