INSTITUTE OF AERONAUTICAL ENGINEERING
Dundigal, Hyderabad - 500 043

MECHANICAL ENGINEERING

COURSE DESCRIPTION FORM

Course Title	**MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS**			
Course Code	**A50010**			
Regulation	**R13 - JNTUH**			
Course Structure	Lectures	Tutorials	Practicals	Credits
	4	-	-	4
Course Coordinator	Dr. J S V GOPALA SARMA, Professor & HOD, MBA Department.			
Team of Instructors	Dr. J S V GOPALA SARMA, Professor & HOD, MBA Department. Ms. Azara, Assistant Professor, MBA Department.			

I.   COURSE OVERVIEW:

The present course is designed in such a way that it gives an overview of concepts of Economics. Managerial Economics enables students to understand micro environment in which markets operate how price determination is done under different kinds of competitions. Financial Analysis gives clear idea about concepts, conventions and accounting procedures along with introducing students to fundamentals of ratio analysis and interpretation of financial statements. Break Even Analysis is very helpful to the Business Concern for Decision Making, controlling and forward Strategic Planning. Ratio analysis gives an idea about financial forecasting, financial planning, controlling the business and decision making.

II.   PREREQUISITE(S):

Level	Credits	Periods/ Week	Prerequisites
UG	4	4	Managerial Economics and Financial Analysis

III.   MARKS DISTRIBUTION:

Sessional Marks	University End Exam Marks	Total Marks
Mid Semester Test There shall be 2 midterm examinations. Each midterm examination consists of one objective paper, one subjective paper and two assignments. The objective paper is for 10 marks and subjective paper is for 10 marks, with duration of 1 hour 20 minutes (20 minutes for objective and 60 minutes for subjective paper). Objective paper is set for 20 bits of – multiple choice questions, fill-in the blanks, 10 marks. Subjective paper contains of 4 full questions (one from each unit) of which, the student has to answer 2 questions, each question carrying 5 marks. First midterm examination shall be conducted for 1-2.5 units of syllabus and second midterm examination shall be conducted for 2.6-5 units. 5 marks are allocated for Assignments (as specified by the concerned subject teacher) – first two assignments should be submitted before the conduct of the first mid, and the second two assignments should be submitted before the conduct of the second mid. The total marks secured by the student in each midterm examination are	75	100

evaluated for 25 marks, and the average of the two midterm examination marks shall be taken as the final sessional marks secured by each candidate

IV.   EVALUATION SCHEME:

S. No.	Component	Duration (hours)	Marks
1	I Mid Examination	1 hour and 20 min	20
2	I Assignment lot		5
		TOTAL	25
3	II Mid Examination	1 hour and 20 min	20
4	II Assignment lot		5
		TOTAL	25
MID Examination marks to be considered as average of above 2 MID's TOTAL			
5	EXTERNAL Examination	3	75
6		GRAND TOTAL	100

V   COURSE OBJECTIVES:

At the end of the course, the students will be able to:

I.   To understand the concepts of managerial economics and financial analysis this helps in optimal decision making in business environment.
II.   To be familiar with demand concepts, types of methods or techniques of demand those are used by the entrepreneur or producer.
III.   To have a thorough knowledge on the production theories and cost while dealing with the production and factors of production.
IV.   To introduce the concepts of cost and significance, limitation of Break even analysis.
V.   An ability to study the various pricing methods which are adopted in attracting the potential customers for the different commodities.
VI.   To acquaint the significance of the project management, capital budgeting, estimation of the projects through capital budgeting methods for choosing the best and optimal projects.
VII.   To provide the optimal decisions acquiring the knowledge on financial accounting and management accounting.

VI. COURSE OUTCOMES:

After completing this course the student must demonstrate the knowledge and ability to:

1.   **Describe** the economic activities performed by the businessmen
2.   **Understand** the significance of demand, its analysis, measurement of demand and its forecasting.
3.   **Write** the production function through the Cobb Douglas Production Function.
4.   **Design and implement** different structures of markets covering how price-output is determined under different market structures.
5.   **Design** Different forms of business organizations existing in the modern business.
6.   **Describe** the allocation of capital which plays a vital role in a business organization.
7.   **Apply** the Principle of double entry to give an exposure to the maintenance of books of records and allocation of profits in an enterprise.
8.   **Understand** the Ratio analysis to give an idea about financial forecasting, financial planning, controlling the business and decision making.

