Academic Year 2018-19

B.P.H.E. Society's
Ahmednagar College, Ahmednagar
Internal Quality Assurance Cell
CO, PO, and PSO Attainment Sheet

Department Name	**MICROBIOLOGY**

Program Name	**M.Sc.**

Program Outcomes(PO)

PO1	To enrich students' knowledge and train them in the pure microbial sciences
PO2	To introduce the concepts of mathematics in biology
PO3	To inculcate research aptitude
PO4	To inculcate sense of scientific responsibilities and social and environment awareness
PO5	To help students build-up a progressive and successful career in Microbiology
PO6	
PO7	
PO8	
PO9	
PO10	
PO11	
PO12	

Program Specific Outcome(PSO)

PSO1	To get students familiarized to versatile tools and techniques employed in Molecular Biology. They are introduced to the concepts of Clinical Biology.
PSO2	Inculcate research aptitude and carry out academic and applied research
PSO3	Gain an insight on Clinical Microbiology, Pharmaceutical Microbiology, Molecular biology, Microbial Virus Technology, Advances in Microbial Technology, Industrial waste water treatment and industrial production of vaccines.

Academic Year :	2018-19

Class		M.Sc. I
Subject Code		MBCT 111
Subject Name		Microbial Systematics
Semester No		1
Teacher Name		Jessica Ghodke
Course Outcomes		
	CO1	Students will be able to apply mathematical tools for estimation of the total number of species and for measuring indices of diversity.
	CO2	Students will be able to identify, classify fungi into 6 classes based on morphological characterization.
	CO3	Students will be able to conceptualize, understand and use molecular methods for identifying unculturable bacteria
	CO4	Students will be able to execute the methods of extraction of total bacterial DNA.
	CO5	Students will be able to understand Neo-Darwinism and its importance in prokaryote evolution along with spontaneous mutation controversy, know the types and levels of mutations and molecular clocks.

Course Outcomes	Program Outcomes					PSOs		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
CO1	2	2	1	1	1	0	1	0
CO2	2	0	1	1	1	0	1	0
CO3	2	0	2	1	2	2	2	0
CO4	2	0	2	1	2	2	2	1
CO5	2	1	1	1	1	2	1	0
Average	2.00	0.60	1.40	1.00	1.40	1.20	1.40	0.20

Class		M.Sc.I
Subject Code		MBCT 112
Subject Name		Quantitative Biology
Semester No		1
Teacher Name		Avinash Gawade
Course Outcomes		
	CO1	Students will be able to determine Mean, mode, median, percentile and standard deviation
	CO2	Students will understand the concepts of null hypothesis, alternate hypothesis, significance level, type I and type II errors.

Course Outcomes	Program Outcomes					PSOs		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
CO1	1	3	3	2	3	0	3	1
CO2	1	3	3	1	3	0	3	1
CO3	1	3	3	2	3	0	3	1
CO4	1	3	3	1	3	0	2	0
CO5	1	3	2	1	3	0	2	0
Average	1.00	3.00	2.80	1.40	3.00	0.00	2.60	0.60

	CO3	Students will learn to apply statistical tools for calculating degrees of freedom, two population means, t -tests and z test.
	CO4	Students will be able to learn non-parametric tests (Run test, Sign test, Wilcoxon's signed rank test, Mann-Whitney test).
	CO5	Students will be able to examine measures of skewness; measures of kurtosis and able to calculate regression and correlation. Students will learn to implement and interpret F-test, ANOVA, Survey design, Factorial design (Plackett Burman method, DOE).

			Course Outcomes	Program Outcomes					PSOs		
Class	M.Sc.I			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Code	MBCT 113		CO1	2	2	2	1	2	1	2	0
Subject Name	Biochemistry and Metabolism		CO2	2	2	3	1	3	3	3	1
Semester No	1		CO3	2	1	2	1	2	1	2	1
Teacher Name	Uday Ramdasi		CO4	2	1	1	1	1	2	1	1
Course Outcomes			CO5	2	1	3	1	2	1	1	1
	CO1	Students will be able to describe protein chemistry, structural features of amino acids and classify amino acids									
	CO2	Students will be able to demonstrate PCR and sequencing methods of DNA & RNA.	Average	2.00	1.40	2.20	1.00	2.00	1.60	1.80	0.80
	CO3	Students will recite the organization of Cytoskeleton, Endoplasmic reticulum, Golgi complex and other organelles with their functions.									
	CO4	Students will conceptualize principles of developmental biology, conserved nature of development, concepts of commitment and morphological gradient. Students will learn life cycle of Drosophila, Arabidopsis and Xenopus to understand the Molecular mechanisms									
	CO5	Students will be able to determine the mechanisms of protein trafficking in cell compartments.									

