

21.2.0 STATISTICS

21.2.01 INTRODUCTION

This module unit is designed to equip the trainee with knowledge, skills and attitudes that will enable him/her manipulate statistical data for purposes of decision making.

21.2.02 GENERAL OBJECTIVES

By the end of this module unit, the trainee should be able to

- a) appreciate the role of statistics in decision making
- b) collect and organize statistical data for decision making
- c) analyze statistical data for decision making
- d) apply statistical methods in solving social problems
- e) apply statistical techniques as a research tool
- f) appreciate correlation of various phenomenon

21.2.03

SUMMARY AND TIME ALLOCATION (150 HOURS)

CODE	TOPIC	SUB-TOPICS	TIME
21.2.1	INTRODUCTION TO SOCIAL STATISTICS	<ul style="list-style-type: none"> • Meaning of social statistics • Reasons for studying social statistics • Functions of statistics • Limitations of statistics 	5
21.2.2	DATA COLLECTION AND PRESENTATION	<ul style="list-style-type: none"> • Basis for data collection • Data classification • Data tabulation • Diagrammatic and graphical presentation of data 	10
21.2.3	MEASURES OF CENTRAL TENDENCY	<ul style="list-style-type: none"> • Measures of central tendency • Properties of central tendency • Calculation and interpretation of central tendency 	10
21.2.4	MEASURES OF DISPERSION	<ul style="list-style-type: none"> • Characteristics of a good measures of dispersion • Relative and absolute measures • Calculation and interpretation of measures of dispersion 	10
21.2.5	CORRELATION AND REGRESSION	<ul style="list-style-type: none"> • Scatter diagram • Correlation • Correlation coefficient • Coefficient of determination and their interpretation • Linear regression models 	10
21.2.6	ELEMENTS OF PROBABILITY	<ul style="list-style-type: none"> • Basic concepts of probability • Counting techniques, set theory and probability • Laws of probability and applications • Conditional probability • Probability distribution and application 	10
21.2.7	SAMPLING	<ul style="list-style-type: none"> • Reasons for sampling • Sampling and census • Types of sampling and limitations 	5
21.2.8	ESTIMATION AND TEST OF HYPOTHESIS	<ul style="list-style-type: none"> • Estimation • Types of estimations • Sampling distribution of a statistic • Confidence interval for a parameter 	10

		<ul style="list-style-type: none"> and interpretation • Hypothesis • Types of errors • Hypothesis testing 	
21.2.9	TIME SERIES ANALYSIS	<ul style="list-style-type: none"> • Components of time series • Time series models • Measurement methods for trend and seasonal variation in the series • De-seasonalization • Application of time series 	10
21.2.10	PROJECT APPRAISAL TECHNIQUES	<ul style="list-style-type: none"> • Simple and compound interests • Present and future values • Cash flow generation • Distinction between annuities and perpetuities • Evaluation of investment projects 	10
21.2.11	NETWORK ANALYSIS	<ul style="list-style-type: none"> • Network distribution • Importance of network analysis • Network construction • Critical path determination • Applications 	10
21.2.12	INVENTORY CONTROL MODELS	<ul style="list-style-type: none"> • Definition of inventory control • Inventory control systems • Economic order quantity model • Safety stock and re-order level determination 	10
Total			120