

Regulation: R20

II- Year II- Semester III- Year I- Semester III- Year II- Semester	Name of the Course	L	T	P	C
Course Code: HS3104	Engineering Economics and Management	3	0	0	3

PRE-REQUISITES: Basic Sciences and Humanities

Course objectives: The student should be able to

CO 1: To understand the concept and nature of Economics and Demand and to familiarize about the Production function, Input Output relationship, Cost-Output relationship and Break Even Analysis.

CO 2: To understand the nature of markets and the concepts of Money and RBI functions.

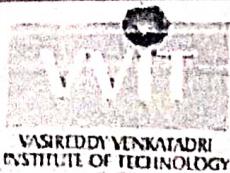
CO 3: To familiarize with the process of management, principles, and to provide conceptual knowledge on functional management that is on Human resource management and Marketing management.

CO 4: To learn different Accounting Systems, preparation of Financial Statement and to familiarize with the tools of project Management.

CO 5: To understand the concept of Capital, Capital Budgeting and the techniques used to evaluate Capital Budgeting proposals.

Syllabus

Unit No	Contents	Mapped CO
I	<p>Introduction to Economics and Theory of Production</p> <p>13 Hrs</p> <p>Introduction to Economics; Definitions, Nature, Scope, Difference between Microeconomics & Macroeconomics -Concept of Demand, Types of Demand, Determinants of Demand-Law of Demand - Elasticity of Demand, Types of Elasticity of Demand.</p> <p>Theory of production; production function, Law of variable proportions & law of returns to scale, Cost; meaning, short run & long run cost, fixed cost, variable cost, total cost, average cost,</p>	CO1



	marginal cost, opportunity cost. Break even analysis; meaning, explanation, simple problems.	
II	<p>Introduction to Markets and Money 12 Hrs</p> <p>Markets: meaning, types of markets & their characteristics (Perfect Competition, <u>Monopoly</u>, Monopolistic Completion, Oligopoly). National Income, GNP, GDP, NNP, NDP, Personal income and GST (Goods & Service Tax).</p> <p>Money: meaning, functions, types, Monetary policy- meaning, objectives, tools, fiscal policy-meaning, objectives, tools, Banking; meaning, types, functions, Central Bank- RBI; its functions, concepts; CRR, bank rate, repo rate, reverse repo rate, SLR.</p>	CO2
III	<p>Introduction to Management 12 Hrs</p> <p>Concept -nature and importance of Management Functions of Management, Principles of Management.</p> <p>Human Resource Management: Meaning and difference between Personnel Management and Human Resource Management, Functions of Human Resource Management.</p> <p>Marketing Management: Functions of Marketing - Marketing strategies based on product Life Cycle, Channels of distributions.</p>	CO3
IV	<p>Introduction to Accounting & Project Management 15 Hrs</p> <p>Introduction to Double Entry System, Journal, Ledger, Trial Balance and Preparation of Final Accounts with adjustments - Preparation of Financial Statements.</p> <p>Project Management: (PERT/CPM): Development of Network - Difference between PERT and CPM Identifying Critical Path (Simple Problcms).</p>	CO4
V	<p>Capital and Capital Budgeting: 12 Hrs</p> <p>Capital Budgeting: Meaning of Capital-Capitalization-Meaning of</p>	CO5



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Capital Budgeting-Time value of money- Methods of appraising Project profitability: Traditional Methods (payback period, accounting rate of return) and modern methods (Discounted cash flow method, Net Present Value method, Internal Rate of Return Method and Profitability Index).

Content Beyond the syllabus:

Introduction to Managerial Economics and demand Analysis: Managerial Economics, Nature & Scope, Demand forecasting for new products, Concept of supply.

Theory of Production and Cost Analysis: Production Process, Types of production, ISO- Quants, ISO Costs.

Introduction to Markets and Money: Price Output determination, Pricing Methods and Stock Market and inflation influence on industry.

Introduction to Management: Evolution of Management thought, theories of Motivation, Leadership styles.

Project Management: Brief about Project crashing.

Course Outcomes

Upon successful completion of the course, the student will be able to

CO1	1. The Learner is equipped with the knowledge of estimating the Demand and demand elasticity's for a product and Input-Output-Cost relationships.
CO2	2. The Learner is also ready to understand the nature of different markets and also to have the knowledge of Money & Banking.
CO3	3. The Learner will acquire the knowledge on management, HRM and Marketing.
CO4	4. The Learner will acquire the knowledge to prepare Financial Statements and the techniques of project management.
CO5	5. The Learner can able to evaluate various investment project proposals



with the help of capital budgeting techniques for decision making.