			Course Outcomes	Program Outcomes					PSOs		
Class	M.Sc.I			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Code	MBCP 114		CO1	2	1	2	2	2	1	2	2
Subject Name	Biochemical Techniques		CO2	2	2	2	1	2	2	2	1
Semester No	1		CO3	2	2	2	1	3	3	2	2
Teacher Name	Jessica Ghodke		CO4	2	1	1	1	1	1	2	1
Course Outcomes											

	CO1	Students will learn the laboratory safety and hazards from chemicals, handling of chemicals and disposal of chemicals and cultures.	CO5	2	2	2	1	3	1	2	1
	CO2	Students will be able to prepare buffers	Average	2.00	1.60	1.80	1.20	2.20	1.60	2.00	1.40
	CO3	Students will be able to plot and interpret different graphs using Microsoft excel.									
	CO4	Students will isolate alkaliphiles, and thermophiles									
	CO5	Students will examine the stages of mitosis from the growing tips of onion root cells. Students will be able to separate sugars and amino acids by paper and thin layer chromatography and estimate them. Students will be able to perform SDS-PAGE									

Class	M.Sc.I	Course Outcomes	Program Outcomes					PSOs		
Subject Code	MBET 115		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Fungal Systematics and Extremophiles	CO1	2	0	1	0	1	0	1	1
Semester No	1	CO2	2	0	2	1	2	2	2	1
Teacher Name	Vishal Tungikar	CO3								
Course Outcomes		CO4								
CO1	Students will learn and recite the classes of fungi	CO5								
CO2	Students will learn enrichment techniques to isolate extremophiles.	Average	2.00	0.00	1.50	0.50	1.50	1.00	1.50	1.00
CO3										
CO4										
CO5										

Class	M.Sc.I	Course Outcomes	Program Outcomes					PSOs		
Subject Code	MBEP 115		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Practicals Based on Fungal Systematics and Extremophiles	CO1	2	0	1	0	1	0	1	1
Semester No	1	CO2	2	0	2	1	2	2	2	1
Teacher Name	Vishal Tungikar	CO3								
Course Outcomes		CO4								
CO1	Students will be able to isolate and identify yeast and molds.	CO5								
CO2	Students will be able to isolate acidophiles and halophiles.	Average	2.00	0.00	1.50	0.50	1.50	1.00	1.50	1.00
CO3										
CO4										
CO5										

Class	M.Sc.I		Course Outcomes	Program Outcomes					PSOs		
Subject Code	MBCT 121			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Instrumentation and Molecular Biophysics		CO1	2	2	2	1	3	3	2	3
Semester No	2		CO2	2	2	2	1	3	3	2	3
Teacher Name	Abhijit Aher		CO3	2	2	2	1	3	3	2	3
Course Outcomes			CO4								
	CO1	Students will understand the concepts of Instrumentation and Molecular Biophysics	CO5								
	CO2	Students will be able to understand both fundamentals and applications of the instruments that are routinely used for the characterization of biomolecules.	Average	2.00	2.00	2.00	1.00	3.00	3.00	2.00	3.00
	CO3	Students will understand the concept and applications of instruments									
	CO4										
	CO5										

Class	M.Sc.I		Course Outcomes	Program Outcomes					PSOs		
Subject Code	MBCT 122			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Molecular Biology		CO1	3	0	1	1	3	3	2	2
Semester No	2		CO2	3	1	2	0	2	2	2	1
Teacher Name	Zahra Bahlooli		CO3	2	1	1	1	2	2	2	2
Course Outcomes			CO4	3	0	1	0	1	2	2	1
	CO1	Students will learn RNA processing &Molecular Techniques	CO5	2	0	2	1	2	2	2	1
	CO2	Students will understand the process of Eukaryotic RNA Processing, Nuclear export of mRNA, types of regulatory, noncoding RNA and Pi RNA	Average	2.60	0.40	1.40	0.60	2.00	2.20	2.00	1.40
	CO3	Students will be able to describe different tools for Genetic engineering									
	CO4	Students will understand the concept of Genome projects, deciphering genetic code, construction of genomes									
	CO5	Students will learn the Molecular diagnostics like protein arrays, microarrays, immunoassays and applications									