Program Outcomes		Level	Proficiency assessed by
PO1	**Engineering knowledge**: Capability to apply the knowledge of Mathematics, Science and Engineering in the field of Mechanical Engineering.	S	Assignments Midterm and University Examinations.
PO2	**Problem analysis**: An ability to analyze complex engineering problems to arrive at relevant conclusions using knowledge of Mathematics, Science and Engineering.	S	Assignments Midterm and University Examinations.
PO3	**Design/development of solutions**: Competence to design a system, component or process to meet societal needs within realistic constraints.	N	---
PO4	**Conduct investigations of complex problems**: To design and conduct research oriented experiments as well as to analyze and implement data using research methodologies.	N	----
pO5	**Modern tool usage**: An ability to formulate, solve complex engineering problems using modern engineering and Information Technology tools.	N	----
PO6	**The engineer and society**: To utilize the Engineering practices, Techniques, skills to meet needs of the health, safety, legal, cultural and societal issues.	S	Assignments, Midterm and University Examinations
PO7	**Environment and sustainability**: To understand impact of Engineering solutions in the societal context and demonstrate the knowledge for sustainable development.	S	Assignments, Midterm and University Examinations
PO8	**Ethics**: An understanding and Implementation of professional and Ethical responsibilities.	S	Assignments, Midterm and University Examinations.
PO9	**Individual and teamwork**: To function as an effective individual and as a member or leader in Multi-disciplinary environment and adopt in diverse teams.	H	Assignments Midterm and University Examinations.
PO10	**Communication**: An ability to assimilate, comprehends, communicate, give and receive instructions to present effectively with engineering	H	Assignments, Midterm and University Examinations

	community and society.		
PO11	**Project management and finance**: An ability to provide leadership in managing complex engineering projects at Multidisciplinary environm ent and to become a professional engineer.	S	Assignments Midterm and University examinations,
PO12	**Life-long learning**: Recognition of the need and an ability to engage in life-long learning to keep abreast with technological changes.	H	Assignments, Midterm, Examinations.

S = Supportive   **H = Highly Related**   **N = None**

VIII. HOW PROGRAM SPECIFIC OUTCOMES ARE ASSESSED:

Program Specific Outcomes		Level	Proficiency assessed by
PSO1	**Professional Skills:** To produce engineering professional capable of synt hesizing and analyzing mechanical systems including allied engineering streams.	H	-----
PSO2	**Design/Analysis:** An ability to adopt and integrate current technologies in the design and manufacturing domain to enhance the employability.	H	Assignments.
PSO3	**Successful Career and Entrepreneurship:** To build the nation, by imparting technological inputs and managerial skills to become Technocrat.	H	Midterm, Examinations.

N-None   **S-Supportive**   **H- Highly Related**

IX.SYLLABUS:

UNIT-I: Introduction & Demand Analysis:

Introduction to Managerial Economics: Definition, Nature and Scope of Managerial Economics – Demand Analysis: Demand Determinants, Law of Demand and its exceptions. Elasticity of Demand: Definition, Types, Measurement and Significance of Elasticity of Demand. Demand Forecasting, Factors governing demand forecasting, methods of demand forecasting

UNIT-II: Production & Cost Analysis:

Theory of Production and Cost Analysis: Production Function – Iso-quants and Iso-costs, MRTS, Least Cost Combination of Inputs, Cobb-Douglas Production function, Laws of Returns, Internal and External Economies of Scale. Cost Analysis: Cost concepts, Opportunity cost, Fixed vs. Variable costs, Explicit costs vs. Implicit costs, out of pocket costs vs. Imputed costs, Break-even analysis, Determination of Break – Even point (Simple Problems) , Managerial Significance of BEA.

UNIT-III: Markets& New Economic Environment:

Market structures: Types of competition, Features of perfect competition, Monopoly and monopolistic competition. Price determination& Price Statistics: Price Output determination in case of perfect competition and monopoly. Pricing objectives and policies of pricing, Methods of pricing. Business features and

evaluation of different forms of Business organization: Sole proprietorship, partnership, Joint Stock Company, public enterprises and their types, New Economic Environment: changing business environment in post-liberalization scenario.

UNIT-IV: Capital Budgeting:

Capital and its significance, types of capital, estimation of fixed and working capital requirements, methods and sources of raising capital- Trading Forecast, Capital budget, Cash Budget. Features of capital budgeting proposals, methods of capital budgeting – payback method, Accounting rate of return (ARR), Net Present Value Method (simple problems).