Learning Resources

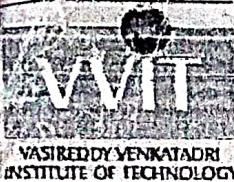
Text books:

1. Dr. A. R. Aryasri – Managerial Economics and Financial Analysis, TMH 2018, 2e.
2. Dr. N. Appa Rao, Dr. P. Vijay Kumar: 'Managerial Economics and Financial Analysis', Cengage Publications, New Delhi – 2012.
3. Management Science, Aryasri, Tata McGraw Hill, 2014.
4. Dr. P. Vijaya Kumar & Dr. N. Appa Rao, Introduction to *Management Science*' Cengage, Delhi, 2012.
5. Engineering Economy and Management 1 Edition Pravin Kumar – Wiley Publication.
6. Engineering Economics & Management- Dr. Vilas Kulkarni & Hardik Bavishi - Vikas Publishing.

Reference books:

1. R. L Varshney, K.L Maheshwari : Managerial Economics, Sultan Chand& Sons 2014,22e.
2. Suma Damodaran : Managerial Economics, Oxford 2010,2e.
3. Ambrish Gupta: 'Financial Accounting for Management', Pearson 2015,5e.
4. Dr. S.N. Maheswari: Financial Accounting, Vikas Publications 2018.
5. S. A. Siddiqui & A. S. Siddiqui: Managerial Economics and Financial Analysis, New Age International Publishers, 2017.
6. Principles of Marketing: A South Asian Perspective, Kotler Philip, Gary Armstrong, Prafulla Y. Agnihotri, and Eshan ul Haque , 17th Edition, Pearson Education/ Prentice Hall of India, 2018.
7. Human Resource Management: Gary Dessler, 14th Edition, pearson 2015.
8. Project Planning and Control with PERT and CPM: Dr. B. C. Punmia, K. K. Khandelwal, Laxmi Publication, 2017, 4th Edition.

e- Resources & other digital material



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1. www.managementstudyguide.com

2. www.tutorialspoint.com

3. www.lecturenotes.in

III- Year I- Semester	Name of the Course	L	T	P	C
	Engineering Economics and Management	3	0	0	3

Micro-Syllabus

Course objectives: The student should be able to

1. To understand the concept and nature of Economics and Demand. And to familiarize about the Production function, Input Output relationship, Cost-Output relationship and Break Even Analysis.
2. To understand the nature of markets and the concepts of Money and RBI functions.
3. To familiarize with the process of management, principles, and to provide conceptual knowledge on functional management that is on Human resource management and Marketing management.
4. To learn different Accounting Systems, preparation of Financial Statement and to familiarize with the tools of project Management.
5. To understand the concept of Capital, Capital Budgeting and the techniques used to evaluate Capital Budgeting proposals.

UNIT – I Introduction to Economics and Theory of Production

13 Hrs

Introduction to Economics; Definitions, Nature, Scope, Difference between Microeconomics & Macroeconomics -Concept of Demand, Types of Demand, Determinants of Demand-Law of Demand -Elasticity of Demand, Types of Elasticity of Demand.

Theory of production; production function, Law of variable proportions & law of returns to scale, Cost; meaning, short run & long run cost, fixed cost, variable cost, total cost, average cost, marginal cost, opportunity cost. Break even analysis; meaning, explanation, simple problems.

Unit	Module	Micro Content
Unit I	Concept of Economics	Economics, Definitions of Economics

		Micro economics, Macro economics
		Scope of Micro & Macro Economics
		Difference Between Micro & Macro Economics
		Meaning & Definitions of Managerial Economics
Basic Economic tools of Managerial economics		Opportunity cost Principle
Concept of Demand		What is Demand, Demand Analysis & Objectives
Types of Demand		Demand distinctions, Demand function Factors determining demand
Demand Schedule		Individual demand schedule, Market demand schedule
Demand Curve		Individual demand curve, Market demand curve
Law of Demand		Assumption of law of demand, Change in demand, Exceptions of law of demand, why does demand curve slope downwards.
Elasticity of Demand, Types of Elasticity of Demand & Measurement		Meaning of elasticity of demand, types of Price and income elasticity of demand, factors effecting elasticity of demand, measurements of elasticity of demand, significance of elasticity of demand
Theory of Production		Production function, Production process, importance of production, assumptions
Laws of Returns to scale		Schedule and graph
Cost Analysis		Types of costs, cost & output relationship in short run and long run
Break even Analysis		Uses, limitations of Break even analysis, Key terminology in Break analysis, Simple problems on BEP, graphical representation of Break even analysis.

