

# **Department of Engineering Mathematics and Computing**

## **CO's Attainments (Jan. – June 2021)**

**Department of Engineering Mathematics & Computing**

**Course Outcome (CO's) (Jan. – June- 2021)**

<b>Subject &amp; Code/ CO's</b>	<b>CO's</b>	<b>Description of CO's</b>
<b>Introduction to Computing &amp; 250101</b>	<b>CO1</b>	Explain core components of computing and linkage between them,
	<b>CO2</b>	Introduce Summarize role of operating system
	<b>CO3</b>	Discuss the role of computing in real world applications
	<b>CO4</b>	Explain Networking aspect of computer engineering and communication,
	<b>CO5</b>	Acquire basic knowledge of database system
<b>Element of Calculus &amp; 250102</b>	<b>CO1</b>	Determine the solution of function by using one and two variables.
	<b>CO2</b>	Interpret the solution of derivatives concepts using different techniques
	<b>CO3</b>	Acquire the knowledge of integral calculus
	<b>CO4</b>	Obtain the volume and area of surface by using multiple integrals
	<b>CO5</b>	Evaluate the Gamma and Beta Function
<b>Introduction to Computer Programming &amp; 230102</b>	<b>CO1</b>	Identify situations where computational methods and computers would be useful.
	<b>CO2</b>	Describe the basic principles of imperative and structural programming.
	<b>CO3</b>	Develop a pseudo-code and flowchart for a given problem.
	<b>CO4</b>	Analyze the problems and choose suitable programming techniques to develop solutions
	<b>CO5</b>	To design, implement, debug and test programs
<b>Statistical Techniques &amp; 250103</b>	<b>CO1</b>	Determine the Central of tendency, Skewness and Kurtosis.
	<b>CO2</b>	Interpret the theory of Probability and its distributions
	<b>CO3</b>	Acquire the knowledge of correlation and regression analysis
	<b>CO4</b>	Analyze the test of hypothesis.
	<b>CO5</b>	Evaluate the attributes, combination and order of class.
<b>Energy, Ecology, Environment &amp; Society (EES) &amp; 100015</b>	<b>CO1</b>	Describe various energy resources, their conversion to electrical power and role in technological & economic development
	<b>CO2</b>	Update with national/international power status and renewable power development targets & missions.
	<b>CO3</b>	Recognize the impact of pollution on the ecosystem and control policies adopted at national/international levels.
	<b>CO4</b>	Illustrate the concepts of ecosystems and their conservation.
	<b>CO5</b>	Solve practical problems of society in a sustainable and ethical manner.

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<b>Subject &amp; Code/ CO's</b>	<b>CO's</b>	<b>Description of CO's</b>
<b>Mathematics- I &amp; 100011</b>	<b>CO1</b>	Apply differential Calculus in basic engineering problems
	<b>CO2</b>	Use integration techniques to determine the solution of various complex problems
	<b>CO3</b>	Solve the differential equations by various methods
	<b>CO4</b>	Solve the problem of matrix.
	<b>CO5</b>	Concept of Boolean algebra and graph theory.
<b>Mathematics- II &amp; 100001</b>	<b>CO1</b>	Apply the Fourier series and Laplace Transform for solving engineering Problems.
	<b>CO2</b>	Solve Ordinary Differential Equation of Higher Order.
	<b>CO3</b>	Solve Partial Differential equations application for various engineering problems.
	<b>CO4</b>	Solve problems of Vector Calculus.
	<b>CO5</b>	Apply probability theory with distributions for statistically analysis of given data.
<b>Linear Algebra &amp; 250100</b>	<b>CO1</b>	Determine the solution of Matrix
	<b>CO2</b>	Find the analytical solution of algebraic structures'
	<b>CO3</b>	Express the vector space
	<b>CO4</b>	Acquire the knowledge of Linear transformation
	<b>CO5</b>	Illustrate the concept of Inner product spaces
<b>Mathematical Foundation &amp; 680111</b>	<b>CO1</b>	Acquire Knowledge of set theory
	<b>CO2</b>	Analyse the concept of Lattices
	<b>CO3</b>	Identify the concept of Group Theory
	<b>CO4</b>	Derive the Inferences from Graph theory
	<b>CO5</b>	Illustrate the Discrete numeric function and recursive relation
<b>Computational Technique &amp; 510111</b>	<b>CO1</b>	Determine the solution of Linear and Non Linear Programming Problems
	<b>CO2</b>	Evaluate the problems related to game theory& dynamic programming.
	<b>CO3</b>	Acquire the knowledge of Probability theory and Random Variable.
	<b>CO4</b>	Analyze the test of hypothesis and Analysis of Variance.
	<b>CO5</b>	Apply transforms for engineering applications.

