

Integral University Lucknow
Study & Evaluation Scheme
B. Tech. (Biomedical Engineering)
(w. e. f. 2021-22)

YEAR I, Semester-I

S. No.	Subject Code	Category	Subject	Periods				Evaluation Scheme				Subject Total
								Sessional			Exam.	
				L	T	P	C	CT	TA	Total	ESE	
Theory Subjects												
1	PY 101	BS	Physics	3	1	0	4	40	20	60	40	100
2	LN101	HM	Basic Professional Communication	2	1	0	3	40	20	60	40	100
3	MT101	BS	Mathematics I	3	1	0	4	40	20	60	40	100
4	EE103	ESA	Basic Electrical Engg.	3	1	0	4	40	20	60	40	100
5	EC101	ESA	Basic Electronics	3	1	0	4	40	20	60	40	100
6	**BE102/ BE103	ESA	Remedial Mathematics/ Remedial Biology	2	1	0	0**	40	20	60	40	100
Practical Subjects												
7	PY102	BS	Physics Lab	0	0	2	1	40	20	60	40	100
8	EE104	ESA	Electrical Engg. Lab	0	0	2	1	40	20	60	40	100
9	ME103	ESA	Engg Graphics	0	1	2	1	40	20	60	40	100
10	ME104	ESA	Workshop Practice	0	0	2	2	40	20	60	40	100
Total				14	6	8	24	360	180	540	360	900
** A non-credit foundation course. Candidate has to pass the course by securing at least 50 % marks up to fourth semester												

L-Lecture **T**-Tutorial **P**-Practical **C**-Credits **CT**-Class Test **TA**-Teacher Assessment

Sessional Total (CA) = Class Test + Teacher Assessment

Subject Total = Sessional Total (CA) + End Semester Examination (ESE)

BS- Basic Science

DC- Departmental Core

HM- Humanities

OE- Open Elective

DE- Departmental Elective

ESA- Engineering Sciences & Arts (Foundation Course & Engineering Courses)

REMEDIAL MATHEMATICS
BE102
(w.e.f. session 2021-2022)

Pre-requisite	Co-requisite	L	T	P	C
None	None	2	1	0	0

Objective: This is an introductory course in mathematics. This subject deals with the introduction to Partial fraction, Logarithm, matrices and Determinant, Analytical geometry, Calculus, differential equation and Laplace transform. Upon completion of the course the student shall be able to:

1. Know the theory and their application in Biomedical Engineering
2. Solve the different types of problems by applying theory
3. Appreciate the important application of mathematics in Biomedical Engineering

UNIT I	Algebra: Determinants, Properties of determinants, solution of simultaneous equations by Cramer's rule, matrices, properties of matrices, solution of simultaneous equations by matrices, applications of determinants and matrices. Measures of Central value: Objectives and pre-requisites of an ideal measure, mean, mode and median.	8
	UNIT II	
UNIT III	Analytical Plain Geometry: Certain co-ordinates, distance between two points, area of triangle, locus of a point, straight line, slope and intercept form, double intercept form normal (perpendicular form), slope-point and two-point form, general equation of first degree.	8
	UNIT IV	

BOOKS RECOMENDED

1. A textbook of Mathematics for XI-XII Students, NCERT Publication Vol. I-IV.
2. Loney, S.L "Plane Trigonometry" AITBS Publishers.
3. Loney, S.L "The elements of coordinate geometry" AITBS Publishrs.
4. Gupta S.P. Statistical Methods, Sultan Chand and Co., New Delhi.
5. Narayan Shanti, Integral calculus , Sultan Chand & Co.
6. Prasad Gorakh Text book on differential calculus, Pothishala Pvt. Ltd., Allahabad.
7. Narayan Shanti, Differential calculus , Shyamlal Charitable Trust, New Delhi.
8. Prasad Gorakh Text book on integral calculus , Pothishala Pvt. Ltd., Allahabad.

REMEDIAL BIOLOGY
BE103
(w.e.f. session 2021-2022)

Pre-requisite	Co-requisite	L	T	P	C
None	None	2	1	0	0

Objective: To learn and understand the components of living world, structure and functional system of plant and animal kingdom.

Upon completion of the course, the student shall be able to:

1. Know the classification and salient features of five kingdoms of life
2. Understand the basic components of anatomy & physiology of plant
3. Know understand the basic components of anatomy & physiology animal with special reference to human

UNIT I	Living world:	8
	Definition and characters of living organisms Diversity in the living world Binomial nomenclature Five kingdoms of life and basis of classification. Salient features of Monera, Protista, Fungi, Animalia and Plantae, Virus. Cell - The unit of life Structure and functions of cell and cell organelles. Cell division Tissues Definition, types of tissues, location and functions.	
UNIT II	Body fluids and circulation	8
	Composition of blood, blood groups, coagulation of blood Composition and functions of lymph Human circulatory system Structure of human heart and blood vessels Digestion and Absorption Human alimentary canal and digestive glands Role of digestive enzymes	
UNIT III	Breathing and respiration	8
	Human respiratory system Mechanism of breathing and its regulation Excretory products and their elimination Modes of excretion Human excretory system- structure and function	
UNIT IV	Neural control and coordination	8
	Definition and classification of nervous system Structure of a neuron Chemical coordination and regulation Endocrine glands and their secretions Functions of hormones secreted by endocrine glands	

BOOKS RECOMMENDED

1. Text book of Biology by S. B. Gokhale
2. A Text book of Biology by Dr. Thulajappa and Dr. Seetaram.
3. Marshall & Williams "Text Book of Zoology" CBS Publishers & Distrubutors, Delhi.
4. Text book of Biology by B.V. Sreenivasa Naidu
5. A Text book of Biology by Naidu and Murthy.

Integral University Lucknow
Study & Evaluation Scheme
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(w. e. f. 2020-21)

YEAR I, Semester-II

S. No.	Subject Code	Category	Subject	Periods				Evaluation Scheme				Subject Total
				L	T	P	C	Sessional			Exam.	
								CT	TA	Total	ESE	
Theory Subjects												
1	CH 101	BS	Chemistry	3	1	0	4	40	20	60	40	100
2	ES 101	ESA	Environmental Studies	2	1	0	3	40	20	60	40	100
3	MT 112	BS	Mathematics II	3	1	0	4	40	20	60	40	100
4	ME 101	ESA	Basic Mechanical Engg.	3	1	0	4	40	20	60	40	100
5	CS 101	ESA	Computer Programming	3	1	0	4	40	20	60	40	100
Practical Subjects												
6	CH 102	BS	Chemistry Lab	0	0	2	1	40	20	60	40	100
7	ME 102	ESA	Mechanical Engg. Lab	0	0	2	1	40	20	60	40	100
8	LN 151	HM	Professional Communication Lab	0	1	2	2	40	20	60	40	100
9	CS 102	ESA	Computer Programming Lab	0	0	2	1	40	20	60	40	100
			Total	14	6	8	24	360	180	540	360	900

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