INTEGRAL UNIVERSITY, LUCKNOW

INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH

DEPARTMENT OF BASIC MEDICAL SCIENCES

BACHELOR OF SCIENCE IN MEDICAL BIOCHEMISTRY (B.Sc. MB)

SYLLABUS

YEAR/ SEMESTER: III/VI

INTEGRAL UNIVERSITY, LUCKNOW
DEPARTMENT OF BASIC MEDICAL SCIENCES
STUDY AND EVALUATION SCHEME

Program: B.Sc. Medical Biochemistry Semester-VI

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	MB309	Biochemistry of Health and Diseases	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	MB310	Fundamental of Genetics	Core	3	1	0	40	20	60	40	100	3:1:0	4
PRACTICAL													
1	MB311	Fundamental of Genetics Lab	Core	0	0	4	40	20	60	40	100	0:0:2	2
2	MB312	Seminar	Core	0	0	8	40	20	60	40	100	0:0:4	4
3	MB313	Clinical posting	Core	0	0	10	40	20	60	40	100	0:0:5	5
4	MB314	Project	Core	0	0	10	40	20	60	40	100	0:0:5	5
Total				06	02	32	240	120	360	240	600	24	24

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment& Sustainability	Human Value	Professional Ethics	
THEORIES											
1	MB309	Biochemistry of health and diseases	Core	√	√	√			√	√	3,4
2	MB310	Fundamental of genetics	Core	√	√	√			√	√	3,4
PRACTICAL											
1	MB311	Fundamental of genetics Lab	Core	√	√	√			√	√	3,4
2	MB312	Seminar	Core	√	√	√			√	√	3,4
3	MB313	Clinical posting	Core	√	√	√			√	√	3,4
4	MB314	Project	Core	√	√	√			√	√	3,4

L: Lecture **T:** Tutorials **P:** Practical **CT:** Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination,
AE= Ability enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)

Integral University, Lucknow

Effective from Session: 2025-26							
Course Code	**MB309**	**Title of the Course**	**BIOCHEMISTRY OF HEALTH AND DISEASES**	**L**	**T**	**P**	**C**
Year	**III**	**Semester**	**VI**	**3**	**1**	**0**	**4**
Pre-Requisite	10+2 withBiology	**Co-requisite**	Nil				
Course Objectives	It introduces the basic biochemical concepts related to health and common diseases in a simple and student-friendly manner. It focuses on understanding disease conditions through routine biochemical changes and laboratory investigations, with added emphasis on common genetic disorders relevant to medical biochemistry.						

Course Outcomes	
CO1	To Understand the biochemical basis of health and common diseases
CO2	To Explain metabolic and organ-related biochemical disorders
CO3	To Interpret basic biochemical investigations used in diagnosis
CO4	To Correlate biochemical changes with clinical conditions
CO5	To Appreciate the role of Genetic disease in healthcare

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	**HEALTH, DISEASE, AND BASIC GENETICS**	• Concept of health and disease in simple terms • Role of biochemistry in maintaining health • Introduction to genetics and its importance in health and disease • Genes and chromosomes: basic concept • Heredity and variation (simple understanding) • Role of genetic factors in health and disease	6	CO1
2	**NEUROLOGICAL DISORDERS**	• Introduction to neurological disorders • Role of biochemistry in normal brain function (basic concept) • Neurotransmitters and their general functions (overview) • Biochemical basis of common neurological diseases: Parkinson's disease, Alzheimer's disease, Epilepsy, Huntington's disease, Multiple sclerosis, Myasthenia gravis, Stroke / cerebrovascular disorders, Importance of biochemical investigations in neurological disorders	6	CO2
3	**KIDNEY AND GASTROINTESTINAL DISORDERS**	• Assessment of renal function: urea, creatinine, and creatinine clearance • Renal calculi and uremia • Glomerulonephritis (basic biochemical changes) • Gastric function tests • Malabsorption syndromes and related biochemical abnormalities	6	CO3
4	**LIVER DISORDERS**	• Liver function tests and their significance • Disorders of bilirubin metabolism • Hyperbilirubinemias and porphyrias (introductory) • Types of jaundice: hemolytic, hepatocellular, and obstructive • Diseases of liver: hepatitis, cholestasis, cirrhosis, and gallstones	6	CO4
5	**COMMON GENETIC DISORDERS**	• Introduction to genetic diseases (simple definition) • Modes of inheritance: autosomal dominant, autosomal recessive, and sex-linked • Common single-gene disorders: sickle cell anemia, thalassemia, hemophilia, color blindness • Chromosomal disorders: Down syndrome Turner syndrome, Klinefelter syndrome • Inborn errors of metabolism: phenylketonuria and alkaptonuria • Role of genetics in congenital disorders and birth defects (basic concept)	6	CO5

