

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
SCHEME OF TEACHING AND EXAMINATION FOR
M.TECH.-MASTER OF ENGINEERING MANAGEMENT (MEM)

III Semester: INTERNSHIP

CREDIT BASED

Course Code	Subject	No. of Hrs./Week		Duration of the Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work		I.A.	Exam		
16MEM31	Seminar / Presentation on Internship (After 8 weeks from the date of commencement)	-	-	-	25	-	25	20
16MEM 32	Report on Internship	-	-	-	25	-	25	
16MEM 33	Evaluation and Viva-voce of Internship	-	-	-	-	50	50	
16MEM34	Evaluation of Project Phase 1				50	-	50	1
	Total	-	-	-	100	50	150	21

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IV Semester

CREDIT BASED

Subject Code	Subject	No. of Hrs./Week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Field Work / Assignment / Tutorials		I.A.	Exam		
16MEM41	Human Resource Management	4	--	3	20	80	100	4
16MEM42X	Elective-III	3	-	3	20	80	100	3
16MEM43	Evaluation of Project Phase-II	-	-	-	50	-	50	3
16MEM44	Evaluation of Project Work and Viva-voce	-	-	-	-	100+100	200	10
Total		7	--	06	90	360	450	20

Elective – III	
Sub. Code	Name of the Subject
16 MEM 421	Industrial Marketing
16 MEM 422	Robust Design
16 MEM 423	Modern Trends in Management
16 MEM 424	Advertisement and Publicity

Note:

- 1) Project Phase – I : 6 weeks duration shall be carried out between II and III Semesters. Candidates in consultation with the guides shall carryout literature survey / visit to Industries to finalise the topic of dissertation. .
- 2) Project Phase – II : 16 weeks duration during 4 semester. Evaluation shall be done by the committee constituted comprising of HOD as Chairman, Guide and senior faculty of the Department.
- 3) Project Evaluation: Evaluation shall be taken up at the end of 4 semester. Project work and evaluation and Viva Voce examination shall be conducted.
 - a. Internal Examiner shall carry out the evaluation for 100 marks
 - b. External Examiner shall carry out the evaluation for 100 marks.
 - c. The average of marks allotted by the internal and external examiner shall be the final marks of the project evaluation.
 - d. Viva-Voce examination of project work shall be conducted jointly by Internal and External examiner for 100 marks

HUMAN RESOURCE MANAGEMENT

Sub Code	: 16 MEM 41	IA Marks	: 20
No. of Lecture Hrs/week	: 04	Exam Hours	: 03
Total Lecture Hrs	: 50	Exam Marks	: 80

MODULE 1

Introduction to Human Resources: Importance of Human Resources – Human Resource Planning, Job Analysis and Methods

Recruitment – Recruiting Sources: Recruiting Efforts with possible constraint – ability to attract incumbents.

MODULE 2

The Selection Process: Cost of Selection – Discrete Selection Process – The Comprehensive Approach – Key Elements in successful Predictors – Selection Devices – Employment Tests and Interviews – Job ‘Previews and Background Investigation – Socializing the New Employee..

Employee Training: Determination of Training Needs and Priorities – Formal Employee Training Methods – Methods for Training Managers Evaluating Training Effectiveness.

MODULE 3

Career Development: Value of Effective Career Development – External versus Internal Dimensions to a career – Career Stages.

Motivating the Employees: Different Theories and Approaches to work Motivation – Job Design. Work scheduling and Motivation – Performance Appraisals – Rewarding the Productive Employee.

MODULE 4

Compensating the Work Force: Compensation Administration – Factors influencing the Compensation Administration – Job Evaluation and Pay Structure – Incentive Compensation Plans – Benefits and Services.

MODULE 5

Maintaining the Work Force: Labor Relations – some Legislation governing Labor Relations – Safety and Health of Workers – Combating Stress and Burnout Problems – Employee Discipline – disciplinary Actions – collective bargaining process.

REFERENCE BOOKS:

1. **Principles of personnel management** – Flipppo – Mc Graw Hill.
2. **Personnel principles and policies for modern manpower** – Yoder Prentice Hall India.
3. **Personnel/Human Resource Management** – Terry Leap & Michael Crinocollier Macmillan publishers.
4. **Personnel and Human Resource Management** – Memoria Himalaya publishing Company.