UNIT-V: Introduction to Financial Accounting and Financial Analysis:

Accounting Concepts and Conventions, Introduction to IFRS– Double – Entry Book keeping, Journal, Ledger, Trial balance, Final accounts (Trading Account, Profit and Loss Account and Balance Sheet with simple adjustments.) Financial Analysis through Ratios: Significance, limitations of Ratio Analysis and Ratios Computation, Analysis and Interpretation of Liquidity Ratios (Current Ratio and quick ratio). Activity Ratios (Inventory turnover ratio and Debtor Turnover ratio), Capital structure Ratios (Debt-Equity ratio, Interest Coverage ratio) and profitability ratios (Gross profit Ratio, Net profit ratio, Operating Ratio, P/E Ratio and EPS), Du Pont Chart.

TEXT BOOKS:

T1: A.R. Aryasri (2007) Managerial Economics and Financial Analysis, 3nd Ed, TMH.

REFERENCE BOOKS:

R1: Managerial Economics, Dwivedi, 5th Ed, Vikas Publication House Pvt.Ltd.
R2: S.N. Maheshwari & S.K.Maheshwari, Financial Accounting, 4th Ed, Vikas Publication House Pvt.Ltd, 2012.
R3: R.Narayana Swamy, Financial Accounting- A managerial Perspective, Pearson,2012.
R4: J.V.Prabhakar Rao & P.V.Rao, Managerial Economics & Financial Analysis, Maruthi Publishers, 2011.
R5: M.Kasi Reddy & Saraswathi, Managerial Economics and Financial Analysis, PHI New Delhi,2012.
R6:Varshney & Maheswari, Managerial Economics, Sulthan Chand, 2009.

X.   COURSE PLAN:

At the end of the course, the students are able to achieve the following course learning outcomes.

Lecture No.	Course Learning Outcomes	Topics to be Covered	Reference
1-2	**Explain** about managerial economics according to the business	**Introduction to Managerial Economics:** Definition, Nature and Scope of Managerial Economics.	T1: 1.3, R1, R4, R5, R6
3-4	**Describe** about demand analysis, the Law of Demand and Demand Function.	**Demand Analysis**: Demand Determinants of Demand, Definitions, Assumptions and Exceptions of Law of Demand and Demand Function.	T1: 2.2, R1, R4,R5 R6
5-8	**Understand** elasticity of the demand of the product, different types, Measurement of Elasticity of Demand and Factors influencing on Elasticity of Demand.	Definitions, Significance of Elasticity of Demand, Types and Measurement of Elasticity of Demand and Factors influencing Elasticity of Demand.	T1: 3.3, R1, R4,R5 R6

Lecture No.	Course Learning Outcomes	Topics to be Covered	Reference
9-11	**State** different methods of Demand Forecasting and the factors governing Demand Forecasting.	Methods of demand forecasting and Factors Governing Demand Forecasting.	T1: 4.6, R1, R4,R5 R6
12-16	**Demonstrate** the Production function, features of Iso-Quants and Iso-Costs, different types of Internal Economies, External Economies and Law of Returns with appropriate examples	Production function, features of Iso-Quants, Iso-Costs, MRTS, Least Cost Combination of Inputs and Cobb-Douglas Production Function, Different types of Internal Economies, External Economies and Law of Returns.	T1:5.3, R1, R4,R5 R6
17	**Illustrate** different types of costs	Cost concepts, fixed vs Variable costs, explicit vs implicit costs, out of pocket costs vs Imputed costs.	T1: 5.29, R1, R4,R5 R6
18	**Explain** the Significance and Limitations of Break-Even Analysis	Break-even Analysis (BEA). Managerial Significance of BEA.	T1: 7.13, R1, R4,R5 R6
19-21	**Calculate** Break-Even Point (Simple Problems)	Determination of Break-Even Point (Simple Problems)	T1: 7.1, R1, R4,R5 R6
22-26	**Illustrate** the features, price-output determination under Perfect Competition, Monopoly and Monopolistic competition Markets.	Market structures: Types of competition, Features of Perfect Competition, Monopoly and Monopolistic competition Markets and determination of price –output under Perfect Competition, Monopoly and Monopolistic competition markets.	T1: 8.4, R1, R4,R5 R6
27-30	**Demonstrate** the Objectives, Policies and Methods of Pricing Strategies and Price Methods.	Objectives and Policies of Pricing-Methods of Pricing: Cost Plus Pricing, Marginal Cost Pricing, Sealed Bid Pricing, Going Rate Pricing, Limit Pricing Market Skimming Pricing, Penetration Pricing, Two-Part Pricing, Block Pricing, Bundling Pricing, Peak Load Pricing, Cross Subsidization	T1:8.21, R1, R4,R5 R6
31-35	**Describe** Features of business, Definitions of Various forms of Business Units.	Characteristic features of Business, Definitions, Features, Merits and Demerits of Sole Proprietorship, Partnership, Joint Stock Company.	T1:9.3, R1, R4,R5 R6
36-38	**State** the Merits & Demerits of Different types of Public Enterprises and Changing Business Environment to Post Liberalization Scenario.	Definitions, Features, Merits and Demerits of Public Enterprises and their types and Changing Business Environment in Post-liberalization scenario	T1: 9.26, R1, R4,R5 R6
39-41	**Explain** the significance and	Capital and its significance, Types	T1: 11.3, R1,

