

<b>Course code</b>	<b>Business Mathematics</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>XXXX</b>		<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>
<b>Pre-requisite: Nil</b>		<b>Version</b>			

<b>Course Objectives:</b>
<ol style="list-style-type: none"> <li>1. To enhance the analytical capability of the students using Business Mathematical concepts.</li> <li>2. The students will be able to understand the utilities of matrices and calculus in real time Business.</li> <li>3. To help the students to understand the basic ideas in payroll, depreciation and annuities.</li> </ol>
<b>Expected Course Outcome:</b>
<ol style="list-style-type: none"> <li>1. Students shall know how to solve the various business problems using Business Mathematics concepts.</li> <li>2. Students shall be able to use and apply a wide variety of Business Mathematics concepts for various manufacturing and service industries.</li> </ol>
<b>Student Learning Outcomes (SLO):</b>
<ol style="list-style-type: none"> <li>1. The students will understand the matrices and its application in business scenario</li> <li>2. The students will learn to understand the concept of differentiation and calculus and its application in business data interpretation.</li> <li>3. The students will learn to understand the concept of integration and calculus and its application in business data interpretation.</li> <li>4. The student will acquire the analytical ability to interpret the result.</li> <li>5. The student will exhibit the problem solving skills in evaluating the right approach for solving business issues</li> </ol>

<b>Module</b>	<b>Topics</b>	<b>Hours</b>	<b>SLO</b>
<b>Module:1</b>	<b>Matrices</b>	8	1
	Matrices Definition of Matrix – Different types of matrices – Transpose of a matrix – Matrix operation – Addition, Subtraction, Multiplication of matrices – Determinants of a square matrix of order two and three; Adjoin of a square matrix – Inverse of a square matrix – Solution of Linear simultaneous equations – By Cramer’s Rule, by using inverse of a matrix- – Applications of Matrices and Determinants.		
<b>Module:2</b>	<b>Differential Calculus</b>	8	2,4
	Differentiation of sum, product and quotient – chain rule – second order differentiation – maxima and minima – applications in business – marginal cost, marginal revenue, maximum profit.		
<b>Module:3</b>	<b>Integral Calculus and Payroll</b>	8	3,4
	Integral Calculus: Integration by substitution, partial fractions and Integration by parts – Definite integrals – Application of Integration. Payroll: Gross pay – Hourly rate and hours worked – overtime – salary – commission – Net pay		
<b>Module:4</b>	<b>Depreciation</b>	6	4,5

	Depreciation and Salvage value – straight line method – units of products – double declining balance method – sum of the year's digits method.		
<b>Module:5</b>	<b>Annuities and their applications</b>	6	4,5
	Annuities – Sinking funds – Amortization – Capital Budgeting		
<b>Module:6</b>	<b>Contemporary applications &amp; Issues</b>	4	4,5
	Contemporary applications & issues in real business environment, R Basics and R Matrix.		
	<b>Total Lecture hours:</b>	<b>40</b>	
<b>Reference s</b> <ol style="list-style-type: none"> <li>1. Pillai and Bagawathi, S(2007), Business Mathematics and Statistics, Chand Publications</li> <li>2. M. Raghavachari (2006), Business Mathematics, Tata Mcgraw Hill</li> <li>3. Bradley Teresa: patton Paul (2013), Essential Mathematics For Economics And Business, 2nd Edition, Wiley India</li> <li>4. QasiZameeruddin, V.K.Khanna and SK Bhambria,(2009), Business Mathematics, Vikas Publishing House Pvt. Ltd</li> <li>5. P.R. Vittal (2009,Business Mathematics, Margham Publications</li> <li>6. PadmalochanHazarika (2010), A Text Book of Business Mathematics, 2nd edition, S.ChandPublishing</li> </ol>			

**Course Owner details:**

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Recommended by Board of Studies	23.11.2018		
Approved by Academic Council	No.53	Date	13.12.2018