



# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad -500 043

## MASTER OF BUSINESS ADMINISTRATION

### COURSE DESCRIPTOR

|                   |  |           |         |            |         |
|-------------------|--|-----------|---------|------------|---------|
| Course Title      | MANAGEMENT OF TECHNOLOGY                   |           |         |            |         |
| Course Code       | CMB015                                     |           |         |            |         |
| Programme         | MBA  |           |         |            |         |
| Semester          | IV   |           |         |            |         |
| Course Type       | CORE                                       |           |         |            |         |
| Regulation        | IARE-R16                                   |           |         |            |         |
| Course Structure  | Theory                                     |           |         | Practical  |         |
|                   | Lectures                                   | Tutorials | Credits | Laboratory | Credits |
|                   | 3  | -         | 3       | -          | -       |
| Chief Coordinator | Mr K Hari Krishna, Assistant Professor,MBA |           |         |            |         |
| Course Faculty    | Mr K Hari Krishna, Assistant Professor,MBA |           |         |            |         |

#### I. COURSE OVERVIEW:

The course will make them learn the basic theory of Business law encompasses all of the laws that dictate how to form and run a business. This includes all of the laws that govern how to start, buy, manage and close or sell any type of business. Business laws establish the rules that all businesses should follow. Business law addresses the different types of business organizations. There are laws regarding how to properly form and run each type. This includes laws about entities such as corporations, partnerships and limited liability companies

#### II. COURSE PRE-REQUISITES:

| Level | Course Code | Semester | Prerequisites |
|-------|-------------|----------|---------------|
| -     | -           | -        | -             |

#### III. MARKS DISTRIBUTION:

| Subject                  | SEE Examination | CIA Examination | Total Marks |
|--------------------------|-----------------|-----------------|-------------|
| Management of Technology | 70 Marks        | 30 Marks        | 100         |

#### IV. DELIVERY / INSTRUCTIONAL METHODOLOGIES:

|   |                        |   |          |   |              |   |        |
|---|------------------------|---|----------|---|--------------|---|--------|
| ✓ | Chalk & Talk           | ✓ | Quiz     | ✓ | Assignments  | ✗ | MOOCs  |
| ✓ | LCD / PPT              | ✓ | Seminars | ✗ | Mini Project | ✗ | Videos |
| ✗ | Open Ended Experiments |   |          |   |              |   |        |

#### V. EVALUATION METHODOLOGY:

The course will be evaluated for a total of 100 marks, with 30 marks for Continuous Internal Assessment (CIA) and 70 marks for Semester End Examination (SEE). Out of 30 marks allotted for CIA during the semester, marks are awarded by taking average of two CIA examinations or the marks scored in the make-up examination.

**Semester End Examination (SEE):** The SEE is conducted for 70 marks of 3 hours duration. The syllabus for the theory courses is divided into five units and each unit carries equal weight age in terms of marks distribution. The question paper pattern is as follows. Two full questions with “either” or “choice” will be drawn from each unit. Each question carries 14 marks. There could be a maximum of two sub divisions in a question.

The emphasis on the questions is broadly based on the following criteria:

|      |  |
|------|--|
| 50 % | To test the objectiveness of the concept.  |
| 50 % | To test the analytical skill of the concept OR to test the application skill of the concept. |

#### **Continuous Internal Assessment (CIA):**

CIA is conducted for a total of 30 marks (Table 1), with 25 marks for Continuous Internal Examination (CIE), 05 marks for Quiz/ Alternative Assessment Tool (AAT).

Table 1: Assessment pattern for CIA

| Component          | Theory   |            | Total Marks |
|--------------------|----------|------------|-------------|
| Type of Assessment | CIE Exam | Quiz / AAT |             |
| CIA Marks          | 25       | 05         | 30          |

#### **Continuous Internal Examination (CIE):**

Two CIE exams shall be conducted at the end of the 8<sup>th</sup> and 16<sup>th</sup> week of the semester respectively. The CIE exam is conducted for 25 marks of 2 hours duration consisting of two parts. Part–A shall have five compulsory questions of one mark each. In part–B, four out of five questions have to be answered where, each question carries 5 marks. Marks are awarded by taking average of marks scored in two CIE exams.

