

Academic Year 2021-22

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

Department Name Mathematics

Program Name M.Sc.

Program Outcomes(PO)

PO1	To take care of fast development in the knowledge of mathematics.
PO2	To enhance the quality and standards of Mathematics Education.
PO3	To provide a broad common frame work, for exchange, mobility and free dialogue across the Indian Mathematical and associated community.
PO4	Capable of analyzing the results critically and applying acquired knowledge to solve the problems
PO5	Capable to identify, formulate, investigate and analyze the scientific problems and innovatively design and create product solutions to professional and real life problems.
PO6	Able to develop a research aptitude and apply knowledge to find the solution of burning research problems in the concerned and associated fields at global level.
PO7	Able to Learn interdisciplinary and multidisciplinary skill sets and advanced techniques to apply them for better livelihood of mankind.
PO8	Able to learn and work in a groups and capable of leading a team even
PO9	Able to acquire lifelong learning skills which will lead important to better opportunities and improve quality of life.
PO10	To create and aptitude for Mathematics in those students who show a promise for higher studies and creative work in Mathematics.
PO11	
PO12	

Program Specific Outcome(PSO)

PSO1	Will have a strong foundation in both pure and applied mathematics.
PSO2	Will have the knowledge of the fundamental axioms in mathematics and capability of developing ideas based on them and inculcate mathematical reasoning.
PSO3	Will be able to apply mathematical skills for solving problems and can prepare himself for various competitive exams.

Academic Year : 2021-22

Class		M.Sc.I	Course Outcomes	Program Outcomes										PSOs		
Subject Code	MTUT111			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Linear Algebra		CO1	2	1	1	1	2	1	1	1	2	2	2	1	
Semester No	I		CO2	2	1	1	2	1	2	2	1	2	2	1	2	1
Teacher Name	P.R.Kale		CO3	1	1	2	3	1	2	1	1	2	2	1	2	1
Course Outcomes			CO4	3	2	1	3	3	2	1	1	1	2	2	3	1
	CO1	Can imagine the results of basic operations on vectors in geometrically and differentiate between Finite and Infinite Dimensional Vector Spaces	CO5													
	CO2	Can differentiate between Eigen Values and Eigen Vectors along with its Applications along with real life examples of the difference between Linear and Non – Linear Transformation	Average	2.00	1.25	1.25	2.25	1.75	1.75	1.25	1.00	1.50	2.00	1.50	2.25	1.00
	CO3	Can recognize the invariant and Non – invariant subspaces under the given linear operator														
	CO4	Can tell the applications of Linear Algebra to real life														
	CO5															

Class		M.Sc.I	Course Outcomes	Program Outcomes										PSOs		
Subject Code	MTUT112			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3

	CO4	Apply Sylow theorems for groups of finite orders.
	CO5	

Class		M.Sc.I	Course Outcomes	Program Outcomes										PSOs		
Subject Code	MTUT114	Subject Name		Advanced Calculus	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
Semester No	I	Teacher Name	S.B.Gandhale	CO1	1	3	2	1	2	1	1	1	1	1	2	1
Course Outcomes			CO2	2	1	1	2	2	2	2	3	2	2	2	2	2
			CO3	2	1	2	1	1	3	1	1	2	1	1	1	2
			CO4	2	2	2	1	2	2	2	1	1	1	1	1	2
	CO1	Be able to define and differentiate scalar and vector fields.	CO5													
	CO2	Be able to calculate directional derivatives, partial derivatives, and higher-order partial derivatives.	Average	1.75	1.75	1.75	1.25	1.75	2.00	1.50	1.50	1.50	1.25	1.25	1.50	1.75
	CO3	Be able to define and evaluate double integrals.														
	CO4	Be able to define and calculate surface integrals.														
	CO5															

Class		M.Sc.I	Course Outcomes	Program Outcomes										PSOs		
Subject Code	MTUT115	Subject Name		Ordinary Differential Equations	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
Semester No	I	Teacher Name	S.A.Ghule	CO1	1	2	2	1	1	1	1	1	1	1	1	2
Course Outcomes			CO2	2	1	1	2	2	2	2	2	2	2	2	2	2
			CO3	2	1	2	1	1	2	2	1	2	1	2	2	2
			CO4	1	2	1	1	2	2	2	1	1	1	1	1	1
	CO1	Students are able to find solutions of linear equations of first order.	CO5													
	CO2	Students can find solutions for homogeneous and non-homogeneous equations of second order.	Average	1.50	1.50	1.50	1.25	1.50	1.75	1.75	1.25	1.50	1.25	1.50	1.50	1.75

