

# INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

**NAME OF DEPARTMENT/CENTRE:** Department of Management Studies

1. **Subject Code:** BMN-620                      **Course Title:** Industrial Internet of Things for Managers
2. **Contact Hours:**                      **L:** 3                                      **T:** 0                                      **P:** 0
3. **Examination Duration (Hrs.):**              **Theory:** 2                                      **Practical:** 0
4. **Relative Weightage:**      **CWS:** 50              **PRS:** 0              **MTE:** 0              **ETE:** 50              **PRE:** 0
5. **Credits:** 1.5                                      **6. Term:** IV/V/VI/VII
7. **Pre-requisite:** Nil                                      **8. Subject Area:** PEC
9. **Objective:** To impart the knowledge of different cyber-physical systems for industrial applications.

## 10. Details of the Course

S.No.	Contents	Contact hours
1.	Introduction to IoT, Sensing & actuation, IoT Connectivity, The Fourth Revolution, industry 4.0	3
2.	Smart and connected business perspective, Smart factories, Cyber-Physical Systems and Next Generation Sensors	2
3.	Collaborative Platform Product Lifecycle Management, Augmented Reality and Virtual Reality, Artificial Intelligence	3
4.	Big Data and Advanced Analysis, Cybersecurity in Industry 4.0	2
5.	Industrial Internet systems, Industrial Sensing & Actuation, Industrial Process	2
6.	Business Models and Reference Architecture for IIoT, Enablers of IIoT: Sensing, connectivity, processing, and process control	2
7.	IIoT Analytics and Data Management: Machine Learning and Data Science	2
8.	Cloud computing in IIoT, data centre networks, Software-defined networking (SDN)	3
9.	Industrial IoT- Application Domains: Manufacturing and service industries	2
<b>Total</b>		<b>21</b>

## 11. Suggested Books:

S.No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Gilchrist, A., Industry 4.0: the industrial internet of things. Apress.	2016
2.	Rawat, D. B., Brecher, C., Song, H., & Jeschke, S. Industrial Internet of Things: Cybermanufacturing Systems. Cham, Switzerland: Springer.	2017
3.	Misra, S., Roy, C., & Mukherjee, A. Introduction to Industrial Internet of Things and Industry 4.0. CRC Press.	2021