2.6

Student Performance and Learning Outcome

2.6.1 Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website

Supporting Document: Sample CO PO Mappings

Regent Education and Research Foundation
Group of Institutions

First year

Stream : Bachelor of Technology in CE/ME/EE/EEE/ECE

Semester I

Course Name : Mathematics-IB

Course Code : BSM102

Course name	CO	Description
MATHEMATICS-I B	BSM102.1	Apply the concept and techniques of differential and integral calculus to determine curvature and evaluation of different types of improper integrals.
	BSM102.2	Understand the domain of applications of mean value theorems to engineering problems
	BSM102.3	Learn the tools of power series and Fourier series to analyze engineering problems and apply the concept of convergence of infinite series in many approximation techniques in engineering disciplines
	BSM102.4	Apply the knowledge for addressing the real life problems which comprises of several variables or attributes and identify extremum points of different surfaces of higher dimensions
	BSM102.5	Apply the method of Gauss Jordan elimination to find the solution of systems of simultaneous linear equations.

Course Outcome Mapping to Program Outcome												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
BSM102.1	3	2	2									
BSM102.2	2	1			2							
BSM102.3	3	2		1							1	
BSM102.4	3	2	2									
BSM102.5	3	3		3	2							1

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First year

Stream : Bachelor of Technology in CSE

Semester I

Course Name : Mathematics-IA

Course Code : BSM101

Course name	CO	Description
MATHEMATICS-I A	BSM101.1	Apply the concept and techniques of differential and integral calculus to determine curvature and evaluation of different types of improper integrals.
	BSM101.2	Understand the domain of applications of mean value theorems to engineering problems
	BSM101.3	Learn different types of matrices, concept of rank, methods of matrix inversion and their applications and apply the method of Gauss Jordan elimination to find the solution of systems of simultaneous linear equations
	BSM101.4	Understand linear spaces, its basis and dimension with corresponding applications in the field of computer science
	BSM101.5	Learn and apply the concept of eigen values, eigen vectors, diagonalization of matrices and orthogonalization in inner product spaces for understanding physical and engineering problems

Course Outcome Mapping to Program Outcome												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
BSM101.1	3	3		1	2							
BSM101.2	3	2			1							
BSM101.3	3	3		3							1	
BSM101.4	3	3	2		2							
BSM101.5	3	3	2	3								

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First year

Stream : Bachelor of Technology in CE/ME/EE/EEE/ECE

Semester II

Course Name : Mathematics-IIB

Course Code : BSM202

Course name	CO	Description
MATHEMATICS-II B	BSM202.1	Learn the methods for evaluating multiple integrals and their applications to different physical problems.
	BSM202.2	Understand different techniques to solve first and second order ordinary differential equations with its formulation to address the modelling of systems and problems of engineering sciences
	BSM202.3	Find the complete solution of a differential equation with constant coefficients by variation of parameters and student will have a working knowledge of basic application problems described by second order linear differential equations with constant coefficients..
	BSM202.4	Learn different tools of differentiation and integration of functions of a complex variable that are used with various other techniques for solving engineering problems.
	BSM202.5	evaluate a contour integral using parametrization, fundamental theorem of calculus and Cauchy's integral formula and compute the residue of a function and use the residue theory to evaluate a contour integral or an integral over the real line;

MATHEMATICS-II B Course Outcome mapping to Program Outcome												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
BSM202.1	3	2	2									
BSM202.2	2	2			2							
BSM202.3	3	3		1							2	
BSM202.4	3	2	2									
BSM202.5	3	3			2							

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First year

Stream : Bachelor of Technology in CSE

Semester II

Course Name : Mathematics-IIA

Course Code : BSM201

Course name	CO	Description
MATHEMATICS-II A	BSM201.1	Learn the ideas of probability and random variables and their applications and problem analysis.
	BSM201.2	Various discrete and continuous probability distribution with their properties and their applications in physical and the engineer and society.
	BSM201.3	Bivariate distribution and their properties, distribution of sums and quotients , understand the concept of conditional densities, knowing the rule of Bayes' rule and their application and development of solutions.
	BSM201.4	Understand the basic ideas of statistics with different characteristics of a univariate and bivariate data set and problem analysis.
	BSM201.5	Apply statistical tools for analysing data samples and drawing inference on a given data set.
	BSM201.6	Testing for single mean, find the difference of means and correlation coefficients, chi square test for goodness of fit for the engineering and society.