Semester No	II	CO2	2	1	1	2	2	2	2	2	1	1	2	1	1	
Teacher Name	R.R.Devadhe	CO3	2	1	2	1	1	2	1	1	2	1	2	2	2	
Course Outcomes		CO4	1	2	2	1	1	2	2	1	1	1	2	1	1	
	CO1	Understand terms, definitions and theorems related to topological spaces	CO5													
	CO2	Demonstrate knowledge and understanding of concepts such as open and closed sets, interior, closure and boundary, connectedness, compactness, countability and separation axioms.	Average	1.75	1.50	1.75	1.25	1.25	1.75	1.50	1.25	1.25	1.00	1.75	1.25	1.50
	CO3	Create new topological spaces from existing topological spaces.														
	CO4	Understand difference and interrelationship between Metric Spaces and Topological Space														
	CO5															

Class	M.Sc.I	Course Outcomes	Program Outcomes										PSOs			
Subject Code	MTUT 123		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	
Subject Name	Ring Theory	CO1	2	2	2	1	1	1	1	1	2	1	2	1	2	
Semester No	II	CO2	2	1	1	2	2	3	2	2	1	1	2	1	1	
Teacher Name	P.R.Kale	CO3	1	1	2	1	1	2	1	1	2	1	2	2	1	
Course Outcomes		CO4														
	CO1	Students understand the fundamental concept of Rings, Fields, subrings, integral domains and the corresponding Homomorphism's.	CO5													
	CO2	Students learn in detail about polynomial rings. Matrix ring and group ring.	Average	1.67	1.33	1.67	1.33	1.33	2.00	1.33	1.33	1.67	1.00	2.00	1.33	1.33

	CO2	To provide standard method for solving differential equations.	Average	2.00	1.25	1.25	2.25	1.75	1.75	1.25	1.00	1.50	2.00	1.50	2.25	1.00
	CO3	To demonstrate how differential equation can be useful in many types of problems likes heat equations ,wave equations.														
	CO4	To understand how the wave and diffusion partial differential equations can be used to model certain systems.														
	CO5															

Class		M.Sc.II	Course Outcomes	Program Outcomes										PSOs		
Subject Code	MTUT 142			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Differential Geometry		CO1	2	2	2	1	1	1	1	1	1	1	1	1	2
Semester No	IV		CO2	2	1	1	2	2	2	2	2	1	1	2	1	1
Teacher Name	S.B.Gandhale		CO3	2	1	2	1	1	2	1	1	2	1	2	2	2
Course Outcomes			CO4	1	2	2	1	1	2	2	1	1	1	2	1	1
	CO1	Upon successful completion of this course, students : □ Will have the knowledge and skills to explain the concepts and language of differential geometry and its role in modern mathematics	CO5													
	CO2	Students can apply differential geometry techniques to specific research problems in mathematics or other fields	Average	1.75	1.50	1.75	1.25	1.25	1.75	1.50	1.25	1.25	1.00	1.75	1.25	1.50
	CO3	Students will be able to compute quantities of geometric interest such as integral curves, geodesics, orientation .														
	CO4	Students can understand the topic curvature which helps student for understanding the shape of curve and surfaces.														
	CO5															

Class		M.Sc.II	Course Outcomes	Program Outcomes										PSOs		
Subject Code	MTUT 143			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3

