DEPARTMENT OF MATHEMATICS			*Certificate Course*				
Course Type	**Course Code**	**Course Code Course Title**	**Credits**	**Total Contact Hours**	**CIA**	**Ext**	**Total**
Value Added Course		Certificate Course on Decision Making and Investment Analysis	2	30			

LEARNING OBJECTIVES:

- To enable the students to understand the basic concept of decision marking.
- To learn the different optimization techniques to solve decision oriented problems. .
- To develop knowledge and understand theory in practical application of decision making areas.

LEARNING OUTCOMES:

- In term of knowledge, demonstrate their understanding of optimization techniques for decision making problemsclearly.
- In terms of skills, understanding situation and solve the problems.

UNIT - I:

Introduction - Steps in decision theory approach - Decision making under conditions of certainty and uncertainty maximax- maximin - minimax regret - Hurwicz criterions - Laplace criterion.

UNIT - II:

Decision making under conditions of Risk - Expected value criterion – Opportunity loss criterion - Expected value perfect information.

UNIT - III:

Introduction - Two person zero-sum games - Some basic terms-The maximin - minimax principle games without saddle point - mixed strategies.

UNIT - IV:

Graphical solution of 2 x n and m x 2 games - Dominance property - Arithmetic method of n x n games.

UNIT - V:

Introduction - methods of Investment analysis - Break-even analysis – payback period method - Average Rate of Return method.

TEXT BOOK:

Problems in Operations Research by Prem Kumar Gupta ,Dr.D.S. Hira , S. Chand - Company Limited (Reprint 2003).