UNIT - II Introduction to Markets and Money:

12

Hrs

Markets: meaning, types of markets & their characteristics (Perfect

Competition, Monopoly, Monopolistic Completion, Oligopoly). National Income, GNP, GDP, NNP, NDP, Personal income and GST (Goods & Service Tax).

Money: meaning, functions, types, Monetary policy- meaning, objectives, tools, fiscal policy-meaning, objectives, tools, Banking; meaning, types, functions, Central Bank- RBI; its functions, concepts; CRR, bank rate, repo rate, reverse repo rate, SLR.

Unit II	Market Structures	Meaning, definitions, types of market
	Perfect Competition	Features
	Monopoly	Features
	Monopolistic competition	Features
	Oligopoly	features
	Macro Economics	National income, ,GNP, GDP, NNP, NDP, Personal Income and GST
	Money	Functions, types
		Monetary Policy
		Fiscal Policy
	Banking	Types, Functions
	RBI	Concept and functions
	Bank Rates	CRR, bank rate, repo rate, reverse repo rate, SLR

UNIT - III Introduction to Management:

12 Hrs

Concept -nature and importance of Management Functions of Management, Principles of Management.

Human Resource Management: Meaning and difference between Personnel Management and Human Resource Management, Functions of Human Resource Management.

Marketing Management: Functions of Marketing - Marketing strategies based on product Life Cycle, Channels of distributions.

Unit III	Management	Concepts, functions, Principles
	HRM	Concepts of HRM, Personnel Management
		Diff B/w HRM & PM
		Function of HRM



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		Concepts of Marketing
		Functions of Marketing
		Product Life Cycle
		Marketing strategies based on product Life Cycle
		Channels of distributions.

UNIT - IV Introduction to Accounting & Project Management 15 Hrs

Introduction to Double Entry System, Journal, Ledger, Trail Balance and Preparation of Final Accounts with adjustments – Preparation of Financial Statements.

Project Management: (PERT/CPM): Development of Network – Difference between PERT and CPM Identifying Critical Path (Simple Problems).

Unit IV	Financial Accounting I, B.B.C.S.U, C.G.C, AC.	Meaning, definitions, objectives & significance, users of accounting, accounting cycle, GAAP.
	Book Keeping	Single and double entry book keeping, types of Accounting
	Journal	Features, Pro-forma, Advantages & Limitations, preparation of journal entries, simple problems
	ledger	Features, Pro-forma, Advantages & Limitations, preparation of ledger, simple problems.
	Trial Balance	Features, Pro-forma, Advantages & Limitations, preparation of Trial balance, simple problems.
	Final accounts	Trading account- Pro-forma, Simple problems
		Profit & Loss account- Pro-forma, Simple problems
		Preparation of balance sheet with simple adjustments
	Project Management	Net work Analysis -Simple Problems
		PERT – Simple Problems

	CPM – Simple Problems
	Diff B/w PERT & CPM

UNIT - V Capital and Capital Budgeting 12 Hrs

Capital Budgeting: Meaning of Capital-Capitalization-Meaning of Capital Budgeting-Time value of money- Methods of appraising Project profitability: Traditional Methods (payback period, accounting rate of return) and modern methods (Discounted cash flow method, Net Present Value method, Internal Rate of Return Method and Profitability Index).

Unit V	Capital	What is capital, need of capital types of capital
	Capital Budgeting	Types of fixed capital, types of working capital
	Payback period	Meaning, Nature & scope of capital budgeting
	Accounting rate of return(ARR)	Capital budgeting procedure, capital budgeting decisions, method of capital budgeting.
	Net present value (NPV)	Meaning, formula, advantages & disadvantages, simple problems
	Profitability index (PI)	Meaning, formula, advantages & disadvantages, simple problems
	Internal rate of return (IRR)	Meaning, formula, advantages & disadvantages, simple problems

Course Outcomes: Upon successful completion of the course, the student will be able to

CO1	1. The Learner is equipped with the knowledge of estimating the Demand and demand elasticity's for a product and Input-Output-Cost relationships.
CO2	2. The Learner is also ready to understand the nature of different



	markets and also to have the knowledge of Money & Banking.
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3. Aryasri: Managerial Economics and Financial Analysis, 2/e, TMH, 2005. 2. Varshney&Maheswari: Managerial Economics, Sultan Chand, 2003.
4. S A Siddiqui&AS Siddiqui , Managerial Economics and Financial Analysis, New Age international publishers 2013.
5. M. Kasi Reddy & Saraswathi, Managerial Economics and Financial Analysis ,PHI New Delhi 2012.
6. Principles of Management by Tripathy and Reddy.