Reference Books:

Lubert Stryer (Ed.), Biochemistry, W.H. Freeman & Company, New York

Latner (Ed.) Clinical Biochemistry

Murray R.K. & P.A. Mayes (Ed.), Harpers Biochemistry, D. K. Granner.

5. Gornal A.G. (Ed.), Applied Biochemistry of clinical disorders.

e-Learning Source:

1. https://www.slideshare.net/peddanasunilkumar/introduction-to-pathology-ppt
2. https://www.ucsfhealth.org/medical-tests/semen-

Attributes & SDGs

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5	PSO6	PSO7
CO1	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-	1
CO2	1	3	1	3	-	-	-	1	3	-	-	3	-	2	-	2	-	1
CO3	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-	1
CO4	1	3	1	2	-	-	-	1	3	-	-	3	-	1	-	1	-	1
CO5	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-	1

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
MB309	**Biochemistry of Health and Diseases**	√	√	√			√	√	**3,4**

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Effective from Session: 2025-26							
Course Code	**MB310**	**Title of the Course**	**FUNDAMENTAL OF GENETICS**	**L**	**T**	**P**	**C**
Year	**III**	**Semester**	**VI**	**3**	**1**	**0**	**4**
Pre-Requisite	**10+2 withBiology**	**Co-requisite**	**Nil**				
Course Objectives	It introduces the basic biochemical concepts related to health and common diseases in a simple and student-friendly manner. It focuses on understanding disease conditions through routine biochemical changes and laboratory investigations, with added emphasis on common genetic disorders relevant to medical biochemistry.						

Course Outcomes	
CO1	Students will understand the basic concepts and scope of genetics in relation to human health.
CO2	Students will explain the structure and function of genes and chromosomes in humans.
CO3	Students will describe patterns of inheritance and simple genetic principles.
CO4	Students will identify common genetic and chromosomal disorders of medical importance.
CO5	Students will apply basic genetic knowledge to interpret pedigrees and clinical examples.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	**Introduction and Cytogenetics**	• Definition, scope, and importance of genetics in medical sciences • Branches of genetics: classical, molecular, population, and medical genetics • Historical background: Mendel's experiments and laws of inheritance • Basic genetic terminology • Cell cycle and its regulation • Cell division: mitosis and meiosis – stages, significance, and comparison • Chromosome structure, types, and nomenclature	6	CO1
2	**Genetic Material and Chromosomes**	• Concept of genetic material • DNA and RNA: definition and general differences • Chromosome organization in prokaryotes and eukaryotes (basic idea) • Chromatin and its types (euchromatin and heterochromatin) • Karyotype and ideogram • Numerical and structural variations of chromosomes (introduction)	6	CO2
3	**Genes and Gene Function**	• Concept of gene and allele • Gene as a unit of inheritance • Gene action: one gene–one trait concept • Basic understanding of how genes control traits (no biochemical pathways) • Genotype and phenotype • Environmental influence on gene expression (general concept)	6	CO3
4	**Principles and Patterns of Inheritance**	• Mendelian principles of inheritance • Monohybrid and dihybrid crosses and their ratios • Extensions of Mendelian genetics: incomplete dominance, codominance, multiple alleles • Linkage and recombination • Sex determination and sex-linked inheritance • Pedigree analysis and its medical importance	6	CO4
5	**Human and Medical Genetics**	• Chromosomal abnormalities: numerical and structural aberrations • Single-gene (Mendelian) disorders with examples • Multifactorial inheritance and common disorders • Basics of population genetics: Hardy–Weinberg equilibrium • Introduction to genetic engineering and recombinant DNA technology • Applications of genetics in medicine: genetic screening, prenatal diagnosis, counseling, and gene therapy	6	CO5

