Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Technology and Science
Choice Based Credit System (CBCS) Scheme in light of NEP-2020
Generic Elective for UG
(2022-2026)

| COURSE CODE | CATEGORY | COURSE NAME | TEACHING &EVALUATION SCHEME | | | | | L | T | P | CREDITS |
| | | | THEORY | | | PRACTICAL | | | | | |
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
GUME201	GE	Product Design, Start-up and Innovation	60	20	20	0	0	4	0	0	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; C - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives:-

This course provides a basic understanding to the students about the concept and significance of product design, Start-up and Innovation.

Course Outcomes:-

After completion of this course the students will be able to describe the followings:

1. Students will be able to understand the basic concepts of new product design and Innovation.
2. Students will be able to understand the techniques for idea generation and evaluation of new product ideas.
3. Students will be able to understand the human factors associates with product design.
4. Students will be able to understand Creative Techniques and tools.
5. Students will be able to understand product marketing strategies and opportunities and challenges for start-up.

Syllabus

Unit-I (10 Hrs)

Introduction to Innovation, Design Inspired Innovation and User Innovation, Product Design, traditional & modern design concept, design process, organizational objectives, need of new product and innovation.

Unit-II (11 Hrs)

Introduction to User Study- Problem and Need Identification, Contextual Enquiry, Physical Model. Innovation, creativity and diffusion, techniques for creative idea generation; evaluation of new product ideas.

Unit-III (11 Hrs)

Importance and overview of Human Factors/Ergonomics in Product Design, Physical ergonomics Principles and Issues, Cognitive and Emotional Aspects of Human Factors with respect to Product Design

| Chairperson | Chairperson | Controller of | Joint Registrar |

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Unit-IV **(11 Hrs)**

Creative Techniques and Tools for Concept Generation and Concept Evaluation in Product Design; Tools and Techniques for Prototyping.

Unit-V **(11 Hrs)**

Market preparation vendor search, Sales promotion, Test marketing product and introduction strategy. Organizational structure for effective product innovation and role of product manager. Opportunities and Challenges for start-up.

Text and References Books:

1. Rothberg, Robert, R., "Corporate Strategy and Product Innovation" The Free Press, 2009.
2. Jones, J.C., "Design Methods, Seeds of Human Future", John Wiley and sons, 2005.
3. Grunwald, G., "New Product Development", Business Books, Illinois, 2001.
4. Ulrich K.T., "Principles of Product Design" McGraw Hill, 2020.
5. Birkhofer H., "Future of Design Methodology" Springer, 2020.
6. A. K. Chitale and R. C. Gupta, "Product Design and Manufacturing", PHI, 2018.
7. Eppinger, S., & Ulrich, K. "Product design and development" McGraw-Hill Higher Education, 2015.
8. Lidwell, W., Holden, K., & Butler, J. "Universal principles of design, n revised and updated: 125 ways to enhance usability, influence perception, increase appeal, make better design decisions, and teach through design" Rockport Pub., 2010.

Chairperson	**Chairperson**	**Controller of**	**Joint Registrar**