

## Competency statements

Sr. No.	Area / Topic	Competency Statement
1	Commission, Brokerage, Discount	<ul style="list-style-type: none"> <li>• understand terms like Agent, Commission Agent, Broker, Auctioneer, Factor, Del credere Agent</li> <li>• identify trade discount and cash discount</li> <li>• know meaning and formula of present worth, true discount, sum due, date of bill, face value, period, nominal due date, discount, banker's gain</li> <li>• solve problems on commission and brokerage</li> </ul>
2	Insurance	<ul style="list-style-type: none"> <li>• understand the terms premium, policy value, types of insurance (fire, marine and accident)</li> <li>• know rules and formulae for claims</li> </ul>
	Annuity	<ul style="list-style-type: none"> <li>• identify types of annuity</li> <li>• know terms related to annuity</li> <li>• understand annuity formulae including abbreviations used in them</li> <li>• solve annuity problems</li> </ul>
3	Linear Regression	<ul style="list-style-type: none"> <li>• understand the meaning of regression</li> <li>• understand types of regression</li> <li>• understand meaning of linear regression</li> <li>• find the regression coefficient</li> <li>• state the equations of regression lines</li> <li>• state interrelations between standard deviations, regression coefficients and correlation coefficient</li> <li>• remember the properties of regression coefficients</li> <li>• solve problems based on regression</li> </ul>
4	Time Series	<ul style="list-style-type: none"> <li>• understand the concept of a time series</li> <li>• identify the components of a time series</li> <li>• use graphical method to find the trend line for a time series</li> <li>• use moving averages to find the trend line for a time series</li> <li>• use least squares method to find the trend line for a time series</li> </ul>
5	Index Numbers	<ul style="list-style-type: none"> <li>• understand the concept of index numbers</li> <li>• identify types of index numbers</li> <li>• understand the terminology of index number</li> <li>• construct different index numbers</li> <li>• solve economic problems involving index numbers</li> </ul>

6	Linear Programming	<ul style="list-style-type: none"> <li>• understand the concept of linear programming</li> <li>• understand the general form and meaning of LPP</li> <li>• formulate a given problems as LPP</li> <li>• draw constraint lines and find the region of feasible solutions</li> <li>• obtain the optimal solution of LPP</li> </ul>
7	Assignment	<ul style="list-style-type: none"> <li>• understand the assignment problem</li> <li>• formulate an assignment problem</li> <li>• solve an assignment problem by Hungarian method</li> <li>• identify the special cases of assignment problem</li> </ul>
	Sequencing	<ul style="list-style-type: none"> <li>• understand the concept of job sequencing</li> <li>• solve problems of processing n jobs through two machines</li> <li>• solve problem of processing n job through three machine</li> </ul>
8	Probability Distribution	<ul style="list-style-type: none"> <li>• understand the meaning of random variables and types of random variables</li> <li>• understand probability mass function and its properties</li> <li>• understand the cumulative distribution function and its properties</li> <li>• find the expected value and variance of a discrete random variable</li> <li>• understand the probability density function and its properties</li> <li>• find the cumulative distribution function, expected value and variance of continous random variables</li> </ul>
	Binomial Distribution	<ul style="list-style-type: none"> <li>• understand Bernauli trial, Bernouli distribution, condition for Binomial distribution and their properties</li> <li>• use Binomial distribution to calculate required probabilities</li> </ul>
	Poisson Distribution	<ul style="list-style-type: none"> <li>• understand the Poisson distribution and its properties</li> <li>• use Poisson distribution to calculate required probabilities</li> </ul>

## INDEX

Sr. No.	Chapter	Page No.
1	Commission, Brokerage and Discount	1
2	Insurance and Annuity	16
3	Linear regression	34
4	Time series	57
5	Index numbers	72
6	Linear programming	95
7	Assignment Problem and Sequencing	108
8	Probability distributions	132
9	Answers	158