Reference Books:

1. Lubert Stryer (Ed.), Biochemistry, W.H. Freeman & Company, New York
2. Latner (Ed.) Clinical Biochemistry
3. Murray R.K. & P.A. Mayes (Ed.), Harpers Biochemistry, D. K. Granner.
4. 5. Gornal A.G. (Ed.), Applied Biochemistry of clinical disorders.

e-Learning Source:

1. https://www.slideshare.net/peddanasunilkumar/introduction-to-pathology-ppt
2. https://www.ucsfhealth.org/medical-tests/semen-

Attributes & SDGs

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5	PSO6	PSO7
CO1	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-	1
CO2	1	3	1	3	-	-	-	1	3	-	-	3	-	2	-	2	-	1
CO3	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-	1
CO4	1	3	1	2	-	-	-	1	3	-	-	3	-	1	-	1	-	1
CO5	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
MB310	**Fundamental of Genetics**	√	√	√			√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2025-26							
Course Code	**MB311**	**Title of the Course**	**FUNDAMENTAL OF GENETICS LAB**	**L**	**T**	**P**	**C**
Year	**III**	**Semester**	**VI**	**0**	**0**	**4**	**2**
Pre-Requisite	10+2 with Biology	**Co-requisite**	**Nil**				
Course Objectives	Students will understand the basic principles of genetics and relate genes, chromosomes, inheritance, and common genetic disorders to human health.						

Course Outcomes	
CO1	Students will identify different stages of mitosis and meiosis using prepared slides.
CO2	Students will recognize normal human chromosomes and interpret basic karyotypes.
CO3	Students will analyze simple pedigree charts to understand inheritance patterns.
CO4	Students will correlate chromosomal and genetic abnormalities with common genetic disorders.
CO5	Students will develop basic observational, recording, and interpretative skills related to genetics practical's.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	**Fundamentals of Genetics**	• Study and identification of different stages of mitosis • Study and identification of different stages of meiosis • Study of human chromosomes and karyotype analysis using charts/photographs. • Identification of normal and abnormal human karyotypes (Down syndrome, Turner syndrome, Klinefelter syndrome) using charts. • Pedigree analysis for simple inherited traits. • Study of Mendelian inheritance patterns using problem-based exercises. • Identification of sex-linked inheritance through pedigree charts. • Study of chromosomal abnormalities using models, charts, or images. • case study discussion. • Record submission, viva voce, and internal assessment.	6	CO1 CO2 CO3 CO4 CO5

Reference Books:

1. Lubert Stryer (Ed.), Biochemistry, W.H. Freeman & Company, New York
2. Latner (Ed.) Clinical Biochemistry
3. Murray R.K. & P.A. Mayes (Ed.), Harpers Biochemistry, D. K. Granner.
4. 5. Gornal A.G. (Ed.), Applied Biochemistry of clinical disorders.

e-Learning Source:

1. https://www.slideshare.net/peddanasunilkumar/introduction-to-pathology-ppt
2. https://www.ucsfhealth.org/medical-tests/semen-

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5	PSO6	PSO7
CO1	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-	1
CO2	1	3	1	3	-	-	-	1	3	-	-	3	-	2	-	2	-	1
CO3	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-	1
CO4	1	3	1	2	-	-	-	1	3	-	-	3	-	1	-	1	-	1
CO5	1	3	1	2	-	-	-	1	2	-	-	2	-	1	-	1	-	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
MB311	**Fundamental of Genetics Lab**	√	√	√			√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2025-26							
Course Code	**MB312**	**Title of the Course**	**SEMINAR**	**L**	**T**	**P**	**C**
Year	**III**	**Semester**	**VI**	**0**	**4**	**0**	**4**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	This course will serve as a platform for students to integrate various components of patient management and debate contentious issues in the efficacy of students as well as enhance presentation skills.						

Course Outcomes	
CO1	The students will understand and interpret latest advancements through different technical papers, reports, Journals, Data sheets, books etc
CO2	The students will inculcate the skills for literature survey and will learn to manage resources effectively.
CO3	The students will be able to summarize the recent research and technologies in the form of review and will be able to deliver power point presentations on an assigned topic.
CO4	The students will be able to communicate his/her ideas with his peers as audience, which will enhance both oral and written communication skills.
CO5	The students will be able to create interest to pursue lifelong learning.

