

Shri G. S. Institute of Technology & Science, Indore

Department of Biomedical Engineering

Date: 30th May, 2019

Minutes of BOS Meeting held on 30th May, 2019

A Board of Studies meeting in Biomedical Engineering was held on 30th May, 2019 in the department of Biomedical Engineering to discuss & finalize the Scheme & Syllabus of B.E Biomedical Engineering as per AICTE Model Curriculum. The scheme will be applicable from 2018 admitted batch of students

Following members were present

Dr. B. R. Rawal	Chairman
Dr. Ashutosh. Datar	Expert Member
Dr. R. B. Pachori	Expert Member
Dr. P. P. Bansod	Member
Ms. Vibha Bhatnagar	Member
Ms. Gauri Gupta	Member

Following members could not attend the meeting:

1. Dr. A.V. Mulay, Coep, Pune.

The deliberations of meeting are as under:

Item No.1 - Scheme for II, III, IV-year B.E Biomedical Engineering was discussed and finalized which will be applicable to students admitted in academic session 2018-19

Item No. 2 - No Changes in PG Scheme.

Item No. 3 - Minor 10-20% syllabus changes were done in following subjects:

BM-29007	Bioelectricity & Transducers
BM-39003	Biomedical Instrumentation I
BM-39004	Programming Tools & Techniques
BM-39005	System Design with Microcontrollers
BM-39503	Biomedical Statistical Signal Processing
BM-39501	Biomedical Signal Processing
BM-49025	Embedded Systems
BM-49XXX	Hospital Technology Systems
BM-47001	Biomedical Instrumentation & Analytical Techniques
BM- 49XXX	Biomaterials

Any other Item - With permission of chair

[Signature]

[Signature]

[Signature]

[Signature]
30/5/19

[Signature]
30/5/19

[Signature]

Proposed Scheme of Examination Applicable to students admitted
Bachelor of Biomedical Engineering

Semester: III				Hours /Week			Maximum Marks allotted				Credits		Total Credits
S. No.	Subject C	Category	Subject Name	L	T	P	Theory		Practical		T	P	
							Th.	CW	SW	Pr.			
				3	1	-	70	30	-	-	4	-	4
1	MA-	BSC	Mathematics III	3	-	2	70	30	40	60	3	1	4
2	EE-	ESC	Network Analysis	3	-	2	70	30	40	60	3	1	4
3	EI-	ESC	Basic Electronics	3	-	2	70	30	40	60	3	1	4
4	BM-	PCC	Bioelectricity & Transducers	3	-	2	70	30	40	60	3	1	4
5	BM-	PCC	Human Anatomy & Physiology	3	-	2	70	30	40	60	3	1	4
6	EE-	LC	Electrical workshop	-	-	2	-	-	40	60	-	1	1
		HSMC	Values, Humanities and Professional Ethics	-	-	2	-	-	100	-	-	1	1
7	HU-												
			Total	15	1	12	350	150	300	300	16	6	22
Optional Subject													
8		OC-I	Physiology for Engineers	2	-	-	70	30	-	-	2	-	2
				17	1	12	420	180	300	300	18	6	24
Grand Total													

*OC/PEC --> Can be replaced by Moocs/Swayam Course in consultation with mentor

Semester: IV				Hours /Week			Maximum Marks allotted				Credits		Total Credits
S. No.	Subject C	Category	Subject Name	L	T	P	Theory		Practical		T	P	
							Th.	CW	SW	Pr.			
				3	1	-	70	30	-	-	4	-	4
1	MA-	BSC	Mathematics IV	3	-	2	70	30	40	60	3	1	4
2	EC-	ESC	Digital Electronics	3	-	2	70	30	40	60	3	1	4
3	BM-	PCC	Analog Electronics	3	-	2	70	30	40	60	3	1	4
4	EI-	ESC	Fundamentals of Measurement	3	-	2	70	30	40	60	3	1	4
5	EI-	LC	Electronic Workshop	-	-	4	-	-	40	60	-	2	2
6	HU-	HSMC	Economics for Engineers	3	-	-	70	30	-	-	3	-	3
			Total	15	1	10	350	150	160	240	16	5	21
Optional Subject													
7		OC-II	Regulatory Requirement for Medical Devices in India	2	-	-	70	30	-	-	2	-	2
				17	1	10	420	180	160	240	18	5	23
Grand Total													

*OC/PEC --> Can be replaced by Moocs/Swayam Course in consultation with mentor

Handwritten signature

Handwritten signature

Handwritten signature
30/5/19

Handwritten signature
30/5/19

Handwritten signature

Semester: V

Proposed Scheme of Examination (Applicable to students admitted in 2018-19)