Reference books:

1. Management Fundamentals - Concepts, Application, Skill Development - RobersLusier - Thomson
2. Basics of Engineering Economy, Leland Blank & Anthony Tarquin, McGraw Hill Publication (India) Private Limited
3. Engineering Economics, R.Paneerselvam, PHI publication
4. Fundamentals of Management: Essential Concepts and

Applications, Pearson Education, Robbins S.P. and Decenzo David A.

5. Economics: Principles of Economics, N Gregory Mankiw, Cengage Learning
6. Modern Economic Theory, By Dr. K. K. Dewett& M. H. Navalur, S. Chand Publications
7. Koontz &Weihrich: 'Essentials of management' TMH 2011
8. Philip Kotler& Armstrong: Principles of Marketing, Pearson publications
9. BiswajitPatnaik: Human Resource Management, PHI, 2011
10. Anil Bhat&Arya Kumar: Principles of Management, Oxford University Press, New Delhi, 2015.

CO-PO mapping Table with Justification

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	1	1	-	-	-	-	1	-	1	1	2	-
CO 2	1	2	-	-	-	1	1	-	1	-	2	-
CO 3	-	-	-	-	-	1	1	1	1	1	2	-
CO 4	1	2	-	3	-	-	1	-	1	2	2	-
CO 5	1	2	-	3	-	-	1	1	1	2	2	-



CO/PSO	PSO 1	PSO 2	PSO 3	PSO 4
CO1	-	1		
CO2	-	1		
CO3	-	1		
CO4	-	1		
CO5	-	1		

Justification

CO-PO	JUSTIFICATION
CO1-PO1	Responsibilities relevant to the break even analysis practices are to be done with basic fundamentals of mathematical knowledge.
CO2-PO1	Responsibilities relevant to the accounting practices are to be done with basic fundamentals of mathematical knowledge.
CO4-PO1	Responsibilities relevant to the accounting practices are to be done with basic fundamentals of mathematical knowledge.
CO5-PO1	Responsibilities relevant to the budgeting practices are to be done with basic fundamentals of mathematical knowledge.
CO1-PO2	Review research literature and analysis of problem identification is necessary.
CO2-PO2	Review research literature and analysis of problem identification is necessary.
CO4-PO2	Review research literature and analysis of problem identification is necessary.
CO5-PO2	Review research literature and analysis of problem identification is necessary.
CO2-PO6	This promotes practical experience to every individual about the benefits of team work.
CO3-PO6	This promotes practical experience to every individual about the benefits of team work in multidisciplinary actions.
CO1-PO7	This promotes practical experience to every individual about the benefits of team work in decision making.
CO2-PO7	The impact of the professional engineering solutions in societal and environmental contexts is to be analyzed.
CO3-PO7	The impact of the professional engineering solutions in societal and environmental contexts is to be analyzed.
CO4-PO7	The impact of the professional engineering solutions in societal and environmental contexts is to be analyzed.
CO5-PO7	The impact of the professional engineering solutions in societal and environmental contexts is to be analyzed.

CO3-PO8	Apply management principles in a team work and to manage projects
CO5-PO8	Apply management principles in a team work and to manage projects
CO1-PO9	Managerial Economics first principles are flexible and adaptable and hence it can be used and applied in the future course of action
CO2-PO9	Managerial Economics first principles are flexible and adaptable and hence it can be used and applied in the future course of action
CO3-PO9	Income tax analysis must be adaptable w.r.t. Latest trends.
CO4-PO9	Financial Analysis is flexible and adaptable w.r.t latest trends and hence it can be used and applied in the future course of action
CO5-PO9	Budgeting Analysis is flexible and adaptable w.r.t latest trends and hence it can be used and applied in the future course of action
CO1-PO10	Effective communication w.r.t writing effective reports and design documentation, make effective presentations, and give and receive clear instructions is must for future references and to analyze the product growth and development.
CO3-PO10	Effective communication w.r.t writing effective reports and design documentation, make effective presentations, and give and receive clear instructions is must for future references and to analyze the product growth and development.
CO4-PO10	Effective communication w.r.t writing effective reports and design documentation, make effective presentations, and give and receive clear instructions is must for future references and to analyze the product growth and development.
CO5-PO10	Effective communication w.r.t writing effective reports and design documentation, make effective presentations, and give and receive clear instructions is must for future references and to analyze the product growth and development.
CO1-PO11	The engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments must be practically implemented.
CO2-PO11	The engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments must be practically implemented.
CO3-PO11	The engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments must be practically implemented.
CO4-PO11	The engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments must be practically implemented.
CO5-PO11	The engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments must be practically implemented.