



# GUJARAT TECHNOLOGICAL UNIVERSITY

**Master of Engineering**

**Subject Code: 3734605**

**Semester – III**

**Subject Name: Strategic Technology Management**

**Type of course: Program Elective V**

**Prerequisite: Nil**

**Rationale:**

The aim of this course is to make students understand and appreciate the importance of strategic management in the industrial and business systems. Students can develop understanding of strategic management processes. The course is also aimed at making students aware of the aspects of technology management.

**Teaching and Examination Scheme:**

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
3	0	0	3	70	30	0	0	100

**Content:**

Sr. No.		Total Hrs
1	<b>Introduction to Strategic Management:</b> Basic Concept of Strategic Management, Vision, Mission, Objectives, Business Policy, Corporate Strategy, Impact of globalization, internet and E-Commerce, Basic Model of Strategic Management, Strategic Decision Making, Role of Strategic Management in Global Competitiveness.	07
2	<b>Strategic Management Practices:</b> SWOT Analysis, Various Corporate Strategies: Growth/Expansion, Diversification, Stability, Retrenchment & Combination Strategy. Process of Strategic Planning, Stages of corporate development, Corporate Restructuring, Mergers & Acquisitions, Strategic Alliances, Portfolio Analysis, Corporate Parenting, BCG Model, Porters Model.	08
3	<b>Introduction to Technology Management:</b> Technology and competition, technology acquisition. Integration of strategic planning and technology planning. Key performance factors for technology management, Understanding Management of Technology, Key concepts – importance – issues. Technology development and society-Technology and Corporate growth, Technology forecasting, Technology innovation and applied research, Technology transfer- Process of technological change – Innovation technology evaluation, Adoption and diffusion.	08



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4	<b>Technology Strategy:</b> Technology intelligence – collaborative mode, Appropriation of technology – Deployment in new products, simultaneous engineering, Development in the value chain.	08
5	<b>Managing Technology (A):</b> Technology evaluation and financing – Evaluation of R & D projects, Budgeting and cost control changing role of R & D.	06
6	<b>Managing Technology (B):</b> Management of Manufacturing technology- Product development- Market development – corporate cultures – technology audits.	08
<b>Total hours</b>		<b>45</b>

### Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	10	30	30	10	10

**Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)**

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

### Reference Books:

- 1 Managing Engineering Technology, Babcock D.L. Prentice Hall.
- 2 Concepts in Strategic Management and Business Policy, Wheelen Thomas, Hunger J. David and Rangarajan Krish, Pearson Education
- 3 Strategic Management of Technology and Innovation, Burgelman et.al Tata McGraw Hill
- 4 Cases in Strategic Management, Budhiraja S.B. and Athreya M.B. -, Tata Mc Graw Hill
- 5 Managing Technology and Innovation for competitive Advantage, Narayanan U.K. Pearson Education, Asia.
- 6 Managing Technology – competing Through New Ventures, Innovation and Corporate Research, Betz F., Prentice Hall.
- 7 Managing Technology - The Strategic Vies, Lowell W. Steele, McGraw Hill.
- 8 Business Policy and Strategic Management, Kazmi Azar - Tata Mc Graw Hill
- 9 Strategic Management: Concepts and Cases, Thomson, Tata Mc Graw Hill
- 10 Business Policy and Strategy, Cliff Bowman, Prentice Hall of India
- 11 Strategic Technology management, Cleland and Bursic Amacom, Newyork.
- 12 Technology Strategy and the Firm, Mark Dodgson, Longman.



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## Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	Understand the concept of strategic management.	20
CO-2	Appreciate the importance of strategic management in overall success of any business/industrial sector.	30
CO-3	Understand the concept and process of technology management.	30
CO-4	Understand how to manage technology	20

**Term Work: Nil**

**List of Experiments: Nil**

**Major Equipment: Nil**

**List of Open Source Software/learning website:**

1. The concerned faculty member shall provide the list of peer reviewed Journals and Tier-I and Tier-II Conferences relating to the subject (or relating to the area of thesis for seminar) to the students in the beginning of the semester.
2. NPTEL