Bachelor of Biomedical Engineering

S. No.	Subject C	Category	Subject Name	Hours /Week			Maximum Marks allotted				Credits		Total Credits
				L	T	P	Theory		Practical		T	P	
							Th	CW	SW	Pr			
1	IP-	HSMC	Industrial Engineering & Management	3	1	-	70	30	-	-	4	-	4
2	BM-	PCC	Signals and Systems	3	1	2	70	30	40	60	4	1	5
3	BM-	PCC	Biomedical Instrumentation I	3	1	2	70	30	40	60	4	1	5
4	BM-	PEC	Elective-I	3	-	2	70	30	40	60	3	1	4
5	BM-	S/IT	Seminar/Hospital Training/Internship	-	-	6	-	-	100	-	-	3	3
Optional Subject				12	3	12	280	120	220	180	15	6	21
6		OC-III	1) Biomaterials for Engineering Applications 2) Digital Image Processing	2	-	-	70	30	-	-	2	-	2
Grand Total				14	3	12	350	150	220	180	17	6	23

Elective-I: (1) Programming Tools & Techniques (2) Embedded Systems

*OC/PEC → Can be replaced by Moocs/Swayam Course in consultation with mentor

Semester: VI

S. No.	Subject C	Category	Subject Name	Hours /Week			Maximum Marks allotted				Credits		Total Credits
				L	T	P	Theory		Practical		T	P	
							Th	CW	SW	Pr			
1	EE-	PCC	Control Systems	3	1	2	70	30	40	60	4	1	5
2	BM-	PCC	Biomedical Signal Processing	3	1	2	70	30	40	60	4	1	5
3	BM-	PCC	Biomedical Instrumentation II	3	1	2	70	30	40	60	4	1	5
4		PEC	Elective-II	3	-	-	70	30	-	-	3	-	3
5	BM-	PROJECT	Minor Project-I	-	-	8	-	-	40	60	-	4	4
Optional Subject				12	3	14	280	120	160	240	15	7	22
6		OC-IV	1) Health Research Fundamentals 2) Embedded Systems	2	-	-	70	30	-	-	2	-	2
Grand Total				14	3	14	350	150	160	240	17	7	24

Elective-II: (1) Biomedical Statistical Signal Processing (2) Analog & Digital Communication

*OC/PEC → Can be replaced by Moocs/Swayam Course in consultation with mentor

Handwritten signature: *[Signature]*
 Date: 30/5/19

Proposed Scheme of Examination (Applicable to students admitted in 2018-19)

Bachelor of Biomedical Engineering

Semester-VII

S. No.	Subject C	Category	Subject Name	Hours /Week			Maximum Marks allotted				Credits		Total
				L	T	P	Theory		Practical		T	P	
							Th.	CW	SW	Pr.			
1	BM-	PCC	Biomechanics	2	1	2	70	30	40	60	3	1	4
2	BM-	PCC	Medical Imaging Systems	3	1	-	70	30	40	60	3	1	4
3	BM-	PCC	Biological Control Systems	3	-	2	70	30	40	60	3	1	4
4	BM-	PEC	Elective-III	2	-	-	70	30	-	-	2	-	2
6	BM-	PROJECT	Major Project-I (AB Group)	-	-	8	-	-	40	60	-	4	4
7	BM-	PROJECT	Major Project-II (BA Group)	-	-	8	-	-	40	60	-	4	4
8	BM-	S/I/I	Summer Industrial Training/Internship/Seminar	-	-	6	-	-	100	-	-	3	3
Total(AB Group)				10	2	18	280	120	260	240	11	10	21
Total(BA Group)				10	2	18	280	120	260	240	11	10	21

Elective-III

1. Rehabilitation Engineering
2. Hospital Technology Systems
3. Modeling & Simulation of Physiological Systems
4. Biomechanical design of medical devices

*OC/PEC --> Can be replaced by Moocs/Swayam Course in consultation with mentor

Semester- VIII

S. No.	Subject C	Category	Subject Name	Hours /Week			Maximum Marks allotted				Credits		Total
				L	T	P	Theory		Practical		T	P	
							Th.	CW	SW	Pr.			
1	BM-	PEC	Elective-IV	2	-	2	70	30	60	40	2	1	3
2	BM-	PEC	Elective-V	2	1	-	70	30	-	-	3	-	3
3	BM-	S/I/I	Industrial Training/Internship/Seminar	-	-	8	-	-	100	-	-	4	4
4	BM-	PROJECT	Major Project-II (AB Group)	-	-	8	-	-	40	60	-	4	4
5	BM-	PROJECT	Major Project-I (BA Group)	-	-	8	-	-	40	60	-	4	4
Total(AB GROUP)				4	1	18	140	60	200	100	5	9	14
Total(BA GROUP)				4	1	18	140	60	200	100	5	9	14

Elective-IV

1. Artificial Neural Network
2. Medical Image Processing
3. Hospital Management and Information Systems

Elective-V

1. Biomaterials
2. Telemedicine
3. Biomanufacturing
4. Nanosensors

APB
30/5/19

70/02

*OC/PEC --> Can be replaced by Moocs/Swayam Course in consultation with mentor