



SREENIVASA INSTITUTE of TECHNOLOGY and MANAGEMENT STUDIES
(AUTONOMOUS)

DEPARTMENT OF MANAGEMENT STUDIES
MANAGEMENT INFORMATION SYSTEM

QUESTION BANK

II MBA / IV - SEMESTER

REGULATION: R22



COMPILED BY
FACULTY INCHARGE : MR.A.Y.VINAY SAJEEV KUMAR
ASSISTANT PROFESSOR
PROGRAMME : MBA



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INDUSTRY 4.0 (22AUD241)

II MBA IV Semester

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22AUD241 INDUSTRY 4.0

Pre-requisites: Course on Industry 4.0

Course Educational Objectives:

CEO1: To provide an overview of industry 4.0 and technology-based innovations.

CEO2: To Align the theory and concepts with Industrial application of computers

CEO3: To Introduce the basic concepts of Industry 4.0, Artificial Intelligence, Big Data and Internet of Things.

CEO4: To Discuss and demonstrate the applications and tools of Industry 4.0.

CEO5: To Impart knowledge on innovation types, stages of innovation process, and competitive advantage

UNIT - I Introduction to Industry 4.0 and Technologies

Industry 4.0 - Need – Reason for Adopting Industry 4.0 - Definition – Goals and Design Principles

UNIT - II Technologies of Industry 4.0

Big Data – Artificial Intelligence (AI) – Industrial Internet of Things - Cyber Security – Cloud – Augmented Reality – Mixed Reality.

UNIT - III Big Data

Data: Terminologies - Big Data Definitions - Essential of Big Data in Industry 4.0 - Big Data Merits and Advantages - Big Data Components: Big Data Characteristics - Big Data Processing Frameworks - Big Data Applications - Big Data Tools - Big Data Roles - Learning Platforms

UNIT - IV IOT

Internet of Things (IoT): Introduction to IoT - Architecture of IoT - Technologies for IoT - Security in IoT.

UNIT - V Applications of IoT

Applications of IoT – Manufacturing – Healthcare – Education – Aerospace and Defense – Agriculture – Transportation and Logistics – Impact of Industry 4.0 on Society: Impact on Business, Government, People



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On successful completion of the course, students will be able to		POs related to COs
CO1	Explain the basic concepts of Industry 4.0 and new technologies in decision making	PO1, PO2, PO4, PSO1, PSO2
CO2	Outline the features of Artificial Intelligence and application domains	PO1, PO2, PO4, PO5, PSO1, PSO2
CO3	Summarize the Big data domain stack and Internet of Things Identify the applications and Tools of Industry 4.0	PO1, PO2, PO4, PO5, PSO1, PSO2
CO4	Develop innovative ideas based on technology	PO1, PO2, PO4, PO5, PSO1, PSO2
CO5	Apply the knowledge in various industries based on technology to take effective and efficient managerial decision.	PO1, PO2, PO4, PO5, PSO1, PSO2

Text Books:

1. Industry 4.0: The Industrial Internet of Things Paperback, 1/e, Alasdair Gilchris, 2017.
2. Handbook of Industry 4.0 and SMART Systems, Diego Galar Pascual, Pasquale Daponte, Uday Kumar, 2020.

Reference Books:

1. IoT Reference Architecture, Alasdair Gilchrist, 2016.
2. Introducing Industry 4.0, Alasdair Gilchrist, 2016.

Online Learning Resources:

<https://nptel.ac.in/courses/106105195>

<https://archive.nptel.ac.in/courses/106/105/106105195/MA>



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Question No.	Questions	PO Attainment
UNIT – 1: INTRODUCTION TO INDUSTRY 4.0 AND TECHNOLOGIES		
PART-A (Two Marks Questions)		
1	Define Industry 4.0	PO1
2	What are the key technologies of Industry 4.0?	PO1
3	List out some benefits of Industry 4.0	PO1
4	What are challenges for Industry 4.0?	PO1
5	What are the Reasons for Adapting Industry 4.0	PO1
PART-B (Ten Marks Questions)		
1	Elaborate the Need and scope of Industry 4.0 in Current Scenario	PO1
2	List out the Goals of Industry 4.0	PO1
3	Examine the design principles of Industry 4.0	PO2



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Question No.	Questions	PO Attainment
UNIT – 2: TECHNOLOGIES OF INDUSTRY 4.0		
PART-A (Two Marks Questions)		
1	What are the key technologies of Industry 4.0?	PO1
2	Define Big data	PO1
3	Define Artificial Intelligence.	PO1
4	What is Cybersecurity?	PO1
5	Define Cloud.	PO1
PART-B (Ten Marks Questions)		
1	Explain the characteristics and types of big data.	PO1
2	Elaborate the types of cyberthreats and analyze the possible solutions for these cyberthreats.	PO1, PO2
3	Illustrate the use of mixed reality in present scenario	PO1, PO2



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QUESTION BANK

Question No.	Questions	PO Attainment
UNIT – 3: BIG DATA		
PART-A (Two Marks Questions)		
1	Define data.	PO2
2	Define big data	PO2
3	List out the types of big data.	PO2
4	List the advantage & disadvantages of big data	PO2
5	Explain the features of big data	PO2
PART-B (Ten Marks Questions)		
1	Examine the essentials of big data in industry 4.0	PO1, PO2
2	Determine how can Apache Hadoop be used to analyze large datasets.	PO1, PO2
3	Outline the key components of Apache Spark, and how do they interact?	PO1, PO2



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Question No.	Questions	PO Attainment
UNIT – 4: IOT		
PART-A (Two Marks Questions)		
1	Define IOT.	PO1
2	What are key components of IOT?	PO1
3	List out the applications of IOT?	PO8
4	What are the benefits of IOT?	PO8
5	What are some challenges of IOT?	PO8
PART-B (Ten Marks Questions)		
1	What are the components of IoT architecture, and how do they interact with each other?	PO1, PO2
2	Explain how different technologies support IoT systems.	PO1, PO2, PO8
3	How can IoT devices be secured against cyber-attacks?	PO1, PO2, PO8



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Question No.	Questions	PO Attainment
UNIT – 5: APPLICATIONS OF IOT		
PART-A (Two Marks Questions)		
1	List out the Applications of IoT	PO4
2	What is the role of IoT in smart homes?	PO4
3	What is the role of IoT in industrial automation?	PO4
4	What is the role of IoT in Retail and supply chain?	PO4
5	What is the role of IoT in Environmental monitoring?	PO4
PART-B (Ten Marks Questions)		
1	Breakdown the key benefits and challenges of integrating IoT into healthcare systems.	PO4
2	How can Industry 4.0 technologies be applied to solve societal challenges?	PO4
3	Outline the different ways Industry 4.0 affects business strategies, workforce dynamics, and governance models.	PO4

** ALL THE BEST **



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