

Business Mathematics and Statistics

Level CPA FI Subject Code PF104 Exam Marks 100

Assessment Level: Intermediate/Conceptual/Practical/Professional

Assessment Strategy

Section A: MCQ's 05(5Marks)	Competency Questions 7 (21Marks)	Case Studies/Scenario base Question 1 (14Marks)
Section B: MCQ's 05(5Marks)	Competency Questions 7 (21Marks)	Case Studies/Scenario base Question 1(09Marks)
Section C: MCQ's 05(5Marks)	Competency Questions 5 (10Marks)	Case Studies/Scenario base Question 1(10Marks)

Syllabus

Section	Lead Topics	Indicative Syllabus
Section A: 50%	Preliminaries	Factorization, Equations, Inequalities, Absolute Value Relationship, Quadratic Equation and Nature of Roots, Mid-Points, Two Point Formula, Distance Formula, Rectangular Coordinate System
	Mathematical Functions	Functions, Domain Range Relationship, Restricted Domain and Range, Value of the Function, Graph Representation of the Functions, Type of Functions (Constant, Linear, Rational, Combinations, Composite, Polynomial, etc.), Applications of the Linear Functions, Break-Even Models
	Differentiation	The Limit and Introduction, Average rate of change, Concepts of derivative and differentiation, Basic Rules of Differentiation, Instantaneous-rate of change, Partial Derivatives and Mixed Partial Derivatives
	Matrix and Determinants	Addition, subtraction, multiplication, inverse of matrices, Solution of equations using matrix; inequalities, graphical presentation of inequalities; graphical method for linear programming; problems in graphical solutions such as no feasible solution, alternative optimum solution, unbounded solutions and redundant constraints
	Mathematics of Finance	Simple interest, present and future values; discounting notes; bank discount; compound interest and annuities; sinking funds, present value; perpetuities; effective rate of interest.

Section	Lead Topics	Indicative Syllabus
Section B: 50%	Statistical Methods	Collection, presentation, tabulation, graphical presentation through graphs, charts and diagrams stem and leaf display, box and whisker plot, Measures of central tendencies, Measures of dispersions, Index numbers, weighted index numbers, concept of purchasing power and deflation of income
	Regression Analysis	Simple Linear Regression, scatter graphs, least squares method, Co-efficient of determination, correlation co-efficient, rank correlation, Use of linear regression equation in forecasting.
	Probability	Meaning of probability, nature of probability distributions, discrete and continuous variables, expected values, Standard Normal Distribution, confidence intervals, z-score and associated diagrams, Use and application of probability distributions
	Sampling and Decision Making	Sampling Methods – Simple random, stratified, cluster, systematic sampling, Interval estimation for large and small samples; confidence levels, standard error; estimate of sample size, Hypothesis testing – Null and Alternative hypothesis; description of Type I and Type II errors.