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**Co Attainment & Gap Analysis**

Jan. – June- 2021

Name of Faculty	Course Name & Code	Course Outcomes	CO Attainment %			CO Attainment %					Result		CO Attainment	
			I- Mid Term	II- Mid Term	End Sem Exam	Direct	InDirect	Overall	Target	Gap in Attainment %	Registered Students	PASS	Status	Action Taken
Prof. A.S. Ojha	CE-100002 Maths-II	CO-1	61.25		91.38	76.32	84.00	77.85	70.00	-7.85			Attained	
		CO-2	61.92		90.22	76.07	73.00	75.45	70.00	-5.45			Attained	
		CO-3		74.86	77.84	76.35	74.00	75.88	70.00	-5.88			Attained	
		CO-4		70.83	74.22	72.53	65.00	71.02	70.00	-1.02			Attained	
		CO-5		77.22	86.71	81.97	62.00	77.97	70.00	-7.97			Attained	
Prof. A.S. Ojha	AU-100002 Maths-II	CO-1	61.33		91.38	76.36	61.00	73.29	65.00	-8.29			Attained	
		CO-2	60.08		90.22	75.15	59.00	71.92	65.00	-6.92			Attained	
		CO-3		59.79	77.84	68.82	57.00	66.45	65.00	-1.45			Attained	
		CO-4		62.92	74.22	68.57	63.00	67.45	65.00	-2.45			Attained	
		CO-5		64.38	86.71	75.54	60.00	72.43	65.00	-7.43			Attained	
Prof. A.S. Ojha	ME-100001 Maths-II	CO-1	63.03		91.38	77.20	70.00	75.76	70.00	-5.76			Attained	
		CO-2	75.00		90.22	82.61	65.00	79.09	70.00	-9.09			Attained	
		CO-3		69.10	77.84	73.47	60.00	70.78	70.00	-0.78			Attained	
		CO-4		62.50	74.22	68.36	64.00	67.49	70.00	2.51			Not Attained	Doubt Clearing Session to be arranged in Extra Hours To Organize the Remedial Classes, .Give Assignments
		CO-5		61.18	86.71	73.94	65.00	72.16	70.00	-2.16			Attained	

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			I- Mid Term	II- Mid Term	End Sem Exam	Direct	InDirect	Overall	Target	Gap in Attainment %	Registered Students	PASS	Status	Action Taken
Dr. D.K. Jain	CS-100001 Maths-II	CO-1	73.06		91.38	82.22	69.00	79.57	65.00	-14.57			Attained	
		CO-2	66.72		90.22	78.47	67.00	76.18	65.00	-11.18			Attained	
		CO-3		52.38	77.84	65.11	57.00	63.49	65.00	1.51			Not Attained	Doubt Clearing Session to be arranged in Extra Hours To Organize the Remedial Classes, .Give Assignments
		CO-4		65.69	74.22	69.96	66.00	69.17	65.00	-4.17			Attained	
		CO-5		62.70	86.71	74.70	64.00	72.56	65.00	-7.56			Attained	
		CO-1	67.06		91.38	79.22	62.00	75.77	60.00	-15.77			Attained	
Dr. D.K. Jain	IT-100001 Maths-II	CO-2	55.31		90.22	72.76	65.00	71.21	60.00	-11.21			Attained	
		CO-3		51.39	77.84	64.62	55.00	62.69	60.00	-2.69			Attained	
		CO-4		71.94	74.22	73.08	60.00	70.47	60.00	-10.47			Attained	
		CO-5		79.86	86.71	83.28	61.00	78.83	60.00	-18.83			Attained	
		CO-1	71.00		84.76	77.88	84.76	79.26	60.00	-19.26			Attained	
Dr. D.K. Jain	M&C 250104 Calculus	CO-2	63.59		92.06	77.83	92.06	80.67	60.00	-20.67			Attained	
		CO-3		68.40	75.90	72.15	75.90	72.90	60.00	-12.90			Attained	
		CO-4		63.82	70.83	67.32	70.83	68.02	60.00	-8.02			Attained	
		CO-5		66.39	83.37	74.88	83.37	76.58	60.00	-16.58			Attained	
		CO-1	72.53		91.38	81.95	76.00	80.76	60.00	-20.76			Attained	
Prof. J.K. Muthale	EE-100002 Maths-II	CO-2	74.00		90.22	82.11	74.00	80.49	60.00	-20.49			Attained	
		CO-3		76.67	77.84	77.26	69.00	75.60	60.00	-15.60			Attained	