Class	M.Sc.I	Course Outcomes	Program Outcomes	PSOs

Subject Code	MBCT 123
Subject Name	Enzymology, Bioenergetics and Metabolism
Semester No	2
Teacher Name	Abhijit Aher

Course Outcomes	
	CO1	Students will learn about the enzyme reactions with respect purifications methods of purification chart, kinetics and coupled reactions.
	CO2	Students will be able to recite the Laws of thermodynamics, free energy , coupled reactions, high energy compounds and numerical problems
	CO3	Students will understand classification, structure of lipids with regulation in their metabolism
	CO4	Students will know the synthesis of sugars, regulation of sugar metabolism, TCA cycle, glyoxalate cycle with their regulation mechanisms
	CO5	

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
CO1	2	3	2	0	3	3	2	2
CO2	2	3	3	1	2	1	2	2
CO3	2	0	1	1	1	1	1	1
CO4	2	1	2	1	2	1	1	1
CO5								
Average	2.00	1.75	2.00	0.75	2.00	1.50	1.50	1.50

Class	M.Sc.I
Subject Code	MBCP 124
Subject Name	Molecular Biology, Enzymology and Instrumentation Techniques
Semester No	2
Teacher Name	Vishal Tungikar

Course Outcomes	
	CO1	Students will attain awareness about enzymology, molecular biology and instrumentation techniques
	CO2	Students will learn through experiments about concept of lac-operon; Glucose Repression; Diauxic growth
	CO3	Students will be able to purify enzymes (Amylase/Invertase) by various methods and learn kinetics of enzymes
	CO4	Students will be acquainted with Aflatoxin, lipase cellulase chitinase extraction and estimation

Course Outcomes	Program Outcomes					PSOs		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
CO1	2	1	2	2	2	2	2	1
CO2	2	1	2	1	1	1	1	1
CO3	2	2	2	1	2	0	2	1
CO4	2	0	2	1	2	1	1	1
CO5	2	2	2	1	2	2	3	1
Average	2.00	1.20	2.00	1.20	1.80	1.20	1.80	1.00

	CO5	Students will study the methods of molecular techniques and gene annotation using bioinformatics tools. Students will learn learn scientific communication modes like literature review, Experiment planning, experimentation and presenting the thesis. Use of reference management tools and data mining tools.

Class		M.Sc.I
Subject Code		MBET 125
Subject Name		Bioinformatics and Bio-nanotechnology
Semester No		2
Teacher Name		John Phillips
Course Outcomes		
	CO1	Students will possess the knowledge of Bioinformatics
	CO2	Students will know steps in the process of gene or protein sequencing, annotations, comparative analysis.
	CO3	Students will understand Bio-nanotechnology
	CO4	Students will be able to discuss the methods of synthesis, characterization and application of nanoparticles
	CO5	Students will be acquainted with the concepts of Bio-nanotechnology and Bioinformatics

Course Outcomes	Program Outcomes					PSOs		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
CO1	1	0	1	0	1	1	1	1
CO2	3	1	2	2	2	2	1	1
CO3	3	1	2	2	2	3	2	2
CO4	3	2	2	2	2	3	2	1
CO5	2	1	2	2	2	3	2	2
Average	2.40	1.00	1.80	1.60	1.80	2.40	1.60	1.40

Class		M.Sc.I
Subject Code		MBEP 125
Subject Name		Practicasl Based on Bioinformatics and Bio-nanotechnology
Semester No		2
Teacher Name		John Phillips
Course Outcomes		
	CO1	Students will be able to perform DNA isolation and purity checking.
	CO2	Students can perform PCR
	CO3	Students will learn to Draw phylogenetic tree using related sequences
	CO4	Students will be able to synthesize nanoparticles and characterize by UV-VIS spectroscopy
	CO5	

Course Outcomes	Program Outcomes					PSOs		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
CO1	2	2	2	1	3	3	2	2
CO2	2	2	3	1	3	3	2	2
CO3	2	1	2	1	2	3	2	1
CO4	2	1	2	1	3	2	2	1
CO5								
Average	2.00	1.50	2.25	1.00	2.75	2.75	2.00	1.50

