

**YEAR :** III B.Tech **SEMESTER:** II

**COURSE NAME:** ENGINEERING ECONOMICS AND MANAGEMENT

**COURSE CODE:** XXXXXXXX

**BRANCH:** CSE, IT, CSM, CSO & AID

**PREREQUISITE:** Basic Sciences and Humanities.

**COURSE OBJECTIVE:** 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.

**COURSE OUTCOMES:** Students will be able to:

| **SN** | **OUTCOME** | **Cognitive Levels as per Bloom’s Taxonomy** | **Weightage (%)** |
| --- | --- | --- | --- |
| CO1 | The Learner is equipped with the knowledge of estimating the Demand and demand elasticities for a product and Input-Output-Cost relationships. | L1, L2, L3 | 20 |
| CO2 | The Learner is also ready to understand tTOTAL = L1 + L2 + L3 + L4 = 100% (on an average about 2 minutes per mark)he nature of different markets and to have the knowledge of Money & Banking. | L1, L2 | 20 |
| CO3 | The Learner will acquire the knowledge on management, HRM and Marketing. | L1, L2 | 20 |
| CO4 | The Learner will acquire the knowledge to prepare Financial Statements and the techniques of project management. | L1, L2, L3, L4 | 20 |
| CO5 | The Learner can able to evaluate various investment project proposals with the help of capital budgeting techniques for decision making. | L1, L2, L3, L4 | 20 |

**WEIGHTAGE OF BLOOM’S LEGENDS & PERCENTAGE OF QUESTIONS IN EXAMINATIONS:**

L1 (Remembering) = 30 - 40%, L2 (Understanding) = 30 - 40%,

L3 (Applying) = 10 - 20 %, L4 (Analysing) = 10 - 20%,

Easy (%) = 15%-20%, Average (%) = 60% - 70%, Difficult (%) = 15% - 20%

**Note:** This specification weightage in above shall be treated as a general guideline for students, teachers and paper setters. The actual distribution of marks in the question paper may vary slightly.

**DETAILED SYLLABUS:**

**Unit-1: Introduction to Economics and Theory of Production:**

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- 2: Introduction to Markets and Money:**

Markets: meaning, types of markets & their characteristics (Perfect Competition, Monopoly, Monopolistic Completion, Oligopoly) National Income, GNP, GDP, NNP, NDP, Personal income.

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-3: Introduction to Management:**

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-4: Introduction to Accounting & Project Management:**

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 -5: Capital and Capital Budgeting:**

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)

**TEXT BOOKS:**

1. Engineering Economy and Management 1 Edition Pravin Kumar – Wiley Publication.
2. Engineering Economics & Management- Dr. Vilas Kulkarni & HardikBavishi - Vikas Publishing.
3. Aryasri: Managerial Economics and Financial Analysis, 2/e, TMH, 2005. 2. Varshney&Maheswari: Managerial Economics, Sultan Chand, 2003.
4. S A Siddhiqui&AS Siddhiqui , 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.

**ONLINE REFERENCES:**

1. http://www.managementstudyguide.com
2. http://www.tutorialspoint.com

**MICRO-SYLLABUS:**

| **UNIT – I Introduction to Economics and Theory of Production:**  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:**  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:**  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 |
| Marketing Management | Concepts of Marketing |
| Functions of Marketing |
| Product Life Cycle |
| Marketing strategies based on product Life Cycle |
| Channels of distributions. |
|  |  |  |
| **UNIT – IV 7** 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 | 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:**  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 |
| Types of fixed capital, types of working capital |
| Capital Budgeting | Meaning, Nature & scope of capital budgeting |
| Capital budgeting procedure, capital budgeting decisions, method of capital budgeting. |
| Payback period | Meaning, formula, advantages & disadvantages, simple problems |
| Accounting rate of return(ARR) | Meaning, formula, advantages & disadvantages, simple problems |
| 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 |

Code No : XXXXX 

**III B. TECH II SEMESTER REGULAR EXAMINATION MODEL PAPER**

**ENGINEERING ECONOMICS AND MANAGEMENT**

**(CSE, IT, CSM, CSO & AID)**

**Time : 3 Hours Max. Marks : 70**

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**Note :** Answer **ONE** question from each unit **(5 × 14 = 70 Marks)**