SEMINAR PRESENTATION ASSESSMENT FORM

Name of Student:		**Session:**	
Enrolment Number:		**Date:**	
Name of Subject:		**Subject code:**	
Topics:			

Criteria	Sub-Criteria	Max. Marks	Marks Obtained
Introduction (Max marks-05)	Use appropriate background information	**02**	
	Has clear statement of purpose	**02**	
	Shows a logical sequence	**01**	
Factual Content (Max marks- 10)	Includes accurate information	**02**	
	Shows up-to-date content	**02**	
	Presents relevant content	**02**	
	Shows in-depth and sufficient details	**01**	
	Addresses all important issues	**01**	
	Is selective	**01**	
	Use of proper English Grammar in the text	**01**	
Presentation Quality (Max marks-03)	Has a good design of presentation (appropriate font, type, size, color, matter per slide etc.)	**02**	
	Has a clear verbal expression and eye contact with audience	**01**	
Response to questions (Max marks-05)	Answers question(s) correctly	**02**	
	Has the ability to think on the spot	**02**	
	Shows an ability to defend content of presentation	**01**	
Time Management (Max. mark-02)	Completes the presentation within allocated time	**02**	
	Total Marks	**25**	

Note: In case of Oral Presentation, each student will be assessed in a 20 minutes time (15 min for presentation & 5 min for discussion) out of 50 marks.

Comments/Suggestions:

(Name and signature of Incharge) **(Head of Department)**

EVALUATION OF SEMINAR ON CLINICAL ISSUES

B.Sc. Medical Anatomy- Students has to prepare minimum 2 long case and 2 short cases during their seminar presentation during due course of time. The evaluation for internal clinical examination of 50 marks will be distributed:
Seminar Presentation=**25marks**. Viva voce =**20 marks** Attendance=**5 marks**

Attributes & SDGs

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)															
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	3	3	2	3	2	3	1	2	1	-	3	2	3	3	2
CO2	3	3	3	3	2	2	3	2	1	3	-	2	2	3	2	3
CO3	3	3	3	3	2	2	3	2	1	3	-	3	2	2	2	3
CO4	3	3	3	3	2	2	3	2	1	3	-	2	3	2	2	3
CO5	3	3	3	3	2	2	3	2	1	3	-	3	2	3	3	2

Course Code	**Course Title**	**Attributes**							**SDGs No.**
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
MB312	**SEMINAR**	√	√	√			√	√	**3,4,9, 17**

Integral University, Lucknow

Effective from Session: 2025-26							
Course Code	**MB313**	**Title of the Course**	**CLINICAL POSTING**	**L**	**T**	**P**	**C**
Year	**III**	**Semester**	**VI**	**0**	**0**	**14**	**7**
Pre-Requisite	**Nil**	Co-requisite	**Nil**				
Course Objectives	Students will gain basic exposure to clinical laboratory practices and understand the relevance of biochemical investigations in diagnosis and management of diseases.						

Course Outcomes: After the successful course completion, learners will develop following attributes:	
CO1	Student will be able to learn and experience the practical handling of patients.
CO2	Student will be able to learn and experience collection and processing of blood, urine, sputum stool and body fluids samples
CO3	Student will be able to learn and experience identification of patient's particulars based on CR number, Lab Number
CO4	Student will be able to learn and experience transfer of samples from collection centers to different labs
CO5	Student will be able to learn and experience. process of performing various tests in different labs.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	**CLINICAL POSTING**	• Orientation to clinical laboratory and hospital setting • Understanding the role of biochemistry in clinical diagnosis • Observation of patient sample collection procedures (blood, urine, stool – basic idea) • Study of routine biochemical investigations: • Blood glucose tests • Lipid profile • Liver function tests (LFT) • Renal function tests (RFT) • Clinical correlation of biochemical findings with common diseases: • Diabetes mellitus • Liver disorders • Kidney disorders • Anemia • Observation of reports related to genetic and metabolic disorders (basic understanding) • Understanding normal and abnormal laboratory values • Awareness of ethics, patient safety, and confidentiality in clinical practice • Interaction with clinicians/laboratory staff to understand clinical relevance of biochemistry • Maintenance of clinical posting record and viva voce	**180**	**CO 1-5**

