GUJARAT TECHNOLOGICAL UNIVERSITY

MASTER OF BUSINESS ADMINISTRATION

Year – I (Semester – I) (W.E.F. Academic Year 2017-18)

Subject Name: BUSINESS STATISTICS (BS)

Subject Code: 3519207 **Subject Credits: 3** **Total Marks: 150**

1. Objectives:

- To impart the basic art and science of gathering, analysing and using data to identify and resolve managerial and decision making problems.
- To develop skills in structuring and analysing business problems using quantitative analysis.
- To develop aptitude and statistical thinking approach to business problems.
- To understand the effective use of computer software for resolution of statistical problems.

2. Course Duration:

The course duration is of 36 sessions of 75 minutes each, i.e. 45 hours.

Module No	Module Content	No. of Sessions	70 Marks (External Evaluation)
I	**Introduction to Business Statistics, Permutations & Combinations and Probability** Introduction to Statistics, Statistics in Business, Charts and Graphs. Descriptive Statistics, Measure of central tendency, measure of variability, for Group and ungrouped data, Measures of shape, measures of association. Permutations and Combinations Introduction to probability, Structure of probability, Results of probability, Inverse Probability, Revision of probability: BAYES' RULE, and examples Random variable	8	14
II	**Probability Distribution and Decision Theory** Probability Distribution: Discrete and Continuous distribution, Expected value and variance of a distribution, Binomial distribution, Poisson distribution, Hyper-Geometric distribution, Normal distribution, exponential distribution Decision theory, elements of decision analysis, decision-making under uncertainty, decision-making under risk	10	21

III	**Correlation and Regression** Types of Correlation, Simple regression Analysis, Basic of Simple Regression Analysis, Multicollinearity, Concepts of autocorrelation and autoregression. Multiple regression theory.	8	14
IV	**Time-Series, Forecasting and Index Number** Time-Series analysis, Forecasting methods in management, Smoothing techniques, Model building like least square methods, Second degree parabolic curve, Index Numbers, Methods of index numbers (Laspeyres', Paasche's, Fisher's, Dorbish-Bowley, Marshall-Edgeworth, Consumer Price Index, IIP, Family Budget & Cost of Living Index No.)	10	21
	Use of EXCEL for exposure to the above concepts and Practical Use of any of the above quantitative concepts in industry		Internal Evaluation (30 Marks of CEC)

4. Teaching Method: The following pedagogical tools will be used to teach this course:

(1)Lectures and Discussions

(2) Assignments and Presentations

5. Evaluation:

A	Projects/Assignments/Quiz/Class Participation, etc.	Weightage (50 Marks) (Internal Assessment)
B	Mid-Semester Examination	Weightage (30 Marks) (Internal Assessment)
C	End-Semester Examination (Min. 30% Theory and Min. 70% Practical)	Weightage (70 Marks) (External Assessment)

6. Text Books:

Sr. No.	Author	Name of the Book	Publisher	Year of Publication
1	Joseph Francis	Business Statistics	CENGAGE	Latest Edition
2	Ken Black	Business Statistics for Contemporary Decision Making	Wiley	Latest edition
3	Jaggia, Kelly	Business Statistics	McGrawHill	Latest edition

7. Other Readings:

Sr. No.	Author	Name of the Book	Publisher	Year of Publication
1	Richard I. Levin and David S. Rubin	Statistics for Management	Pearson Education	Latest edition
2	D. P. Apte	Statistics for Managers	Excel Books	Latest edition
3	Keller & Arora	Business Statistics	CENGAGE Learning	2016 / Latest Edition
4	T N Srivastava and Shailaja Rego	Statistics for Management	TMH	Latest edition
5	K. B. Akhilesh & S. B. Balasubrahmanyam	Mathematics and Statistics for Management	Vikas Publishing	Latest edition
6	Naval Bajpai	Business Statistics	Pearson	Latest edition
7	D. P. Apte	M. S. Excel: Statistical Tools for Managers	Excel Books	Latest edition
8	Qazi Zameeruds, Vijay K. Khara, S. K. Bhamri	Business Mathematics	Vikas	Latest edition

8. Session Plan: (36 sessions of 75 minutes)

No. of Sessions	Topic to be Covered
1-3	Introduction to Statistics, Statistics in Business, Charts and Graphs. Descriptive Statistics, Measure of central tendency, measure of variability, for Group and ungrouped data, Measures of shape, measures of association.
4-5	Permutations and Combinations
6-8	Introduction to probability, Structure of probability, Results of probability, Revision of probability: BAYES' RULE, and examples Random variable
9-14	Probability Distribution: Discrete and Continuous distribution, Expected value and variance of a distribution, Binomial distribution, Poisson distribution, Hyper-Geometric distribution, Normal distribution, exponential distribution
15-18	Decision theory, elements of decision analysis, decision-making under uncertainty, decision-making under risk
19-26	Types of Correlation, Simple regression Analysis, Basic of Simple Regression Analysis, Multicollinearity, Concepts of autocorrelation and autoregression. Multiple regression theory
27-31	Time-Series analysis, Forecasting methods in management, Smoothing techniques, Model building like least square methods, Second degree parabolic curve
32-36	Index Numbers, Methods of index numbers (Laspeyres', Paasche's, Fisher's, Dorbish-Bowley, Marshall-Edgeworth, Consumer Price Index, IIP, Family Budget & Cost of Living Index No.)