MFT203:Research Methodology, Statistics and Computer Applications	
Teaching Scheme	**ExaminationScheme**
Lectures:3hrs./week	InternalAssessment Marks[IAM]:30
Tutorials: 1hr./week	[Class Test: 12, Teachers assessment:6,Attendance: 12]
Credits:4	EndSemesterMarks[ESM]:70

CourseObjectives:

1. Togivescientificapproachtoresearchanditstypes.
2. To give knowledge about sampling design, measurements and their central tendency.
3. Toimpartknowledge aboutexperimentaldesigns,measuresofvariability,correlationandvariousstatistical tests.
4. Toimpartknowledgeaboutintroductionofcomputerscienceand technology,application softwares.

DetailedSyllabus

MODULEI
Research: significance, conceptualization of problem – hypothesis, Types of research – Research designs, fundamental, applied – action, exploratory, discipline, experimental, survey, case study and ex post facto. Longitudinal, cross sectional and correlational research.
MODULE2
Theory of probability – population sample. Sampling techniques: Research methods – Interview schedule, important methods and data collection, interpretation of results, observation, social mapping, participatory rapid assessment. Writing up research reports and proposal.
MODULE3
Statistics – meaning, role of statistics in research- descriptive research – classification, tabulation of data – graphic and diagrammatic representation of data. Measurement of central tendency , variation, dispersion, normal distribution – Mean, median, testing levels of significance – 'T' test, F test and X^2 test.
MODULE4
Correlation, coefficient of correlation – rank correlation, analysis of variance, types, regression and forecasting–Fitting regression curves, discrimination analysis.
MODULE5

Computer applications: MS office-word, excel, power point, internet, photoshop. Statistical software packages used in research. Software controlled food processing operations, application part in food industry. Software applications for quality control.

Suggested Readings
1. Elhance, D.L. (2008). Fundamentals of Statistics. KitabMahal, Patna.
2. Garret H.P. (2004). Statistics in Psychology and Education. ValliesFotter and Simons Ltd. Bombay.
3. Kothari, C.R. (2008) Research Methodology. WishwaPrakashan. New Delhi, India. Rao, K.V. (2007) Biostatistics. Jaypee Brothers medical publishers, New Delhi.
4. Sundar, R.P. & Richard, J. (2003). An Introduction to Biostatistics. Prentice Hall, New Delhi.

CourseOutcomes:

Aftercompletingthecourse,students willbeable to:

1.Understandthemethodsandroleofscientificapproachtoresearch.
2.Understandthevariousexperimentaldesigns,methodsofsamplingtheir analysisanddata collection.
3.Understandaboutthe differentterminologyrelatedtomeasurements,correlation,regression centraltendency.
4.Knowledgeabouttestofsignificanceofdifferencebetween meansliket test,z test,chi squaretest,ANOVA.
5. Knowledge of correlation and regression.
6.Computerapplicationsinfoodtechnologylike responsesurfacemethodology and MS office applications:MS Office