

BA5027 PRODUCT DESIGN

DETAILED SYLLABUS

OBJECTIVE

Understand the application of structured methods to develop a product.

UNIT I INTRODUCTION

Defining Product, Types of products. Product development – characteristics, duration and cost, challenges. Development Process: Generic Process- Adapting to product types. Evaluation – decay curve – cost expenditure curve.

UNIT II PRODUCT PLANNING

Product Planning Process – Steps. Opportunity identification – breakdown structure- product development charter. Product Life Cycle. Technology Life Cycle - Understanding Customer Needs - Disruptive Technologies- Product Specification - Concept Generation – Activity-Steps- Techniques.

UNIT III PRODUCT CONCEPT

Concept Selection – Importance, Methodology, concept Screening, Concept Scoring. Concept Testing. Product Architecture- Definition, Modularity, implication, Establishment, Delayed Differentiation, Platform Planning.

UNIT IV INDUSTRIAL DESIGN AND DESIGN TOOLS

Industrial Design, Design for Manufacturing-Value Engineering-Ergonomics-Prototyping-Robust Design- Design for X-failure rate curve-product use testing-Collaborative Product development- Product development economics-scoring model- financial analysis.

UNIT V PATENTS

Defining Intellectual Property and Patents, Patent Searches and Application, Patent Ownership and Transfer, Patent Infringement, New Developments and International Patent Law.

REFERENCES

1. Karl T. Ulrich, Steven D. Eppinger, Anita Goyal Product Design and Development, Tata McGraw – Hill, Fourth Edition, reprint 2009.
2. Kenneth B.Kahn, New Product Planning, Sage, 2nd Edition 2011.
3. A.K. Chitale and R.C. Gupta, Product Design and Manufacturing, PHI, 2008.
4. Deborah E. Bouchoux, Intellectual Property Rights, Delmar, Cengage Learning, 2005.
5. Anil Mital. Anoop Desai, Anand Subramanian, Aashi Mital, Product Development, Elsevier, 2009.
6. Michael Grieves, Product Life Cycle Management, Tata McGraw Hill , 2006.
7. Kerber, Ronald L, Laseter, Timothy M., Strategic Product Creation, Tata-McGraw Hill, 2007.