Academic Year :	2018-19

Class		M.Sc.II
Subject Code		MBCT 231
Subject Name		Immunology
Semester No		3
Teacher Name		Jessica Ghodke
Course Outcomes		
	CO1	Students will understand the concepts of Immunology
	CO2	They will be able to understand the different effector mechanisms of host immune response
	CO3	This course will elucidate the concepts of signal transduction pathways to students
	CO4	
	CO5	

Course Outcomes	Program Outcomes					PSOs		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
CO1	2	1	0	1	1	1	2	2
CO2	2	0	1	1	1	1	2	3
CO3	2	0	2	1	1	1	3	2
CO4								
CO5								
Average	2.00	0.33	1.00	1.00	1.00	1.00	2.33	2.33

Class		M.Sc.II
Subject Code		MBCT 232
Subject Name		Molecular Biology
Semester No		3
Teacher Name		Vishal Tungikar
Course Outcomes		
	CO1	The concepts of Molecular Biology will be familiar to students
	CO2	Students will be able to understand the concept of Metabolomics.
	CO3	Detail knowledge about the concept and applications of transgenic plants and transgenic animals will be gained.
	CO4	
	CO5	

Course Outcomes	Program Outcomes					PSOs		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
CO1	3	2	3	1	2	3	3	2
CO2	3	0	2	0	1	2	2	2
CO3	3	0	2	3	2	3	1	2
CO4								
CO5								
Average	3.00	0.67	2.33	1.33	1.67	2.67	2.00	2.00

Class		M.Sc. II	Course Outcomes	Program Outcomes					PSOs		
Subject Code		MBCT 233		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name		Clinical Microbiology	CO1	3	0	2	2	2	3	2	3
Semester No		3	CO2	3	1	3	2	3	3	3	1
Teacher Name		Uday Ramdasi	CO3	2	0	1	2	2	1	1	2
Course Outcomes			CO4								
	CO1	The concepts of medical microbiology and medically important micro-organisms will add on to students knowledge.	CO5								
	CO2	Pupil will get to know about knowledge of morphology, cultural characteristics, biochemical tests, epidemiology, laboratory diagnosis etc of bacterial pathogens	Average	2.67	0.33	2.00	2.00	2.33	2.33	2.00	2.00
	CO3	They will also understand the basics and applications of various chemotherapeutic agents and their mode of action									
	CO4										
	CO5										

Class		M.Sc.II	Course Outcomes	Program Outcomes					PSOs		
Subject Code		MBCP 234		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name		Practicals based on Immunology, Molecular Biology and Clinical Microbiology	CO1	1	1	2	1	3	3	2	3
Semester No		3	CO2	2	1	3	1	3	3	3	3
Teacher Name		Jessica Ghodke	CO3	2	1	3	2	3	3	3	3
Course Outcomes			CO4								
	CO1	Familiarity about techniques Immunology will be increased among students	CO5								
	CO2	They will learn about Molecular Biology techniques	Average	1.67	1.00	2.67	1.33	3.00	3.00	2.67	3.00
	CO3	Students will be acquainted with techniques in Clinical Microbiology									
	CO4										
	CO5										

Class		M.Sc.II	Course Outcomes	Program Outcomes					PSOs		
Subject Code		MBET 236		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name		Bioremediation and Biomass Utilization	CO1	2	1	2	2	3	2	1	2
Semester No		3	CO2	2	1	2	2	3	2	1	2
Teacher Name		Zarina Khuddus	CO3	2	1	2	2	3	2	1	2
Course Outcomes			CO4								

	CO1	Students will develop an interest in the field of bioremediation	CO5							
	CO2	They understand the concepts of biomass utilization	Average	2.00	1.00	2.00	2.00	3.00	2.00	1.00	2.00
	CO3	The ideology behind concepts and use of microbial degradation will be clear to them								
	CO4									
	CO5									

Class		M.Sc.II	Course Outcomes	Program Outcomes					PSOs		
Subject Code		MBEP 236		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name		Practicals based on Bioremediation and Biomass Utilization	CO1	2	1	2	2	3	0	1	2
Semester No		3	CO2	2	1	2	2	3	0	1	2
Teacher Name		Zarina Khuddus	CO3	2	1	2	2	3	0	1	2
Course Outcomes			CO4								
	CO1	An interest will be developed in the field of bioremediation	CO5								
	CO2	They will understand the concepts of biomass utilization	Average	2.00	1.00	2.00	2.00	3.00	0.00	1.00	2.00
	CO3	Students will understand the concepts and use of microbial degradation									
	CO4										
	CO5										

