Statistics (CMP504)
Yashwantrao Chavan Maharashtra Open University

Course Name : Statistics
Course No : CMP504

Course Details :

Unit 1. Classification, Tabulation and Graphical Methods :
- Definition of Statistics, Scales and Measurements,
- Scope and Importance of Statistics, Limitations of Statistics
- Representation of Data, Classification of Data
- Cumulative Frequency Distribution and Curve
- Pie Chart, Bar Diagram, Histogram, Frequency Polygon and line graph

Unit 2. Measures of Central Tendency :
- Mean
- Median
- Mode
- Other Avarages

Unit 3. Measures of Dispersion :
- Range
- Standard Deviation
- Merits and Demerits of Standard Deviation
- Formula for Combined Standard Deviation (without proof)
- Interpretation of Standard Deviation
- Coefficient of Variation

Unit 4. Moments Skewness and Kurtosis :
- Moments
- Skewness and Kurtosis
- Numerica Example

Unit 5. Correlation and Regression :
- Scatter Diagram
- Karl Pearson‟s Correlation Coefficient and its properties
- Applications of Correlation in Various Fields
- Spearman‟s Rank Correlation Coefficient
- Linear Regression (Bivariate data)

Unit 6. Probability :
- Random Experiments
- Probability
- Relative Frequency
- Approach of Determining Probability
- Equally Likely Approach
- Axioms of Probability
- Conditional Probability
- Multiplicative Law
- Baye"s Theorem
- Concept of Independence
- Counting Techniques

Unit 7. Random Variables, Special Continuous Probability Distributions :
- Random Variables, Discrete Random Variable, Continuous Random Variable
- Probability Distribution, Some Special Continuous Probability Distributions
- Sampling Distributions

Unit 8. Test of Hypothesis, Large Sample Tests, Small Sample Tests :
- Statistical Hypothesis, Null Hypothesis and
- Alternative Hypothesis
- Test of a Statistical Hypothesis
- Test Statistic
- Critical Region and Acceptance Region
- Type I Error and Type II Error
- Level of Significances
- Large Sample Tests
- Small Sample Tests, Test for Population Mean, Test for Equality of Two Population Means, Test of Variances, Test based on ChiSquare Distribution