Course Number and Name
BBA007 - ENGINEERING ECONOMICS AND COST ANALYSIS
Credits and Contact Hours
3&45
Course Coordinator's Name
Mr.Karthikeyan
Text Books and References

TEXT BOOKS:

1. PanneerSelvam, R, Engineering Economics, Prentice Hall of India Ltd, New Delhi, 2001.

REFERENCES:

1.Chan S.Park, Contemporary Engineering Economics, Prentice Hall of India, 2002.
2.https://books.google.co.in/books?id=IWRI-5g0uHUC
3.www.springer.com/us/book/9780387970486

Course Description
To know about engineering economics and cost analysis.

Prerequisites	Co-requisites
PROCESS PLANNING AND COST ESTIMATION	Nil

required, elective, or selected elective (as per Table 5-1)
Open Elective

Course Outcomes (COs)	
CO1	To learn aboutintroduction to economics.
CO2	To learn about value engineering.
CO3	To learn about cash flow.
CO4	To learn about economics of sampling and Replacement and Maintenance
CO5	To learn about depreciation and Evaluation of public alternatives.
CO6	To learn about design analysis

Student Outcomes (SOs) from Criterion 3 covered by this Course

COs/SOs	a	b	c	d	e	f	g	h	i	j	k	l
CO1	H											
CO2		H										
CO3			M		M							

	CO4				H			H		L		H		
	CO5						L		M		L			
	CO6												L	
List of Topics Covered														

UNIT I INTRODUCTION TO ECONOMICS 8

Introduction to Economics- Flow in an economy, Law of supply and demand, Concept of Engineering Economics – Engineering efficiency, Economic efficiency, Scope of engineering economics- Element of costs, Marginal cost, Marginal Revenue, Sunk cost, Opportunity cost, Break-even analysis- V ratio, Elementary economic Analysis – Material selection for product Design selection for a product, Process planning.

UNIT II VALUE ENGINEERING 10

Make or buy decision, Value engineering – Function, aims, Value engineering procedure. Interest formulae and their applications –Time value of money, Single payment compound amount factor, Single payment present worth factor, Equal payment series sinking fund factor, Equal payment series payment Present worth factor- equal payment series capital recovery factor-Uniform gradient series annual equivalent factor, Effective interest rate, Examples in all the methods.

UNIT III CASH FLOW 9

Methods of comparison of alternatives – present worth method (Revenue dominated cash flow diagram), Future worth method (Revenue dominated cash flow diagram, cost dominated cash flow diagram), Annual equivalent method (Revenue dominated cash flow diagram, cost dominated cash flow diagram), rate of return method, Examples in all the methods.

UNIT IV REPLACEMENT AND MAINTENANCE ANALYSIS 9

Replacement and Maintenance analysis – Types of maintenance, types of replacement problem, determination of economic life of an asset, Replacement of an asset with a new asset – capital recovery with return and concept of challenger and defender, Simple probabilistic model for items which fail completely.

UNIT V DEPRECIATION 9

Depreciation- Introduction, Straight line method of depreciation, declining balance method of depreciation-Sum of the years digits method of depreciation, sinking fund method of depreciation/ Annuity method of depreciation, service output method of depreciation-Evaluation of public alternatives- introduction, Examples, Inflation adjusted decisions – procedure to adjust inflation, Examples on comparison of alternatives and determination of economic life of asset.