

GANPAT UNIVERSITY									
FACULTY OF SOCIAL SCIENCE AND HUMANITIES									
Programme		Bachelor of Commerce				Branch/Spec.		GENRAL	
Semester		I				Version		1.0.0.1	
Effective from Academic Year			2020-21			Effective for the batch Admitted in			July 2020
Subject code		1A04FOS		Subject Name		Foundation of Statistics			
Teaching scheme						Examination scheme (Marks)			
(Per week)		Lecture (DT)		Practical (Lab.)		Total		CE	SEE
	L	TU	P	TW					
Credit	04	00	00	00	04	Theory	40	60	100
Hours	04	00	00	00	04	Practical	00	00	00
Pre-requisites:									
Basic knowledge of Mathematics									
Objectives:									
<ul style="list-style-type: none"> <li>To familiarize students with the basic statistical tools used and to summarize and analyze quantitative information for decision making</li> </ul>									
Learning Outcome:									
On successful completion of the course, the students will be able to:									
<ul style="list-style-type: none"> <li>Familiar with the basic statistical tools: How to calculate and apply measures of central tendency and measures of dispersion grouped and ungrouped data cases.</li> <li>Understand about Probability Theory and its application in real business situation.</li> <li>Understand about Probability Distributions.</li> <li>Understand about Statistical Quality Control (SQC).</li> </ul>									
Theory syllabus									
Unit	Content								Hrs
1	Measures of Central Tendency and Dispersion: Introduction, Arithmetic Mean, Median and Mode, Quartiles - Properties, Merits & Demerits. Introduction, Range, Coefficient of range, , Quartile deviation, Coefficient of quartile deviation, Mean deviation and coefficient of mean deviation, Variance and Standard Deviation for all types of frequency distribution, Coefficient of Dispersion, Coefficient of variation								15
2	Probability Theory: Introduction, Random Experiment, Sample Space, Events, Complementary Events, Union and Intersection of Two Events, Exhaustive Events, Mutually Exclusive Events, Statistically Independent Events, Statistical definition of Probability, Axiomatic definition of probability, Addition Theorem, Multiplication Theorem, Theorems of Probability, Conditional Probability, Variable, Discrete and Continuous random variable, Probability distribution of a random variables.								15
3	Probability Distributions: Binomial Distribution: Introduction, Probability mass functions of Binomial distribution, Mean and Variance of Binomial distribution, Properties of Binomial Distribution, Uses of Binomial Distribution. Poisson Distribution: Introduction, Probability mass function of Poisson distribution, Mean and Variance of Poisson distribution, Properties of Poisson Distribution, Applications of Poisson Distribution. Normal Distribution: Introduction, Probability density function of Normal distribution, Properties of Normal distribution, Importance of Normal Distribution								15
4	Statistical Quality Control (SQC): Concepts of Quality, Quality Control and Statistical Quality Control, Causes of Variation in Quality, Meaning, uses and advantages of SQC, Theory of Control Charts, Theory of Runs, $3\sigma$ control limits and Revised Control Limits, Types of Control Charts, Control Charts for Variables ( $\bar{X}$ and R Charts) and their interpretations, Control Charts for Attributes ( $p$ , $np$ and $C$ Charts) and their interpretations								15
Text Books									
Statistics – D C Sancheti, V K Kapoor (SultanChand and Sons)									
Reference Books:									
Statistics for Management - Levin Rubin (Prentice Hall India) Business Statistics-G V Shenoy, U K Shrivastava & S C Sharma (New Age International P. Ltd) Mathematical Statistics - Saxena and Kapoor. Gupta, S.P., “Statistical Methods,” Sultan Chand & Sons, 2004. Comprehensive Statistical Methods by P. N. Arora, Sumeet Arora & S. Arora Business Statistics by J. K. Sharma									