CBCS SCHEME

USN | | | | | | | | | | |

BMT405B

# Fourth Semester B.E./B.Tech Degree Supplementary Examination, June/July 2024

## Industrial IoT(IIoT)

Time: 3 hrs. Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.*
*2. M : Marks , L: Bloom's level , C: Course outcomes.*

| | | Module – 1 | M | L | C |
|---|---|---|---|---|---|
| Q.1 | a. | Discuss the different phases of development in the industries. | 10 | L2 | CO1 |
| | b. | Explain the role of IoT and IIoT is industry. | 10 | L2 | CO1 |
| | | **OR** | | | |
| Q.2 | a. | Explain the evolution of industry 4.0 and differentiate between IoT and IIoT. | 10 | L2 | CO1 |
| | b. | Discuss the architecture of IIoT. | 10 | L2 | CO1 |
| | | **Module – 2** | | | |
| Q.3 | a. | Define sensor. Explain the different types of sensors. | 10 | L2 | CO2 |
| | b. | Illustrate the thermal Actuator and types of thermal actuator | 10 | L3 | CO2 |
| | | **OR** | | | |
| Q.4 | a. | Define Actuator. Explain the different types of actuator. | 10 | L2 | CO2 |
| | b. | Illustrate the rate of microcontroller and embe4dded PC in IIoT. | 10 | L3 | CO2 |
| | | **Module – 3** | | | |
| Q.5 | a. | Define Augmented Reality. Explain the various types of technologies in AR. | 10 | L2 | CO3 |
| | b. | Illustrate the lean manufacturing system and implementation of Lean manufacturing system. | 10 | L3 | CO3 |
| | | **OR** | | | |
| Q.6 | a. | Define Virtual Reality. Explain the types of technology in virtual reality. | 10 | L2 | CO3 |
| | b. | Illustrate the big data and advanced big data analytics. | 10 | L3 | CO3 |
| | | **Module – 4** | | | |
| Q.7 | a. | Discuss HART protocol with its components and features. | 10 | L2 | CO4 |
| | b. | Illustrate the field bus with its components and features of industrial transmission. | 10 | L3 | CO4 |
| | | **OR** | | | |
| Q.8 | a. | Discuss profibus protocol with its features and also components. | 10 | L2 | CO4 |
| | b. | Illustrate controller area network of industrial transmission. | 10 | L3 | CO4 |
| | | **Module – 5** | | | |
| Q.9 | a. | Illustrate the application of IIoT in oil and gas industries with examples. | 10 | L3 | CO5 |
| | b. | Explain the role of IIoT in health care with example. | 10 | L2 | CO5 |
| | | **OR** | | | |
| Q.10 | a. | Explain the application of IIoT in manufacturing industry. | 10 | L2 | CO5 |
| | b. | Illustrate the application of IIoT in smart office with example. | 10 | L3 | CO5 |