Class		M.Sc.II	Course Outcomes	Program Outcomes					PSOs		
Subject Code		MBCT 241		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name		Pharmaceutical Microbiology	CO1	2	1	2	1	1	2	1	2
Semester No		4	CO2	1	1	2	1	2	2	1	2
Teacher Name		Zarina Khuddus	CO3	2	1	2	1	2	2	1	2
Course Outcomes			CO4								
	CO1	In addition to drug development students will also understand the concepts of drug discovery	CO5								
	CO2	They will be able to know pharmacokinetics and pharmacodynamics.	Average	1.67	1.00	2.00	1.00	1.67	2.00	1.00	2.00
	CO3	Besides this students will know the recent trends for MDR therapy also									
	CO4										
	CO5										

Class	M.Sc.II	Course Outcomes	Program Outcomes					PSOs		
Subject Code	MBCT 242		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Microbial Technology	CO1	3	2	1	1	3	2	3	2

Semester No	4		CO2	2	1	1	1	2	3	3	2
Teacher Name	Jessica Ghodke		CO3	2	0	1	1	2	3	3	2
Course Outcomes			CO4								
	CO1	Students will learn about microbial technol ogy and its applications	CO5								
	CO2	They shall acquire knowledge about various process control methods in fermentation.	Average	2.33	1.00	1.00	1.00	2.33	2.67	3.00	2.00
	CO3	Students will be acquainted with the applications. of microorganisms in different industries.									
	CO4										
	CO5										

Class	M.Sc.II		Course Outcomes	Program Outcomes					PSOs		
Subject Code	MBCT 243			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Dissertation		CO1	3	3	3	3	3	3	3	3
Semester No	4		CO2	3	3	3	3	3	3	3	3
Teacher Name	Avinash Gawade		CO3	3	3	3	3	3	3	3	3
Course Outcomes			CO4	3	3	3	3	3	3	3	3
	CO1	Students will be able to choose a dissertation topic of research or application orientation	CO5	3	3	3	3	3	3	3	3
	CO2	They will get an experience for gathering literature survey and apply it into practical dissertation work	Average	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
	CO3	They shall also be educated for use of statistical analysis and graphical presentations									
	CO4	Besides this they will also be able to analyze qualitative and quantitative data with evidence based explanation gathered supports the initial hypothesis.									
	CO5	This course will help students to craft an extensive and comprehensive piece of dissertation work with research or application orientation									

Class	M.Sc.II	Course Outcomes	Program Outcomes					PSOs		
Subject Code	MBET 244		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Quality Assurance and Validation in Pharmaceutical Industry and Development of Anti Infectives from plants	CO1	2	1	1	1	3	1	1	2
Semester No	4	CO2	2	1	1	1	3	1	1	2
Teacher Name	Zarina Sayyed	CO3	2	1	2	1	3	1	1	2
Course Outcomes		CO4								

	CO1	Students. will have knowledge of Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP) in pharmaceutical industry.	CO5								
	CO2	They will be accustomed with ISO, WHO and US certification and also Safety in microbiology laboratory.	Average	2.00	1.00	1.33	1.00	3.00	1.00	1.00	2.00
	CO3	The knowledge of Therapeutic ratio, MIC and MBC Susceptibility Testing will be obtained by students									
	CO4										
	CO5										

Class	M.Sc.II	Course Outcomes	Program Outcomes					PSOs		
Subject Code	MBEP 244		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Practicals based on Quality Assurance and Validation in Pharmaceutical Industry and Development of Anti Infectives from plants	CO1	2	1	1	1	3	0	1	2
Semester No	4	CO2	2	1	1	1	3	0	1	2
Teacher Name	Zarina Sayyed	CO3	2	1	1	2	3	0	1	2
Course Outcomes		CO4								
CO1	Students will have knowledge of Quality Assurance in the Pharmaceutical Industry	CO5								
CO2	Understanding about validation processes in the Pharmaceutical Industry will become easy.	Average	2.00	1.00	1.00	1.33	3.00	0.00	1.00	2.00
CO3	They will be acquainted with the knowledge of development of anti- infectives from plants									
CO4										
CO5										

