



**Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore**  
**Shri Vaishnav School of Management**  
**Choice Based Credit System (CBCS) in Light of NEP-2020**

**GENERIC ELECTIVE II SEMESTER**

**GEMPG203 LEAN SIX SIGMA**

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
GEMPG203	GE	Lean Six Sigma	60	20	20	-	-	3	-	-	3

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit; GE – Generic Elective

\***Teacher Assessment** shall be based on following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

**Course Objectives**

The course is intended to develop the knowledge of the students in the management of six sigma technology. It is aimed at imparting knowledge on managing the entire lean six-sigma from conceptualization to implementation.

**Examination Scheme**

The internal assessment of the students' performance will be done out of 40 Marks. The semester Examination will be worth 60 Marks. The question paper and semester exam will consist of two sections A and B. Section A will carry 36 Marks and consist of five questions, out of which student will be required to attempt any three questions. Section B will comprise of one or more cases / problems worth 24 marks.

**Course Outcomes**

- Understand the scope and breadth of a Lean Six Sigma initiative.
- Gain an understanding of what waste is and how to identify it so that it can be reduced.
- Become aware of variation and techniques to reduce it.
- Become familiar with the DMAIC team project model.
- Be aware of the infrastructure needed to support a Lean Six Sigma effort.

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Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

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**Joint Registrar**

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**UNIT I: Lean Six Sigma**

1. Introduction, what is Six Sigma?
2. Fundamentals of Six Sigma
3. Lean Enterprise
4. Lean Six Sigma

**UNIT II: Define Phase**

1. Introduction
2. The DMAIC Team
3. Basic Team Management
4. Selecting Projects
5. Cost of Poor Quality
6. Process Mapping

**UNIT III: Measure Phase**

1. Introduction: Nature of Data
2. Variation: Process Mapping
3. Brainstorming: Data Collection
4. Measurement System Analysis: Basic Six Sigma Metrics
5. Process Capability

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**UNIT IV: Analyze**

1. Analyze Foundations
2. Graphical Analysis
3. Introduction to Hypothesis Testing
4. Hypothesis Testing Steps
5. Theory of Constraints

**UNIT V: Control**

1. Control Foundations
2. Identify process
3. Control Variables
4. Introduction to SPC/ Control Charts
5. Control Plans

**Suggested Readings:**

1. John Morgan (2015) *Six Sigma for Dummies*, Wiley Publishing London UK.
2. Douglas C. Montgomery (2019) *Introduction to Statistical Quality Control* Wiley Publishing London UK.
3. Peter Pande , Robert Neuman , Roland Cavanagh (2014) *Statistics for Six Sigma Made Easy* Wiley Publishing London UK.

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