Lecture No.	Course Learning Outcomes	Topics to be Covered	Reference
	classification of capital, Methods and Sources of Raising Finance.	of Capital, Working capital requirements, Methods and sources of rising finance, Trading Forecast, Capital Budget and Cash Budget.	R4,R5 R6
42-45	**Demonstrate** the concept of capital budgeting and allocations of the resources through capital budgeting methods and compute simple problems.	Nature and Significance of capital budgeting, Methods of Capital Budgeting (PBP, ARR, IRR, NPV.PI) Simple Problems.	T1:12.1, R1, R4,R5 R6
46-49	**Illustrate** the Significance of Financial Accounting, Double Entry, Accounts, Accounting Concepts and Conventions	Significance of Financial Accounting and Accounting Terminology and Accounting Cycle.	T1:13.4, R2, R3, R4,R5 R6
50-58	**Explain** the meaning, advantages and Limitations of the Journal, Ledger and Trial Balance and Final Accounts and Solve simple Problems.	Meaning, Advantages and Limitations of the Journal, Ledger and Trial Balance and Final Accounts and Simple Problems from Journal, Ledger, Trail Balance and Final Accounts with simple adjustments.	T1:13.15, R2, R3, R4,R5 R6
59	**Describe** Meaning, Definitions and Limitations of Ratio Analysis	Meaning, Definitions and Limitations of Ratio Analysis.	T1:14.18, R2, R3, R4,R5 R6
60-65	**Compute** different types of Financial Ratios (Problems)	Computation, Analysis and Interpretation of Liquidity Ratios, Activity Ratios, Leverage Ratios and Profitability Ratios.	T1:14.4, R2, R3, R4,R5 R6

XI. MAPPING COURSE OBJECTIVES LEADING TO THE ACHIEVEMENT OF PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Course Objectives	Program Outcomes												Program Specific Outcomes		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
I	H	H				H	H	S	H	S	H	H		H	H
II	S	H				S	S	H	H	S	S	S		H	S
III	H	S				H	H	S	S	H	H	H		S	H
IV	S	H				S	S	S	H	S	S	S		H	H
V	H	S				S	H	H	S	S	S	H		S	S
VI	S	H				H	S	S	H	H	H	S		H	S
VII	H	S				S	H	H	H	S	S	H		S	H

S – Supportive   **H - Highly Related**

XII. MAPPING COURSE OUTCOMES LEADING TO THE ACHIEVEMENT OF PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:

Course Outcomes	Program Outcomes												Program Specific Outcomes		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	S	H				S	H	H	S	H	S	H		H	H
2	H	S				H	S	H	H	S	S	S		H	S
3	H	S				H	H	S	S	H	H	H		S	H
4	S	H				S	S	H	S	H	S	H		H	S
5	S	S				H	S	H	H	S	H	S		S	H
6	H	S				H	H	S	S	S	H	H		H	S
7	S	H				S	S	H	H	S	S	S		S	H
8	S	H				H	H	H	H	S	H	H		H	H

S – Supportive   **H - Highly Related**

Prepared by: Dr. J S V GOPALA SARMA,
              Professor & HOD, MBA Department.

Date: 1 st June, 2017.   **HOD, MECHANICAL ENGINEERING**