Class	M.Sc.II	Course Outcomes	Program Outcomes					PSOs		
Subject Code	MBET 245		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Advances in Microbial Technology	CO1	2	1	3	1	3	2	3	2
Semester No	4	CO2	3	0	3	2	3	2	2	2
Teacher Name	Jessica Ghodke	CO3	1	1	3	1	3	2	2	2
Course Outcomes		CO4								
CO1	Students will learn about Advances in Microbial Technology	CO5								
CO2	They will get to know applications of animal cell culture technology	Average	2.00	0.67	3.00	1.33	3.00	2.00	2.33	2.00
CO3	Students will be accustomed with the latest techniques and thei r applications.									
CO4										

	CO5	

Class		M.Sc.II
Subject Code		MBEP 245
Subject Name		Practicals based on Advances in Microbial Technology
Semester No		4
Teacher Name		Jessica Ghodke
Course Outcomes		
	CO1	Students will study about Advances in Microbial Technology
	CO2	They will get knowledge about applications of animal cell culture technology.
	CO3	This will help them acquainted with the latest techniques and their applications.
	CO4	
	CO5	

Course Outcomes	Program Outcomes					PSOs		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
CO1	2	1	1	1	2	0	2	2
CO2	2	0	1	1	2	0	1	2
CO3	2	0	1	1	2	0	1	2
CO4								
CO5								
Average	2.00	0.33	1.00	1.00	2.00	0.00	1.33	2.00

CO-PO Mapping

			Course	PO1	PO2	PO3	PO4	PO5
		1	MBCT 111	2.00	0.60	1.40	1.00	1.40
		2	MBCT 112	1.00	3.00	2.80	1.40	3.00
		3	MBCT 113	2.00	1.40	2.20	1.00	2.00
		4	MBCP 114	2.00	1.60	1.80	1.20	2.20
		5	MBET 115	2.00	0.00	1.50	0.50	1.50
		6	MBEP 115	2.00	0.00	1.50	0.50	1.50
		7	MBCT 121	2.00	2.00	2.00	1.00	3.00
		8	MBCT 122	2.60	0.40	1.40	0.60	2.00
		9	MBCT 123	2.00	1.75	2.00	0.75	2.00
		10	MBCP 124	2.00	1.20	2.00	1.20	1.80
		11	MBET 125	2.40	1.00	1.80	1.60	1.80
FY	FY	12	MBEP 125	2.00	1.50	2.25	1.00	2.75
		1	MBCT 231	2.00	0.33	1.00	1.00	1.00
		2	MBCT 232	3.00	0.67	2.33	1.33	1.67
		3	MBCT 233	2.67	0.33	2.00	2.00	2.33
		4	MBCP 234	1.67	1.00	2.67	1.33	3.00
		5	MBET 236	2.00	1.00	2.00	2.00	3.00
		6	MBEP 236	2.00	1.00	2.00	2.00	3.00
		7	MBCT 241	1.67	1.00	2.00	1.00	1.67
		8	MBCT 242	2.33	1.00	1.00	1.00	2.33
		9	MBCT 243	3.00	3.00	3.00	3.00	3.00
		10	MBET 244	2.00	1.00	1.33	1.00	3.00
		11	MBEP 244	2.00	1.00	1.00	1.33	3.00
SY		12	MBET 245	2.00	0.67	3.00	1.33	3.00
	SY	13	MBEP 245	2.00	0.33	1.00	1.00	2.00

CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5
1.04	0.312	0.728	0.52	0.728
0.52	1.56	1.456	0.728	1.56
0.613333	0.429333333	0.674667	0.306667	0.613333
2	1.6	1.8	1.2	2.2
1.36	0	1.02	0.34	1.02
2	0	1.5	0.5	1.5
1.04	1.04	1.04	0.52	1.56
1.074667	0.165333333	0.578667	0.248	0.826667
0.613333	0.536666667	0.613333	0.23	0.613333
2	1.2	2	1.2	1.8
2.144	0.893333333	1.608	1.429333	1.608
1.573333	1.18	1.77	0.786667	2.163333
0.4	0.066666667	0.2	0.2	0.2
1.56	0.346666667	1.213333	0.693333	0.866667
1.386667	0.173333333	1.04	1.04	1.213333
1.666667	1	2.666667	1.333333	3
1.36	0.68	1.36	1.36	2.04
2	1	2	2	3
1.666667	1	2	1	1.666667
0.466667	0.2	0.2	0.2	0.466667
2.52	2.52	2.52	2.52	2.52
1.36	0.68	0.906667	0.68	2.04
2	1	1	1.333333	3
1.786667	0.595555556	2.68	1.191111	2.68
1.68	0.28	0.84	0.84	1.68