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			I- Mid Term	II- Mid Term	End Sem Exam	Direct	InDirect	Overall	Target	Gap in Attainment %	Registered Students	PASS	Status	Action Taken		
					CO-4		71.43	74.22	72.82	68.00	71.86	60.00	-11.86			Attained
		CO-5		75.00	86.71	80.85	61.00	76.88	60.00	-16.88			Attained			
Prof. J.K. Muthela	ET-100002 Maths-II	CO-1	49.22		91.38	70.30	70.00	70.24	60.00	-10.24			Attained			
		CO-2	54.00		90.22	72.11	71.00	71.89	60.00	-11.89			Attained			
		CO-3		77.93	77.84	77.89	59.00	74.11	60.00	-14.11			Attained			
		CO-4		83.19	74.22	78.71	59.00	74.77	60.00	-14.77			Attained			
		CO-5		71.67	86.71	79.19	64.00	76.15	60.00	-16.15			Attained			
Dr. V.P.Shinde	CM-100002 Maths-II	CO-1	69.44		91.38	80.41	59.00	76.13	60.00	-16.13			Attained			
		CO-2	68.44		90.22	79.33	60.00	75.46	60.00	-15.46			Attained			
		CO-3		65.63	77.84	71.73	61.00	69.59	60.00	-9.59			Attained			
		CO-4		69.69	74.22	71.96	62.00	69.96	60.00	-9.96			Attained			
		CO-5		71.94	86.71	79.33	61.00	75.66	60.00	-15.66			Attained			
Dr. V.P.Shinde	EC-100002 Maths-II	CO-1	73.03		91.38	82.20	64.00	78.56	65.00	-13.56			Attained			
		CO-2	74.22		90.22	82.22	69.00	79.58	65.00	-14.58			Attained			
		CO-3		73.96	77.84	75.90	54.00	71.52	65.00	-6.52			Attained			
		CO-4		68.55	74.22	71.39	63.00	69.71	65.00	-4.71			Attained			
		CO-5		77.64	86.71	82.17	61.00	77.94	65.00	-12.94			Attained			
Dr. V.P.Shinde	M&C-250102 Statistical Technique	CO-1	74.75		82.66	78.71	71.00	77.17	55.00	-22.17			Attained			
		CO-2	65.86		92.39	79.12	73.00	77.90	55.00	-22.90			Attained			
		CO-3		71.88	74.29	73.08	74.00	73.27	55.00	-18.27			Attained			
		CO-4		65.63	79.87	72.75	65.00	71.20	55.00	-16.20			Attained			
		CO-5		89.17	83.37	86.27	62.00	81.41	55.00	-26.41			Attained			

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			I- Mid Term	II- Mid Term	End Sem Exam	Direct	InDirect	Overall	Target	Gap in Attainment %	Registered Students	PASS	Status	Action Taken
Dr. V.P.Shinde	ME-M Tech Computational Technique	CO-1	61.62		79.12	70.37	71.00	70.50	75.00	4.50			Not Attained	Doubt Clearing Session to be arranged in Extra Hours Remedial Classes,
		CO-2	87.50		91.33	89.41	73.00	86.13	75.00	-11.13			Attained	
		CO-3		77.08	74.78	75.93	74.00	75.55	75.00	-0.55			Attained	
		CO-4		76.04	64.28	70.16	65.00	69.13	75.00	5.87			Not Attained	To Organize the Remedial Classes, .Give Assignments
		CO-5		88.89	83.97	86.43	62.00	81.54	75.00	-6.54			Attained	
Prof. D.K. Mishra	MCA680111	CO-1	81.00		78.50	79.75	71.00	78.00	70.00	-8.00			Attained	
		CO-2	72.81		93.24	83.02	73.00	81.02	70.00	-11.02			Attained	
		CO-3		76.75	76.86	76.80	74.00	76.24	70.00	-6.24			Attained	
		CO-4		77.93	81.84	79.88	65.00	76.91	70.00	-6.91			Attained	
		CO-5		83.19	84.38	83.79	62.00	79.43	70.00	-9.43			Attained	
Prof. P. Sharma	M&C 250104	CO-1	63.62		83.26	73.44	71.00	72.95	70.00	-2.95			Attained	
		CO-2	0.00		94.38	47.19	73.00	52.35	70.00	17.65			Not Attained	Doubt Clearing Session to be arranged in Extra Hours To Organize the Remedial Classes,
		CO-3		79.17	71.62	75.40	74.00	75.12	70.00	-5.12			Attained	
		CO-4		81.25	64.18	72.71	65.00	71.17	70.00	-1.17			Attained	
		CO-5		89.17	74.71	81.94	62.00	77.95	70.00	-7.95			Attained	