



COURSE TITLE : BUSINESS MATHEMATICS II

COURSE CODE: QAM 104

CREDIT UNITS: 03

COURSE LEVEL : UG

L	T	P/S	SW/ FW	Total Credit Units
2	1	-	-	03

Course Objectives:

The objective of this course is to orient the students towards the basic concepts of mathematics and its applications in the business world.

Pre-requisites:

The student should have basic knowledge of tenth standard CBSE level mathematics.

Student Learning Outcomes:

- The students after completion of the program will be able to understand the mathematical concepts and terminology involved in Algebra, Derivatives and basic arithmetic operations on Matrices.
- The students will be able to interpret and solve business related problems.
- The students will have strong foundation for further study in Management, Operations, Accounting, Marketing and Finance.

Course Contents/Syllabus:	Weightage (%)
Module I : Algebra	
<ul style="list-style-type: none"> ▪ Introduction to Business Mathematics, ▪ Scope and Importance, Indices and Surds; ▪ Logarithm- Definition and properties, common logarithms; ▪ Linear, Quadratic and Simultaneous Equations - Methods of solving quadratic equation, Roots of quadratic equation, simultaneous equations with two or three unknowns, ▪ Inequalities with Graphs. 	20%
Module II : Data Arrangement	
<ul style="list-style-type: none"> ▪ Arithmetic and Geometric Progression and its Applications in Business, ▪ Permutations and Combinations and its applications in business. 	10%
Module III : Coordinate Geometry	
<ul style="list-style-type: none"> ▪ Concepts of Co-ordinate Geometry, Cartesian Coordinate System, Coordinates of midpoint, ▪ Distance between two points, Section Formula, ▪ Equation of straight line (slope-intercept form, slope- point form, two point form), ▪ Intersection between two lines – equation parallel line, perpendicular line 	15%
Module IV : Differential Calculus	
<ul style="list-style-type: none"> ▪ Function: Definition, Types of Functions, Concepts of Limits and Continuity, ▪ Differentiation- definition, derivatives of Algebraic, Logarithmic and exponential function,3. ▪ Business application of differentiation; ▪ Chain Rule, Product Rule, Quotient Rule, ▪ Maxima and Minima (single variable case), ▪ Applications to business problems 	20%

Module V : Integration	10%
<ul style="list-style-type: none"> ▪ Concepts of Integration , ▪ Indefinite Integration and methods of integration (Exponential & Algebraic functions), ▪ Product Rule ,Business Application of Integration 	
Module V1 : Matrices	25%
<ul style="list-style-type: none"> ▪ Definition and Types of Matrices- Conversion of linear equations to matrix form, Algebra of Matrices, ▪ Transpose of a Matrix, Determinants(order 2 and 3), Cofactors, Adjoint of a Matrix, Inverse of Matrix, ▪ Applications to business problems and solving simultaneous equations up to 3 variables using Cramer’s Rule and Matrix Inversion Method. 	

Pedagogy for Course Delivery: The course pedagogy will include lectures, numerical practice and discussion on business applications of the topics covered.

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination
30%		70%

Theory Assessment (L&T):

	Continuous Assessment/Internal Assessment					End Term Examination		
Components (Drop down)	CT	H	C	V	A	EE		
Weightage (%)	15	10	-	-	5	70		

References:

1. Sharma J K (2014), Business Mathematics: Theory and Applications (2nd Edn), Ane Books Pub. ,Delhi,
2. Raghavachari M(1999), Mathematics for Management, Tata McGraw -Hill
3. Piskunov N (2003) ,Differential & Integral Calculus, Moscow MIR Publishers
4. Sancheti and Kapoor(2010), Business Mathematics, Sultan Chand & Sons