

Course code	TITLE OF THE COURSE		L	T	P	C
ALLIED PAPER I	MATHEMATICS FOR BUSINESS		4	-	-	4
Pre-requisite	Basics knowledge on Mathematics for Business		Syllabus Version		2020	
Course Objectives:						
The main objectives of this course are to:						
<ol style="list-style-type: none"> 1. Understand and apply basics of applications of mathematics in business 2. Make the students to be ready for solving business problems using mathematical operations. 3. Provide insight knowledge about variables, constants and functions. 4. Gain the knowledge on integral calculus and determining definite and indefinite functions. 5. Analyze the linear programming problem by using graphical solution and simple method. 						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
1	Understand the basic concepts of arithmetic and geometric series and different effective rates of interest for sinking fund, annuity and present value.			K2		
2	Know the basic concepts of addition and multiplication analysis and input and output analysis.			K1		
3	Aware of variables, constants and functions and evaluate the first and second order derivatives.			K2		
4	To gain knowledge on integral calculus and determining definite and indefinite functions.			K2		
5	Analyze the linear programming problem by using graphical solution and simple method.			K4		
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6- Create						
Unit:1						
SET THEORY			15 hours			
Set Theory – Arithmetic and Geometric Series – Simple and Compound Interest – Effective rate of Interest –Sinking Fund – Annuity - Present Value – Discounting of Bills – True Discount – Banker’s Gain.						
Unit:2						
MATRIX			15 hours			
Matrix: Basic Concepts – Addition and Multiplication of Matrices – Inverse of a Matrix – Rank of Matrix - Solution of Simultaneous Linear Equations – Input-Output Analysis.						
Unit:3						
VARIABLES, CONSTANTS AND FUNCTIONS			15 hours			

Variables, Constants and Functions – Limits of Algebraic Functions – Simple Differentiation of Algebraic Functions – Meaning of Derivations – Evaluation of First and Second Order Derivatives – Maxima and Minima – Application to Business Problems		
Unit:4	ELEMENTARY INTEGRAL CALCULUS	15 hours
Elementary Integral Calculus – Determining Indefinite and Definite Integrals of simple Functions – Integration by Parts.		
Unit:5	LINEAR PROGRAMMING PROBLEM	13 hours
Linear Programming Problem – Formation – Solution by Graphical Method Solution by Simple Method.		
Unit:6	CONTEMPORARY ISSUES	2 hours
Expert lectures, online seminars – webinars		
Total Lecture hours		75 hours
Text Book(s)		
1	Navanitham, P.A,” Business Mathematics & Statistics” Jai Publishers,Trichy-21	
2	Sundaresan and Jayaseelan,”Introduction to Business Mathematics”,Sultanchand Co&Ltd,Newdelhi	
3	Sanchetti, D.C and Kapoor, V.K,” Business Mathematics” , Sultan chand Co&Ltd,Newdelhi	
Reference Books		
1	G.K.Ranganath, C.S.Sampamgiram&Y.Rajan-A Text book Business Mathematics - Himalaya Publishing House.	
Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]		
1	https://www.youtube.com/watch?v=qO1SYFZVmhY	
2	https://www.youtube.com/watch?v=LadYhkiVC7Q&list=PLRYPMG3pkUJuucxOLmnRC-Lj3PmzVmKCD	
3	https://www.youtube.com/watch?v=qO1SYFZVmhY&list=PLX2gX-ftPVXUYjs2g3YiaY0sEfwW-jg5L	
Course Designed By:		

Mapping with Programme Outcomes					
COs	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	M
CO2	S	S	M	S	S
CO3	M	S	S	S	S
CO4	S	S	S	M	M
CO5	M	M	S	S	S

Course code	TITLE OF THE COURSE			L	T	P	C
ALLIED PAPER II	STATISTICS FOR BUSINESS			4	-	-	4
Pre-requisite	Basic knowledge on statistics for business			Syllabus Version		2020	
Course Objectives:							
The main objectives of the course are able to							
<ol style="list-style-type: none"> 1. Provide basic conceptual knowledge on applications of statistics in business. 2. Make the students to be ready for solving business problems using statistical operations. 3. Give a detailed instruction of measurement of dispersion. 4. Gain the knowledge on application of correlation and regression for business operations. 5. Analyze interpolation and probability theory and perform the problems. 							
Expected Course Outcomes:							
On the successful completion of the course, student will be able to:							
1	Understand the basic concepts of arithmetic and geometric mean and different types of data collection.			K2			
2	Know measures of dispersion.			K1			
3	Gain the knowledge on correlation and regression analysis.			K5			
4	Understand the different types of moving averages.			K2			
5	Know and analyze interpolation and probability			K2			
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 - Create							
Unit:1							
INTRODUCTIONS				15 hours			
Meaning and Definition of Statistics – Collection of data — Primary and Secondary - Classification and Tabulation – Diagrammatic and Graphical presentation Measures of Central tendency – Mean, Median, Mode, Geometric Mean and Harmonic Mean – simple problems							

Unit:2	MEASURES OF DISPERSION	15 hours
Measures of Dispersion – Range, Quartile Deviation, Mean Deviation, Standard Deviation and Co-efficient of Variation. Skewness – Meaning – Measures of Skewness - Pearson’s and Bowley’s co-efficient of Skewness.		
Unit:3	CORRELATION AND REGRESSION ANALYSIS	15 hours
Correlation –Meaning and Definition –Scatter diagram, Karl Pearson’s co-efficient of Correlation, Spearman’s Rank Correlation, Co-efficient of Concurrent deviation. Regression Analysis – Meaning of regression and linear prediction – Regression in two variables – Uses of Regression		
Unit:4	TIME SERIES	15 hours
Time Series – Meaning, Components and Models – Business forecasting – Methods of estimating trend – Graphic, Semi-average, Moving average and Method of Least squares – Seasonal Variation – Method of Simple average. Index Numbers – Meaning, Uses and Methods of construction – Un-weighted and Weighted index numbers – Tests of an Index number – Cost of living index number.		
Unit:5	INTERPOLATION	13 hours
Interpolation: Binomial, Newton’s and Lagrange methods. Probability – Concept and Definition – Addition and Multiplication theorems of Probability (statement only) – simple problems based on Addition and Multiplication theorems only.		
Unit:6	CONTEMPORARY ISSUES	2 hours
Expert lectures, online seminars – webinars		
	Total Lecture hours	75 hours
Text Book(s)		
1	Statistical Methods by S.P. Gupta	
2	Business Mathematics and Statistics by P. Navaneetham	
3	Statistics by R.S.N. Pillai and V. Bagavathi	
Reference Books		
1	Statistics-Theory, Methods & Application by D.C. Sancheti and V.K. Kapoor	
2	Applied General Statistics by Frederick E.Croxton and Dudley J. Cowden	
Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]		
1	https://www.youtube.com/watch?v=BUE-XJEHp7g	
2	https://www.youtube.com/watch?v=0s4mKbkYJPU&t=1s	
3	https://www.youtube.com/watch?v=Dxcc6ycZ73M	
Course Designed By:		

Mapping with Programme Outcomes					
COs	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	M
CO2	S	S	M	S	S
CO3	M	S	S	S	S
CO4	S	S	S	M	M
CO5	M	M	S	S	S

S- STRONG; M-MEDIUM; L-LOW