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| UNIT-I | | | | CO | BL |
| --- | --- | --- | --- | --- | --- |
| 1. | a) | Define Economics. Explain the difference between Economics and Managerial Economics. | [7M] | CO1 | L1 |
|  | b) | How do you measure Elasticity of Demand? Explain the methods involved in it. | [7M] | CO1 | L2 |
| (OR) | | | |  |  |
| 2. | a) | Explain key terms involved in Break –Even analysis with a neat graph. | [7M] | CO1 | L1 |
|  | b) | Discuss the relationship of Cost and Output in short run and long run. | [7M] | CO1 | L2 |
| UNIT-II | | | |  |  |
| 3. | a) | Explain Oligopoly market structure in detail. | [7M] | CO2 | L2 |
|  | b) | Explain ‘Monetary Policy’, its objectives and tools. | [7M] | CO2 | L1 |
| (OR) | | | |  |  |
| 4. | a) | Explain ‘repo rate’ and ‘reverse repo rate’. | [7M] | CO2 | L2 |
|  | b) | Explain ‘Fiscal Policy’ its objectives and tools. | [7M] | CO2 | L3 |
| UNIT-III | | | |  |  |
| 5. | a) | Define Management. Explain the nature and scope of management. | [7M] | CO3 | L2 |
|  | b) | What is the role of HR Manager in development and growth of an organization? | [7M] | CO3 | L3 |
| (OR) | | | |  |  |
| 6. | a) | What could be the different objectives of management can set for itself? Illustrate. | [7M] | CO3 | L3 |
|  | b) | Explain how market research can be carried out for formulating marketing strategy. | [7M] | CO3 | L2 |
| UNIT-IV | | | |  |  |
| 7. | a) | Explain Accountancy conventions. | [7M] | CO4 | L1 |
|  | b) | Journalize following transactions in the Books of M/S. Telugunadu Industries Ltd., for the month of Oct-15   | **Date** | **Transaction Description** | **Amount Rs.** | | --- | --- | --- | | 01-10-2015 | Business Commenced with Cash | 5,00,000/- | | 03-10-2015 | Deposited in Costal Andhra Bank | 3,00,000/- | | 07-10-2015 | Purchased Goods from M/s. LCB Ltd. | 25,00,000/- | | 09-10-2015 | Sold Goods to M/s. ANL Ltd. | 50,00,000/- | | 15-10-2015 | Purchased Motor Vehicle from M/s. TML Ltd. | 10,00,000/- | | 21-10-2015 | Purchased Office Furniture from M/s. Godrej Ltd. | 2,00,000/- | | 30-10-2015 | Withdrawn Cash for office purpose | 1,00,000/- | | 31-10-2015 | Paid Salaries & Rent in Cash | 75,000/- | | [7M] | CO4 | L3 |
| (OR) | | | |  |  |
| 8. | a) | What are the steps involved in identifying critical path for Project Management? | [4M] | CO4 | L2 |
|  | b) | A PERT network has the following activities with their time estimates given below. You are required to calculate the expected time of activities, draw the network and find the critical path and its duration.   | Activity | Optimistic time | Most likely time | Pessimistic  time | | --- | --- | --- | --- | | 0 – 1 | 2 | 3.5 | 8 | | 0 – 2 | 3 | 3.75 | 6 | | 0 – 3 | 1 | 2.5 | 7 | | 1 – 2 | 3 | 7.5 | 9 | | 1 – 4 | 4 | 5.5 | 10 | | 2 – 4 | 2 | 5 | 8 | | 3 – 4 | 2 | 2.75 | 5 | | 3 – 5 | 3 | 6 | 9 | | 4 – 5 | 2 | 5 | 8 | | [10M] | CO4 | L3 |
| UNIT-V | | | |  |  |
| 9. | a) | Define capital budgeting and explain the steps involved in capital budgeting. | [7M] | CO5 | L1 |
|  | b) | Explain briefly about Average Rate of Return Method. | [7M] | CO5 | L2 |
| (OR) | | | |  |  |
| 10. |  | A company has to select one of the following projects:   | Cash inflows(years) Rs/- | Project A | Project B | | --- | --- | --- | | 1 | 6,000 | 1,000 | | 2 | 2,000 | 2,000 | | 3 | 2,000 | 2,000 | | 4 | 4,000 | 5,000 | | Cost of the Project | 11,000 | 10,000 |   i) Using Net Present Value methods suggest which project is preferable at 10% discount factor.  ii) Using PBP method suggest which project is preferable. | [14M] | CO5 | L3 |

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**THE ABOVE MODEL PAPER ATTAINMENTS OF BLOOM’S TEXONOMY AS FOLLOWS**

**L1: 5\*7 = 35 = 25%**

**L2: 8\*7 = 56 = 40%**

**L3: 5\*7+1\*14 = 49 = 35%**

SIGNATURES OF

COURSE COORDINATER MODULE COORDINATER HOD