

B.E Semester: 7 Automobile Engineering
Subject Name: Economics for Engineers (MA704-N-C)
[Dept. Elect.-4]

A. Course Objective:

- To present a problem oriented in depth knowledge of Economics for Engineers.
- To address the underlying concepts and methods behind Economics for Engineers.

B. Teaching / Examination Scheme:

| Teaching Scheme | | | | Total Credit | Evaluation Scheme | | | | | |
|-----------------|-----|-----|-------|--------------|-------------------|-------|--------------|-------|--------|-------|
| L | T | P | Total | | Theory | | Mid Sem Exam | CIA | Pract. | Total |
| Hrs | Hrs | Hrs | Hrs | | Hrs | Marks | Marks | Marks | Marks | Marks |
| 3 | 0 | 0 | 3 | 3 | 3 | 70 | 30 | 20 | 00 | 120 |

C. Detailed Syllabus:

| Unit No. | Details |
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| 1 | Introduction to Economics: Definitions, Nature, Scope, Difference between Microeconomics & Macroeconomics Theory of Demand & Supply; meaning, determinants, law of demand, law of supply, equilibrium between demand & supply Elasticity; elasticity of demand, price elasticity, income elasticity, cross elasticity |
| 2 | Theory of Production: production function, meaning, factors of production (meaning & characteristics of Land, Labour, capital & entrepreneur), 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, numerical |
| 3 | Markets: meaning, types of markets & their characteristics (Perfect Competition, Monopoly, Monopolistic Completion, Oligopoly) National Income; meaning, stock and flow concept, NI at current price, NI at constant price, GNP, GDP, NNP,NDP, Personal income, disposal income. |
| 4 | Basic Economic Problems: Poverty-meaning, absolute & relative poverty, causes, measures to reduce Unemployment: meaning, types, causes, remedies Inflation; meaning, types, causes, measures to control |
| 5 | 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. |
| 6 | Estimation: Related terminology, Estimating: Importance and aim, objectives, functions, organization of Estimating department, Estimating Procedure, Constituents of Estimation, Costing- Definition, aims, procedure for Costing, types of costs, Costing controls, Difference between Estimating and Costing, Control of Costs, Elements of PPC and Time & Motion Studies, Allowance, Overheads, |

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| | <p>Profit and Pricing Policy.</p> <p>Estimating: Definition, Different types, Methods adopted for estimation, Use of Standard data, parameter estimating, statistical estimating, feedback systems, importance, purpose and functions of estimating, Mensuration.</p> |
| 7 | <p>Costing: Elements of Costs, Costing methodology for raw materials, Products and Services, Nature of Costs Direct, Traceable and Non traceable, Wastage. Determining of Cost of raw materials, manufactured products, labor, indirect expenses, methods of overhead allocation.</p> |
| 8 | <p>Inventory Control: Cost factors in inventory control, inventory carrying cost, ordering cost, EOQ, lead time, safety stock, reorder level, minimum level, max. level, Types of inventory control systems- Perpetual inventory control system, ABC method etc. Valuation of materials issued from store- FIFO, LIFO, etc.</p> |
| 9 | <p>Labour Costing: Introduction, factors influencing wage rate, methods of wage payments for direct and indirect labour time wage system, piece rate system, Wage incentives: different plans,</p> |
| 10 | <p>Depreciation & Break Even Analysis: Introduction, purpose, methods for calculating depreciation-straight line method, Diminishing balance method, sum of year digit method, machine hour basis method, Break even analysis: Introduction, assumptions in break even analysis, important terms and definitions, calculation of breakeven point, advantages and limitations.</p> |

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| Total hours (Theory):48 |
| Total hours (Practical):00 |
| Total hours:48 |

D. Lesson Planning:

| Sr. No. | Date/Week | Unit | Weight age | Topic No |
|---------|---|--------|------------|----------|
| 1 | 1 st ,2 nd ,3 rd | Unit 1 | 20% | 1,2 |
| 2 | 4 th .5 th ,6 th | Unit 2 | 20% | 3,4 |
| 3 | 7 th , 8 th ,9 th | Unit 3 | 20% | 5,6 |
| 4 | 10 th .11 th . 12 th | Unit 4 | 20% | 7,8 |
| 5 | 13 th , 14 th ,15 th ,16 th | Unit 5 | 20% | 9,10 |

E. Instructional Method & Pedagogy

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| 1 | At the start of course, the course delivery pattern , prerequisite of the subject will be discussed |
| 2 | Lecture may be conducted with the aid of multi-media projector, black board, OHP etc. & equal Weight age should be given to all topics while teaching and conduction of all examinations. |
| 3 | Attendance is compulsory in lectures and laboratory, which may carries five marks in overall evaluation. |
| 4 | One/Two internal exams may be conducted and total/average/best of the same may be converted to equivalent of 30 marks as a part of internal theory evaluation. |
| 5 | Assignment based on course content will be given to the student for each unit/topic and will be evaluated at regular interval. It may carry an importance of ten marks in the overall internal evaluation. |
| 6 | Surprise tests/Quizzes/Seminar/Tutorial may be conducted and having share of five marks in the |

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| overall internal evaluation. |
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F. Students Learning Outcomes:

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| The course is intended to provide basic understanding of Economics and Management to engineering students with following aspects: |
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| <ul style="list-style-type: none">• To impart knowledge, with respect to concepts, principles and practical applications of Economics, which govern the functioning of a firm/organization under different market conditions. |
| <ul style="list-style-type: none">• To help the students to understand the fundamental concepts and principles of management; the basic roles, skills, functions of management, various organizational structures and basic knowledge of marketing. |

H. Text Books & Reference Books:

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| 1 | Engineering Economics, R.Paneerselvam, PHI publication. |
| 2 | Fundamentals of Management: Essential Concepts and Applications, Pearson Education, Robbins S.P. and Decenzo David A. |
| 3 | Economics: Principles of Economics, N Gregory Mankiw, Cengage Learning. |
| 4 | Modern Economic Theory, By Dr. K. K. Dewett & M. H. Navalur, S. Chand Publications. |
| 5 | Mechanical Estimating and Costing By B.P. Sinha. Tata McGraw Hill Publishing Co. Ltd. N. Delhi. |
| 6 | Mechanical Estimating and Costing T.R. Banga and S.C.Sharma, Khanna Publishers, Delhi-6. |
| 7 | Industrial Engineering & Operations management by S.K.Sharma & Savita Sharma, Kataria publishers. |