#### **Alternative Assessment Tool (AAT):**

This AAT enables faculty to design own assessment patterns during the CIA. The AAT converts the classroom into an effective learning centre. The AAT may include tutorial hour/classes, seminars, assignments, term paper, open ended experiment, five minutes video, MOOCs etc.

## VI. HOW PROGRAM OUTCOMES ARE ASSESSED:

| Program Outcomes (POs) |   | Strength | Proficiency assessed by |
|------------------------|---|----------|-------------------------|
| PO1                    | <b>Managerial Skills:</b> Apply knowledge of management theories and practices to solve business problems.  | 2        | Seminar                 |
| PO2                    | <b>Decision making Skills:</b> Foster Analytical and critical thinking abilities for data-based decision making.  | 2        | Assignments             |
| PO4                    | <b>Communication Skills:</b> Ability to understand, analyze and communicate global, economic, legal, and ethical aspects of business.                       | 3        | Guest lectures          |
| PO5                    | <b>Leadership Skills:</b> Ability to lead themselves and others in the achievement of organizational goals, contributing effectively to a team environment. | 2        | Seminar                 |
| PO6                    | <b>Entrepreneurial Skills:</b> Ability to demonstrate the skills and evaluate issues related to entrepreneurship and to develop as entrepreneurs.           | 2        | Seminar                 |
| PO7                    | <b>Strategic analysis:</b> Ability to conduct strategic analysis using theoretical and practical applications.  | 1        | Assignments             |
| PO8                    | <b>Technology Skills:</b> Inculcate and develop technical skills to face the competitive world successfully.  | 3        | Guest lectures          |

**3 = High; 2 = Medium; 1 = Low**

## VII. COURSE OBJECTIVES :

| The course should enable the students to: |   |
|---|---|
| I   | Manage the selection and initiation of individual projects and of portfolios of projects in the enterprise.   |
| II  | Conduct project planning activities that accurately forecast project costs, timelines, and quality. Implement processes for successful resource, communication, and risk and change management. |
| III                                       | Demonstrate effective project execution and control techniques that result in successful projects.  |
| IV  | Conduct project closure activities and obtain formal project acceptance.  |

## VIII. COURSE OUTCOMES (COs):

| CO Code   | CO's | At the end of the course, the student will have the ability to:   | PO's Mapped | Strength of Mapping |
|-----------|------|---|-------------|---------------------|
| CMB015.01 | CO 1 | Understand the main source of conceptual learning skills in today's business environment.                         | PO1         | 2                   |
| CMB015.02 | CO 2 | Analyze financial performance of an organization  | PO1         | 2                   |
| CMB015.03 | CO 3 | Evaluate the organizational decisions with consideration of the political, legal and ethical aspects of business. | PO2         | 3                   |
| CMB015.04 | CO 4 | Assess strengths, weaknesses, opportunities and threats of the business environment                               | PO2         | 2                   |
| CMB015.05 | CO 5 | Recognize the diversity of types of innovation, innovators and innovation settings.                               | PO4         | 3                   |