Percentage CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5
52	52	52	52	52
52	52	52	52	52
30.66667	30.66667	30.66667	30.66667	30.66667
100	100	100	100	100
68	#DIV/0!	68	68	68
100	#DIV/0!	100	100	100
52	52	52	52	52
41.33333	41.33333	41.33333	41.33333	41.33333
30.66667	30.66667	30.66667	30.66667	30.66667
100	100	100	100	100
89.33333	89.33333	89.33333	89.33333	89.33333
78.66667	78.66667	78.66667	78.66667	78.66667
20	20	20	20	20
52	52	52	52	52
52	52	52	52	52
100	100	100	100	100
68	68	68	68	68
100	100	100	100	100
100	100	100	100	100
20	20	20	20	20
84	84	84	84	84
68	68	68	68	68
100	100	100	100	100
89.33333	89.33333	89.33333	89.33333	89.33333
84	84	84	84	84

FY

SY

CO-PSO MAPPING

	Course	PSO1	PSO2	PSO3
1	MBCT 111	1.20	1.40	0.20
2	MBCT 112	0.00	2.60	0.60
3	MBCT 113	1.60	1.80	0.80
4	MBCP 114	1.60	2.00	1.40
5	MBET 115	1.00	1.50	1.00
6	MBEP 115	1.00	1.50	1.00
7	MBCT 121	3.00	2.00	3.00
8	MBCT 122	2.20	2.00	1.40
9	MBCT 123	1.50	1.50	1.50
10	MBCP 124	1.20	1.80	1.00
11	MBET 125	2.40	1.60	1.40
12	MBEP 125	2.75	2.00	1.50
1	MBCT 231	1.00	2.33	2.33
2	MBCT 232	2.67	2.00	2.00
3	MBCT 233	2.33	2.00	2.00
4	MBCP 234	3.00	2.67	3.00
5	MBET 236	2.00	1.00	2.00
6	MBEP 236	0.00	1.00	2.00
7	MBCT 241	2.00	1.00	2.00
8	MBCT 242	2.67	3.00	2.00
9	MBCT 243	3.00	3.00	3.00
10	MBET 244	1.00	1.00	2.00
11	MBEP 244	0.00	1.00	2.00
12	MBET 245	2.00	2.33	2.00
13	MBEP 245	0.00	1.33	2.00

CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
MBCT 111	0.624	0.728	0.104
MBCT 112	0	1.352	0.312
MBCT 113	0.490667	0.552	0.245333
MBCP 114	1.6	2	1.4
MBET 115	0.68	1.02	0.68
MBEP 115	1	1.5	1
MBCT 121	1.56	1.04	1.56
MBCT 122	0.909333	0.826667	0.578667
MBCT 123	0.46	0.46	0.46
MBCP 124	1.2	1.8	1
MBET 125	2.144	1.429333	1.250667
MBEP 125	2.163333	1.573333	1.18
MBCT 231	0.2	0.466667	0.466667
MBCT 232	1.386667	1.04	1.04
MBCT 233	1.213333	1.04	1.04
MBCP 234	3	2.666667	3
MBET 236	1.36	0.68	1.36
MBEP 236	0	1	2
MBCT 241	2	1	2
MBCT 242	0.533333	0.6	0.4
MBCT 243	2.52	2.52	2.52
MBET 244	0.68	0.68	1.36
MBEP 244	0	1	2
MBET 245	1.786667	2.084444	1.786667
MBEP 245	0	1.12	1.68

Percentage CO-PSO ATTAINMENT

PSO1	PSO2	PSO3
52	52	52
#DIV/0!	52	52
30.66667	30.66667	30.66667
100	100	100
68	68	68
100	100	100
52	52	52
41.33333	41.33333	41.33333
30.66667	30.66667	30.66667
100	100	100
89.33333	89.33333	89.33333
78.66667	78.66667	78.66667
20	20	20
52	52	52
52	52	52
100	100	100
68	68	68
#DIV/0!	100	100
100	100	100
20	20	20
84	84	84
68	68	68
#DIV/0!	100	100
89.33333	89.33333	89.33333
#DIV/0!	84	84