MATHEMATICS-II A Course Outcome mapping to Program Outcome												
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
BSM201.1	2	3	2									
BSM201.2	2	2			1	3						
BSM201.3	3	3		1							2	
BSM201.4	3	2	2			1						
BSM201.5	2	2			3							
BSM201.6	2	2			1	3						

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Stream : Bachelor of Technology in CSE

Semester III

Course Name : Mathematics-IIi

Course Code : BSM301

Course name	CO	Description
MATHEMATICS-III	BSC301.1	Apply the concept of convergence of infinite series in many approximation techniques in engineering disciplines
	BSC301.2	Learn the tools of power series and Fourier series to analyze engineering problems and apply it to solve different problems by expressing functions in suitable series form.
	BSC301.3	Apply the knowledge for addressing the real life problems which comprises of several variables or attributes and identify extremum points of different surfaces of higher dimensions.
	BSC301.4	Apply the knowledge of double and triple integral in different fields of Engineering to find area, volume and shape of different objects and also to get some physical properties like centre of gravity, moment of inertia, etc.
	BSC301.5	Solve and model many core engineering problems with application of ODE of 1st order and higher order, Simultaneous Linear Differential Equation, Improper Integral and Laplace Transform.
	BSC301.6	Identify and solve different type of graphs and Analyze/Model application of Graph Theory in Information Science

MATHEMATICS-III Course Outcome mapping to Program Outcome												
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
BSC301.1	3	3	2	1								
BSC301.2	3	3	2	1								
BSC301.3	3	3	2	1								
BSC301.4	3	3	2	1								
BSC301.5	3	2	2									
BSC301.6	3	3	2	1								

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Second year

Stream : Bachelor of Technology in EE/EEE/ME

Semester III

Course Name : Mathematics-III

Course Code : BSM301

Course name	CO	Description
MATHEMATICS- III	BSM301.1	Explain basics of probability theories, rules, distribution and properties of Z transform
	BSM301.2	Describe different methods of numerical analysis.
	BSM301.3	Solve numerical problems based on probability theories , numerical analysis and Z transform
	BSM301.4	Apply numerical methods to solve engineering problems.
	BSM301.5	Solve engineering problems using z transform and probability theory.

Course Outcome Mapping to Program Outcome												
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
BSM301.1	3	2	2									
BSM301.2	3	1			2							
BSM301.3	3	2		1							1	
BSM301.4	3	2	2									
BSM301.5	3	3		3	2							1

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Stream : Bachelor of Technology in EE/EEE/ME

Semester IV

Course Name : Discrete Mathematics

Course Code : PCC-CS-401

Course name	CO	Description
Discrete Mathematics	PCC-CS401.1	Define fundamental mathematical concepts such as sets, relations, functions, and integers.
	PCC-CS401.2	Demonstrate induction hypotheses and simple induction proofs.
	PCC-CS401.3	Solve numbers of possible outcomes of elementary combinatorial processes such as permutations and combinations.
	PCC-CS401.4	Explain a logic sentence in terms of predicates, quantifiers, and logical connectives.
	PCC-CS401.5	Classify algebraic structure for a given mathematical problem.
	PCC-CS401.6	Apply graph theory models of data structures and state machines to solve problems of connectivity and constraint satisfaction.

Course Outcome mapping to Program Outcome												
CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
PCC-CS401.1	3	3			2	2						
PCC-CS401.2	3	3			3	3						
PCC-CS401.3	3	3	3	2	3							
PCC-CS401.4	3	3	1	3	2							
PCC-CS401.5	3	3	3	3		2						
PCC-CS401.6	3	3	3	3	3	2						

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