Attributes & SDGs

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO-PSO CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	2	3	-	2	1	-	-	-	1	1	-	1	2	1	3	2	1
CO2	1	3	-	2	-	-	-	-	1	-	-	1	2	1	3	2	1
CO3	2	3	-	2	-	-	-	-	1	1	-	1	2	1	3	2	1
CO4	1	3	-	1	-	-	-	-	1	-	-	1	2	1	3	2	1
CO5	2	3	-	1	-	-	-	-	1	-	-	1	2	1	3	2	1

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
MB313	**CLINICAL POSTING**	√	√	√	√		√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2025-26							
Course Code	**MB314**	**Title of the Course**	**PROJECT**	**L**	**T**	**P**	**C**
Year	**III**	**Semester**	**VI**	**0**	**0**	**30**	**15**
Pre-Requisite	**Nil**	Co-requisite	**Nil**				
Course Objectives	The main objective of this course is to develop independence in research skills and to develop research interpretation skills. To promote education and research in medical biochemistry and provide academic and professional excellence for immediate productivity in hospitals, governmental, or clinical settings for the ultimate benefit of society and environment.						

Course Outcomes	
CO1	The students will be able to perform literature reviews and identify state of the art in that field.
CO2	The students will be able to define the problem and develop synopsis of a defined research problem
CO3	The students will be able to establish a methodology using advanced tools / techniques for solving the problem including project management and finances.
CO4	The students will be able to prepare the research report and its oral demonstrations.
CO5	The students will gain practical experience in project management in the hospital service industry, and be able to use various techniques in contemporary research for project, perform numerical analysis and interpret the results

Name of Student:		**Session:**	
Enrollment Number:		**Date:**	
Name of Course:	**Project**	**Course Code:**	**MB314**
Topics:			

S. No.	**Evaluation**	**Point to be Considered**	**Max. Marks**	**Marks Obtained**
1.	**Based on continuous assessment (10 Marks)**	**Periodic Consultation with Guide**	**2**	
2.		**Regular collection of Data with the consultation of guide.**	**2**	
3.		**Command of the topic & presentation skill**	**2**	
4.		**Methods, analysis, dissuasion and Conclusions**	**2**	
5.		**Contribution to knowledge and thesis structure**	**2**	
Review all heading				
1.	**Based on External Evaluators at the time of End Sem Examination.**	**Introduction**	**3**	
2.		**Aims, objectives & research hypothesis**	**3**	
3.		**Review of literature**	**3**	
4.		**Material & Methods**	**3**	
5.		**Data analysis & results**	**3**	
6.		**Discussion, lamination & future study**	**3**	
7.		**Conclusion, signification.**	**3**	
8.		**Bibliography**	**3**	
9.		**Tables, graph, diagram & Annexure (if any) Statistical Analysis Master Chart**	**3**	
10.		**The deface of study**	**3**	
		Total Score	**40**	

Note: Evaluation of Project of B.Sc. MB- Students must prepare an oral presentation; each student will be assessed in 20 minutes' time (15 min for presentation & 5 min for discussion). The evaluation of Project by external examiner with proper approval of concern authorities. The end semester examination will be 40 marks as external evaluations, and 60 marks will be by the internal examiner (continuous assessment):

Comments/Suggestions:

(Name and signature of Incharge) **(Head of Department)**

Attributes & SDGs Common for all branches / Disciplines

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO-PSO CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	2	3	3	2	3	2	3	1	2	1	-	-	3	2	3	3	2
CO2	3	3	3	3	2	2	3	2	1	3	-	-	2	2	3	2	3
CO3	3	3	3	3	2	2	3	2	1	3	-	-	3	2	2	2	3
CO4	3	3	3	3	2	2	3	2	1	3	-	-	2	3	2	2	3
CO5	3	3	3	3	2	2	3	2	1	3	-	-	3	2	3	3	2

Course Code	**Course Title**	**Attributes**							**SDGs No.**
MB314	**Project**	**Employability**	**Entrepreneurship**	**Skill Development**	**Gender Equality**	**Environment & Sustainability**	**Human Value**	**Professional Ethics**	
		√	√	√	√		√	√	**3,4,9, 17**