| CO Code   | CO's  | At the end of the course, the student will have the ability to:  | PO's Mapped | Strength of Mapping |
|-----------|-------|--|-------------|---------------------|
| CMB015.06 | CO 6  | Evaluate functions using various types of nature and extent of technological change and innovation   | PO4         | 3                   |
| CMB015.07 | CO 7  | Critically assess and explain key current issues in our understanding of innovation as a field of study.   | PO5         | 2                   |
| CMB015.08 | CO 8  | Analyze and articulate ideas in group settings to a range of audiences to demonstrate effective writing skills, active listening skills and foster open communication. | PO6         | 2                   |
| CMB015.09 | CO 9  | Understand and articulate ethical issues of making decisions consistent with societal and organizational standards.  | PO6         | 2                   |
| CMB015.10 | CO 10 | Recognizing the need for technology and demonstrating a desire for continuous change process.  | PO7         | 1                   |
| CMB015.11 | CO 11 | Anticipate the local and global impact of decisions to remain current in technological development and aspects of current issues, local, national, and international.  | PO7         | 1                   |
| CMB015.12 | CO 12 | Analyze the leadership, motivation, and feedback to team members .   | PO8         | 3                   |

**3 = High; 2 = Medium; 1 = Low**

**IX. MAPPING COURSE OUTCOMES LEADING TO THE ACHIEVEMENT OF PROGRAM OUTCOMES:**

| COs   | Program Outcomes (POs) |     |     |     |     |     |     |     |
|-------|------------------------|-----|-----|-----|-----|-----|-----|-----|
|       | PO1                    | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 |
| CO 1  | 2                      |     |     |     |     |     |     |     |
| CO 2  | 2                      |     |     |     |     |     |     |     |
| CO 3  |                        | 2   |     |     |     |     |     |     |
| CO 4  |                        | 2   |     |     |     |     |     |     |
| CO 5  |                        |     |     | 3   |     |     |     |     |
| CO 6  |                        |     |     | 3   |     |     |     |     |
| CO 7  |                        |     |     |     | 2   |     |     |     |
| CO 8  |                        |     |     |     |     | 2   |     |     |
| CO 9  |                        |     |     |     |     | 2   |     |     |
| CO 10 |                        |     |     |     |     |     | 1   |     |
| CO 11 |                        |     |     |     |     |     | 1   |     |
| CO 12 |                        |     |     |     |     |     |     | 3   |

**3 = High; 2 = Medium; 1 = Low**

## X. ASSESSMENT METHODOLOGIES – DIRECT

|                      |                          |              |                         |              |          |               |      |
|----------------------|--------------------------|--------------|-------------------------|--------------|----------|---------------|------|
| CIE Exams            | PO1,PO 2, PO5, PO 6, PO7 | SEE Exams    | PO1,PO2, PO5, PO 6, PO7 | Assignments  | PO2, PO7 | Seminars      | PO 5 |
| Laboratory Practices | -                        | Student Viva | -                       | Mini Project | -        | Certification | -    |
| Term Paper           | -                        |              |                         |              |          |               |      |

## XI. ASSESSMENT METHODOLOGIES - INDIRECT

|   |  |   |                           |
|---|--|---|---------------------------|
| ✓ | Early Semester Feedback                | ✓ | End Semester OBE Feedback |
| ✗ | Assessment of Mini Projects by Experts |   |                           |