INDUSTRIAL MARKETING

Sub Code	: 16 MEM 421	IA Marks	: 20
No. of Lecture Hrs/week	: 03	Exam Hours	: 03
Total Lecture Hrs	: 40	Exam Marks	: 80

MODULE 1

Introduction: The Industrial Marketing Concept Marketing System: Participant, Channels, Contracts of Sale, Franchise Agreements Loyalty, Confidence and Reciprocity.

Demand and Product Characteristics: Market levels and product type. Derived demand; Influence of ultimate buyer, business conditions, Financial conditions, Influence of price.

MODULE 2

Industrial Customer: Buyer Motives: The core variables, Quality, Service, Price, Savings assurance of supply and buyer temperament, Buyer characteristics, Customer types.

Marketing Strategy: The concept of strategy Mission Strategy, Operating, plans, Organizational Plan and logistical plans; choice of strategy components.

MODULE 3

The Channel Component: Industrial Distributors, Geographical Distributions, Size, Characteristics. Condition influencing channel structure, Intensive versus selective strategy.

The Price Component: Condition affecting price: Condition affecting price: Competition, firm size product type, Direct and Indirect Costs. The nature of demand. Pricing decisions, New Markets versus established markets pricing policies; Net pricing; Discount pricing, trades discount, Quantity discounts and cash discounts. Legal considerations and pricing methods.

MODULE 4

The Promotional Component: Advertising functions, motivating distributions sales and message case of advertising agencies. Sales promotion and public relations promotional letters and novelties personal selling and selling support.

MODULE 5

Marketing Control: Strategic goals. Identifying market opportunity. Short-term goals expense based goals. The market and sales budget. Budgetary Control, the process of control. Comprising standards and performance. Corrective action.

TEXT BOOKS:

1. **Industrial Marketing** -Richard M. Hill.Ralph. S. Alexander and James S. Cross. Published by AITBS, New Delhi.
2. **Industrial Marketing** - Phadtare, PHI Pvt., Ltd.
3. **Industrial Marketing - A process of creating and maintaining exchanges-** Krishnamachryuly Csg, Lalitha R - Jaico Book House.

ROBUST DESIGN

Sub Code	: 16 MEM 422	IA Marks	: 20
No. of Lecture Hrs/week	: 03	Exam Hours	: 03
Total Lecture Hrs	: 40	Exam Marks	: 80

MODULE 1

Quality by Experimental Design : Quality, western and Taguchi quality philosophy, Elements of cost, Noise factors causes of variation, Quadratic loss function and variation of quadratic loss functions. **Robust Design** : Steps in robust design : parameter design and tolerance design, reliability improvement through experiments, illustration through numerical examples.

Experimental Design: Classical experiments: factorial experiments, terminology, factors. Levels, Interactions, Treatment combination, randomization, 2-level experimental design for two factors and three factors. 3-level experiment designs for two factors and three factors, factor effects, factor interactions, Fractional factorial design, Saturated design, Central composite designs, Illustration through numerical examples.

MODULE 2

Measures of Variability : Measures of variability, Concept of confidence level, Statistical distributions : normal, log normal and Weibull distributions. Hypothesis testing, Probability plots, choice of sample size illustration through numerical examples.

Analysis and interpretation of experimental data: Measures of variability, Ranking method, column effect method and plotting method, Analysis of variance (ANOVA), in factorial experiments : YATE's algorithm for ANOVA, Regression analysis, Mathematical models from experimental data, illustration through numerical examples.

MODULE 3

Taguchi's Orthogonal Arrays : Types orthogonal arrays, Selection of standard orthogonal arrays, Linear graphs and interaction assignment, dummy level technique, Compound factor method, modification of linear graphs, Column merging method, Branching design, Strategies for constructing orthogonal arrays.

MODULE 4

Signal to Noise ratio (S-N Ratios) : Evaluation of sensitivity to noise, Signal to noise ratios for static problems, Smaller – the – better types, Nominal – the – better – type, larger – the- better – type. Signal to noise ratios for dynamic problems, Illustrations through numerical examples.

