BUSINESS MATHEMATICS & STATISTICS

COURSE / SUBJECT OBJECTIVES: To enable students to have a grasp of simple arithmetical calculations relating to topics on Commerce and Economics. To enable students to grasp the fundamentals of Statistics for interpreting business data.

LESSON PLAN – 2018 – '19

(Module wise)

UNIT/ SESSION/ HOURS (TIME REQUIRED)	TOPICS FOR STUDENT PREPARATION (INPUT)	PROCEDURE (PROCESS)	LEARNING OUTCOME (OUTPUT)	ASSESSMENT
Module – 1 : Theories of Equations **10 hrs.**	Theory of equations: Linear – Quadratic- Simultaneous- Application of equations in business and commerce	Explain with illustration problems	To be able to work out simple application oriented problems in these topics	Evaluation throughtest
Module-2: Interest and Annuities **10hrs**	Laws of indices and logarithms- Simple interest – Compound Interest – Annuities – Meaning – Types – Present value and Future value of annuity –Applied problems on Perpetuity - loans – Sinking fund – Endowment fund using Annuity Tables	Explain with illustration problems	To be able to work out simple application oriented problems in these topics	Evaluation through test
Module-3: Introduction to Statistics **8hrs**	Meaning and Definition of Statistics, Functions, Scope, Limitation of statistics, Classification of Data, Tabulation of Data,	• Lecture with illustrations • Discussion	To understand the significance of statistics in research purposes and its applicability	Evaluation through test

	Diagrammatic and Graphic Representation of Data using Excel			
Module-4: Measures Of Central Tendency and Dispersion **14 Hours**	Measures of Central Tendency: Meaning-Arithmetic, Weighted and Combined Mean, Median and Mode, Empirical Relationship, Measures of Dispersion: Meaning, Range, Quartile Deviation, Mean Deviation, Standard deviation and their coefficients	• Lecture • Solving Problems • Discussion	To understand the use of simple statistical tools like mean, median and mode	Evaluation through test
Module-5: Time Series **6 Hours**	Components of time series, Trend analysis by Moving Averages, Least Squares Method (linear).	• Lecture • Solving Problems • Discussion	To understand the significance and usage of complex statistical tools and to interpret their results	Evaluation through tests
Module-6: Correlation and Regression **12 Hours**	Correlation: Meaning, Karl Pearson's Coefficient of Correlation, Spearman's Correlation Coefficient Regression: Concept, Regression Equations	• Lecture • Solving Problems • Discussion	To understand the significance and usage of complex statistical tools and to interpret their results	Evaluation through tests

UNIT WISE BREAK UP

LECTURE HOURS: 60

Objective: To give an understanding of simple mathematical and statistical concepts relevant to the business field

	UNITS	No. of Lecture Hours	Methodology/Instructional techniques	Evaluation/ learning confirmation
MODULE 1	**Theories of Equations**	**10**		Test
	Theory of equations (Linear, Quadratic, and Simultaneous)	5	Illustrations and Problems	
	Application of equations to business and commerce	5	Illustrations and Problems	
MODULE 3	**Introduction to Statistics**	**8**		Assignment
1.	Meaning and Definition of Statistics, Functions, Scope, Limitation	3	Lecture and Discussion	
2.	Classification and Tabulation of data	2	Lecture with illustration and work out problems	
3.	Diagrammatic and Graphic Representation	3	Presentation and Computer Lab.	
MODULE 4	**Measures Of Central Tendency and Dispersion**	**14**		Test
1.	Measures of Central Tendency: Mean	3	Illustrations and Problems	
2.	Median and Mode	3	Illustrations and Problems	

3.	Measures of Dispersion: Range, Quartile Deviation and their coefficients	2	Illustrations and Problems	
4.	Mean deviation	2	Illustrations and Problems	
5.	Standard deviation and their coefficients	4	Illustrations and Problems	
	CIA I (10 marks)		Statistics Assignment	
MODULE 5	**Time Series**	**6**		
1.	Components of time series	1	Work out problems	
2.	Trend analysis by Moving Averages	2	Work out problems	
3.	Least Squares Method (linear).	3	Work out problems	
	Mid Term Test – Modules 1,3,4 & 5			
MODULE 6	**Correlation and Regression**	**12**		Test
1.	Correlation: Meaning, Karl Pearson's Coefficient of Correlation	5	Illustrations and Problems	
2.	Spearman's Correlation Coefficient	2	Illustrations and Problems	
3.	Regression: Concept, the two Regression Equations	5	Illustrations and Problems	
	CIA II (10 marks)	**1**	Test	
				Test
MODULE 2	**Interest and Annuities**	**10**		Test

1.	Laws of indices and logarithms	1	Illustrations and Problems	
2.	Simple interest – Compound Interest – Annuities – Definition – Types – Present value and amount of annuity	4	Illustrations and Problems	
3.	Perpetuity applied problems on loans – Sinking fund – Endowment fund by use of formulae and Annuity Tables	5	Illustrations and Problems	