CO-PO Mapping

		Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
FY	FY	1 MTUT111	2.00	1.25	1.25	2.25	1.75	1.75	1.25	1.00	1.50	2.00
		2 MTUT112	1.50	1.50	1.50	2.25	2.00	1.75	1.00	1.00	1.50	1.50
		3 MTUT113	1.50	1.50	1.50	1.50	1.50	2.00	1.25	1.50	1.75	1.50
		4 MTUT114	1.75	1.75	1.75	1.25	1.75	2.00	1.50	1.50	1.50	1.25
		5 MTUT115	1.50	1.50	1.50	1.25	1.50	1.75	1.75	1.25	1.50	1.25
		6 MTUT 121	1.50	1.75	1.50	1.25	1.75	1.75	1.75	1.25	1.50	1.50
		7 MTUT 122	1.75	1.50	1.75	1.25	1.25	1.75	1.50	1.25	1.25	1.00
		8 MTUT 123	1.67	1.33	1.67	1.33	1.33	2.00	1.33	1.33	1.67	1.00
		9 MTUT 124	1.50	1.50	2.00	1.50	1.25	1.75	1.50	1.25	1.25	1.00
		10 MTUT 125	1.50	1.25	1.50	1.25	1.25	1.50	1.50	1.25	1.25	1.25
SY	SY	1 MTUT 131	1.67	1.33	1.67	1.33	1.33	2.00	1.67	1.33	1.33	1.00
		2 MTUT 132	1.75	1.50	1.75	1.25	1.25	1.75	1.50	1.25	1.25	1.00
		3 MTUT 133	1.75	1.50	1.75	1.25	1.25	1.75	1.50	1.25	1.25	1.00
		4 MTUTO 134	1.50	1.50	2.00	1.50	1.25	1.75	1.50	1.25	1.25	1.00
		5 MTUTO 137	1.50	1.50	1.50	1.25	1.50	1.75	1.75	1.25	1.50	1.25
		6 MTUT 141	2.00	1.25	1.25	2.25	1.75	1.75	1.25	1.00	1.50	2.00
		7 MTUT 142	1.75	1.50	1.75	1.25	1.25	1.75	1.50	1.25	1.25	1.00
		8 MTUT 143	1.50	1.75	1.50	1.25	1.75	1.75	1.75	1.25	1.50	1.50
		9 MTUTO 144	1.50	1.50	1.50	2.25	2.00	1.75	1.00	1.00	1.50	1.50
		10 MTUTO 147	1.50	1.50	1.50	1.50	1.50	2.00	1.25	1.50	1.75	1.50

FY

SY

CO-PSO MAPPING

	Course	PSO1	PSO2	PSO3
1	MTUT111	1.50	2.25	1.00
2	MTUT112	1.25	1.50	1.50
3	MTUT113	1.50	1.75	1.75
4	MTUT114	1.25	1.50	1.75
5	MTUT115	1.50	1.50	1.75
6	MTUT 121	2.00	1.75	1.75
7	MTUT 122	1.75	1.25	1.50
8	MTUT 123	2.00	1.33	1.33
9	MTUT 124	1.50	1.25	1.25
10	MTUT 125	1.50	1.25	1.25
1	MTUT 131	2.00	1.33	1.33
2	MTUT 132	1.75	1.25	1.50
3	MTUT 133	1.75	1.25	1.50
4	MTUTO 134	1.50	1.25	1.25
5	MTUTO 137	1.50	1.50	1.75
6	MTUT 141	1.50	2.25	1.00
7	MTUT 142	1.75	1.25	1.50
8	MTUT 143	2.00	1.75	1.75
9	MTUTO 144	1.25	1.50	1.50
10	MTUTO 147	1.50	1.75	1.75

CO-PSO ATTAINMENT

	Course	PSO1	PSO2	PSO3
	MTUT111	1.26	1.89	0.84
	MTUT112	1.25	1.5	1.5
	MTUT113	0.78	0.91	0.91
	MTUT114	1.05	1.26	1.47
	MTUT115	0.78	0.78	0.91
	MTUT 121	1.04	0.91	0.91
	MTUT 122	0.91	0.65	0.78
	MTUT 123	1.04	0.69333	0.69333
	MTUT 124	0.78	0.65	0.65
	MTUT 125	0.78	0.65	0.65
	MTUT 131	0.4	0.26667	0.26667
	MTUT 132	1.75	1.25	1.5
	MTUT 133	1.75	1.25	1.5
	MTUTO 134	1.5	1.25	1.25
	MTUTO 137	0.78	0.78	0.91
	MTUT 141	0.46	0.69	0.30667
	MTUT 142	0.35	0.25	0.3
	MTUT 143	2	1.75	1.75
	MTUTO 144	0.65	0.78	0.78
	MTUTO 147	0.78	0.91	0.91

Percentage CO-PSO ATTAINMENT

	Course	PSO1	PSO2	PSO3
	MTUT111	84	84	84
	MTUT112	100	100	100
	MTUT113	52	52	52
	MTUT114	84	84	84
	MTUT115	52	52	52
	MTUT 121	52	52	52
	MTUT 122	52	52	52
	MTUT 123	52	52	52
	MTUT 124	52	52	52
	MTUT 125	52	52	52
	MTUT 131	20	20	20
	MTUT 132	100	100	100
	MTUT 133	100	100	100
	MTUTO 134	100	100	100
	MTUTO 137	52	52	52
	MTUT 141	30.6667	30.6667	30.6667
	MTUT 142	20	20	20
	MTUT 143	100	100	100
	MTUTO 144	52	52	52
	MTUTO 147	52	52	52