MODULE 5

Parameter Design and Tolerance Design : Parameter and tolerance design concepts, Taguchi's inner and outer arrays, Parameter design strategy, Tolerance design strategy, Illustrations through numerical examples.

Reliability Improvement Through Robust Design : Role of S-N ratios in reliability improvement ; Case study; Illustrating the reliability improvement of routing process of a printed wiring boards using robust design concepts.

TEXT BOOKS:

1. **Quality Engineering using Robust Design** - Madhav S. Phadake: Prentice Hall, Englewood Cliffs, New Jersey 07632, 1989.
2. **Design and analysis of experiments** - Douglas Montgomery: Willey India Pvt. Ltd., V Ed., 2007.
3. **Techniques for Quality Engineering** - Phillip J. Ross: Taguchi 2nd edition. McGraw Hill Int. Ed., 1996.

REFERENCE BOOKS:

1. **Quality by Experimental Design** - Thomas B. Barker : Marcel Dekker Inc ASQC Quality Press, 1985
2. **Experiments planning, analysis and parameter design optimization** - C.F. Jeff Wu, Michael Hamada: John Willey Ed., 2002.

3. **Reliability improvement by Experiments** - W.L. Condra, Marcel Dekker: Marcel Dekker Inc ASQC Quality Press, 1985

MODERN TRENDS IN MANAGEMENT

Sub Code	: 16 MEM 423	IA Marks	: 20
No. of Lecture Hrs/week	: 03	Exam Hours	: 03
Total Lecture Hrs	: 40	Exam Marks	: 80

MODULE 1

Just in Time Ideas: Introduction of JIT Concepts, Difference between Conventional Material Control technique and JIT, Steps in implementing JIT, J.I.T. as a management Kaizen concept, Feasibility of JIT concepts to Indian Industries.

MODULE 2

Implementing a Program for continuous Improvement: Japanese concept of continuous Improvement. (KAIZEN mean continuous Improvement), Innovation concept of Improvement, Need for continuous improvement, Steps in implementing continuous improvement.

MODULE 3

Quality Circles: Definition of quality circles, Quality circles as a tool for problem solving, Q.C. as a group oriented KAIZEN.

MODULE 4

Kanban System: Definition of KANBAN, Difference between PULL & PUSH Systems of Material Control, KANBAN as a Push System, KANBAN as JIT concept.

MODULE 5

Concurrent Engineering: Definition of Concurrent Engineering. Design for Manufacturing and Assembly (DFMA), Concurrent Engineering, Team, Advantages of concurrent Engineering.

REFERENCE BOOKS:

1. **Just in Time Manufacturing** - Amaldo Hernandez - PH International.
2. **Just in Time - Productivity Process** - David Hutehins - Jaco Publications.

ADVERTISEMENT & PUBLICITY

Sub Code	: 16MEM 424	IA Marks	: 20
No. of Lecture Hrs/week	: 03	Exam Hours	: 03
Total Lecture Hrs	: 40	Exam Marks	: 80

MODULE 1

Need, Importance and Scope: Advertisability, advertisability goals, legal, ethical and social aspects of advertising and public relations.

Types of advertising and communications in advertising.

MODULE 2

Advertisement Design: Copy Design, mechanics of copy preparations, essentials of a good copy, layout design and visualization effects, advertising theme.

Media Decisions: Types of media, Media mix decisions, Criteria for evaluation of media effectiveness.

MODULE 3

Rural Advertising: Characteristics, Problems and Prospects.

Advertising Aids: Trade Marks, Slogan package, point of purchase, displays etc.

MODULE 4

Measurement of Advertising Effectiveness: Methods and problems.

Advertising Agency: Functions and Usefulness, Types, Dealing with agency, advertising Agency versus own, advertising department, advertising agencies in India.

MODULE 5

Industrial and consumer goods and services advertising.

Advertising Planning: Timing and Scheduling, Advertisement Budget, Types and sizes. Approaches to determining advertising budgets, limitations, advertising research.

REFERENCE BOOKS:

1. **Advertising Management** – David A. Aaker.
2. **The Systematic Approach to Advertising Creativity** – Bake.
3. **Advertising: The Process and Practice** – Engel.
4. **Advertising in Business and Society** – William M, Weil Bacher.