## XII. SYLLABUS

|  |  |
|--|--|
| <b>UNIT-I</b>  | <b>TECHNOLOGICAL INNOVATION:</b>                         |
| The need for a conceptual approach, technological innovation as a conversion process factors contributing to successful technological innovation. Strategies for research and development : research and development as a business, resource allocation to research and development, research and development strategy in the decision making process, selection and implementation of research and development strategy, research and development and competitive advantage, new product development techniques for Creative problem solving. |  |
| <b>UNIT-II</b>   | <b>FINANCIAL EVALUATION OF RESEARCH AND DEVELOPMENT:</b> |
| Financial evaluation of research and development projects: the need for cost effectiveness, financial forecasts, risk as a factor in financial analysis, project selection formulae and allocation of resources, DCF and other techniques of evaluating research and development ventures.   |  |
| <b>UNIT-III</b>  | <b>RESEARCH AND DEVELOPMENT</b>                          |
| Program planning and control, portfolio planning, project planning and control, project termination, resource allocation and management. New product development: new product development as a competitive strategy, market research for developing new Products.<br>Commercialization of research outcomes, industrial design, product architecture and design for manufacture, developing indigenous substitute for raw materials.   |  |
| <b>UNIT-IV</b>   | <b>TECHNOLOGICAL FORECASTING FOR DECISION MAKING</b>     |
| The definition of technological forecasting, forecasting, system inputs and outputs, classification of forecasting techniques, organization for technological, forecasting, current status.  |  |
| <b>UNIT-V</b>  | <b>TRANSFER OF TECHNOLOGY</b>                            |
| Transfer of technology: modes of technology transfer, price of technology transfer, negotiation for price Of management of technology.   |  |
| <b>Text Books:</b>   |  |
| 1. Lucy C. Morse , Daniel L. Babcock : Managing Engineering and Technology (6th Edition),PersonKhandwala: Corporate Creativity, TMH, 2015.<br>2. Norma Harrison and Samson: Technology management Text and cases, TMH.   |  |
| <b>Reference Books:</b>  |  |
| 1. RamaswamyNamakumari, “Marketing Management”, TMH 5 <sup>th</sup> Edition, 2013.<br>2. McGraw Hill, Boston, 2015.  |  |

### XIII. COURSE PLAN:

The course plan is meant as a guideline. Probably there may be changes.

| Lecture No | Topics to be covered   | Course Outcomes (COs) | Reference           |
|------------|--|-----------------------|---------------------|
| 1-2        | Understand the different between conceptual approach and technology.                           | CO 1                  | T1:22.5<br>R1:2.3   |
| 3-4        | Understand the technological innovation and conversion of successful technological strategies. | CO 2                  | T1:22.5<br>R1:2.4   |
| 5-6        | Understand the research development and types of allocation in business.                       | CO 2                  | T1:22.6<br>R1:2.6   |
| 7-9        | Learn the development of business development ideas in resource allocation                     | CO 3                  | T1:22.7<br>R1:4.4   |
| 10-12      | Apply different logic of company strategies in financial analysis.                             | CO 3                  | T1:22.7<br>R1:4.10  |
| 13-15      | Understand and build the company management..  | CO 4                  | T1:22.8<br>R1:4.15  |
| 16-18      | Identify the redundant terms company latest amendments in technology.                          | CO 4                  | T1:22.9<br>R1:5.4   |
| 19-20      | Apply the company's design in architecture and management functions.                           | CO 5                  | T1:22.9<br>R1:5.8   |
| 22-24      | Understand the technological forecasting   | CO 5                  | T1:23.10<br>R1:6.8  |
| 25-28      | Understand the modes of technology transfer.   | CO 5                  | T1:23.10<br>R1:6.13 |
| 29-31      | Analyze the analysis of development strategy.  | CO 6                  | T1:23.9<br>R1:7.5   |
| 32-33      | Analyze the characteristics of forecasting current status.                                     | CO 6                  | T1:23.10<br>R1:7.5  |
| 34-35      | Learn the types of substitute for raw materials.   | CO 7                  | T1:23.10<br>R1:8.1  |
| 36-37      | Understand how macro environment is useful in industrial level.                                | CO 8                  | T1:23.1<br>R1:9.2   |
| 38-39      | Analyze the development techniques in creative problem solving.                                | CO 9                  | T1:23.1<br>R1:9.4   |
| 40-41      | Understand the project selection formulae and allocation of resources.                         | CO 10                 | T1:23.1<br>R1:9.9   |
| 42-45      | Illustrate the causes of techniques of evaluating research and development ventures.           | CO 11                 | T1:23.1<br>R1:9.10  |

### XIV. GAPS IN THE SYLLABUS - TO MEET INDUSTRY / PROFESSION REQUIREMENTS:

| S No | Description  | Proposed actions | Relevance with POs |
|------|--|------------------|--------------------|
| 1    | Study of technological innovation.                     | Seminars         | PO 1               |
| 2    | Historical reasons of R&D and new product development. | Guest lectures   | PO 4               |

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