

GUJARAT TECHNOLOGICAL UNIVERSITY

MASTERS IN TECHNOLOGICAL MANAGEMENT-MTM DUAL DEGREE PROGRAMME

Semester – IX (W.e.f.August2015)

Subject: Technology Management

Subject Code : 4290103

1. Course Objectives:

At the end of the course, students should be able to answer the following questions:

- What is the value of IT to organizations?
- What are the different types of technology forecasts and their uses?
- Who are the players in IT: Leaders or Managers? the CIO, the project manager, the technical staff, and process manager
- What are the major management trends that affect IT deployment and management?

2. **Course Duration:** The course duration is of 36 sessions of 75 minutes each i.e. 45 hours.

3. Course Contents:

Module No:	Module Contents	No. of Sessions	Marks (70 External Exam)
I	The Dynamics of Technology Change The effect of technology change on business success and failure. Dynamics of technological change: incremental and disruptive. Product life cycles and dominant designs. The learning curve. Technology vision and corporate strategy	7	17
II	Technology Forecasting Different types of technology forecasts and their uses. Why forecasts for new technologies go wrong. What is predictable and what is not. Quantitative forecasting methodology for production costs and product sales. Modeling by comparison with similar products.	7	17
III	Disruptive Technology Change What leads to successful introduction of new technologies; what leads to failures? Issues in the	7	18

	development of new high tech products. The innovators dilemma. Crossing the chasm: Why good companies fail to make the leap. The whole product.		
IV	Managing Risk; Scenario Planning Risk and exposure. R & D portfolio management. Real options. The use of scenarios for “planning” in an uncertain world. Risks and rewards of outsourcing. Creating the future instead of forecasting: learning by doing. Hi Tech marketing : Hi Tech marketing over the technology life cycle.	7	18
V	Practical Module: Students should observe different types of technology forecasts and their uses. Why forecasts for new technologies go wrong. What is predictable and what is not prepare a report and give the presentation in the class.	8	20 Marks of CEC Internal Evaluation

4. Teaching Methods:

The course will use the following pedagogical tools:

- Case discussions. (Appropriate cases may be used to teach all above modules)
- Discussion on issues and techniques
- Projects/Assignments/Quiz/Class Participation, etc.

5. Evaluation:

A	Projects/ Assignments/ Quizzes/ Individual or group Presentation/ Class participation/ Case studies etc	Weightage 50 marks (Internal Assessment)
B	Mid-Semester Examination	Weightage 30 marks (Internal Assessment)
C	End –Semester Examination	Weightage 70 marks (External Assessment)

6. Session Plan:

Nos.	Topic
1 -2	Overview of use of Technology in Management
3-4	The effect of technology change on business success
5-7	Product life cycles and dominant designs.
8-9	The learning curve
10-12	Different types of technology forecasts and their uses
13-14	Quantitative forecasting methodology for production costs and product sales
15-17	Introduction of new technologies; what leads to failures?
18-21	Decisions Involving Short Run Alternative choices, Pricing Decisions
22-24	Issues in the development of new high tech products
25-26	Risk and exposure. R & D portfolio management
27-28	Creating the future instead of forecasting: learning by doing.

29-36	Practical Module: Students should observe different types of technology forecasts and their uses. Why forecasts for new technologies go wrong. What is predictable and what is not prepare a report and give the presentation in the class.
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7. Reference Books:

- A. Schwalbe, K. Information Technology Project Management, Course Technology, 4th edition, 2005
- B. Weill, P., and Ross, J. IT Governance, Harvard Business School Press, 2004
- C. Broadbent, M and Kitzis, E. The New CIO Leader: Setting the Agenda and Delivering Results, Harvard Business School Press, 2004 (Summary Only)
- D. Carr, N. Does IT Matter?, Boston, MA: Harvard Business School Press, 2004.