COURSE TITLE	**MODELLING IN OPERATIONS MANAGEMENT**
COURSE CODE	**05MD0302**
COURSE CREDITS	**2**

Course Outcomes: After completion of this course, student will be able to:

1. Understand the fundamental concepts and principles of operations management in the banking, healthcare, and retail sectors.
2. Explain the role of analytics in decision-making processes within the banking, healthcare, and retail industries.
3. Utilize data collection, pre-processing, and visualization techniques to analyze and interpret data relevant to operations management.
4. Apply predictive models for detection and prevention using analytics.
5. Effectively use analytical software and tools commonly employed in operations management.

Pre-requisite of course: Data analytics tool , Data visualization tool.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
0	0	4	0	0	0	25	25

Contents : Unit	Topics	Contact Hours
Total Hours		

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	**Case Study 1: Banking Analytics** Introduction to banking operations and challenges., Overview of analytics in the banking sector. Data collection, data pre-processing, and data visualization techniques., Application of statistical models in banking operations., Risk assessment and fraud detection using analytics., Analyze banking data and develop predictive models.	10
2	**Case Study 2: Healthcare Analytics** Introduction to healthcare operations and management., The role of analytics in healthcare decision-making. Healthcare data sources, collection, and pre-processing., Predictive modeling for patient outcomes and resource allocation., Optimization techniques for healthcare process improvement., Analyze healthcare data and develop predictive models.	10

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
3	**Case Study 3: Retail Analytics** Introduction to retail operations and challenges., Analytics applications in retail for demand forecasting and inventory management., Customer segmentation and personalized marketing using analytics., Pricing optimization and revenue management., Supply chain analytics in the retail industry. Analyze retail data and develop optimization strategies.	10
Total Hours		**30**

Textbook :

1 "Operations Management: Sustainability and Supply Chain Management", Jay Heizer, Barry Render, and Chuck Munson, -, 2016

2 "Business Analytics: Data Analysis & Decision Making", by S. Christian Albright and Wayne L. Winston, Cengage Learning, 2016

3 "Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking", Foster Provost and Tom Fawcett, O'Rilly media, 2013

References:

1 Operations Management: Sustainability and Supply Chain Management, Operations Management: Sustainability and Supply Chain Management, Jay Heizer, Barry Render, and Chuck Munson, Cengage Learning, 2016

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation

Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking
20.00	20.00	15.00	15.00	10.00	20.00

Instructional Method:

1 Board Work

2 PPT

3 Video

Supplementary Resources:

1 https://www.coursera.org/learn/introduction-to-data-analytics

2 https://www.simplilearn.com/learn-data-analytics-for-beginners-skillup