

Code: 20ES1501

III B.Tech - I Semester – Regular Examinations - DECEMBER 2022

**INTERNET OF THINGS
(ELECTRONICS & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.

2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

| | | | BL | CO | Max. Marks |
|----------------|----|---|----|-----|------------|
| UNIT-I | | | | | |
| 1 | a) | Define IoT. Explain in detail about genesis of IoT. | L2 | CO1 | 7 M |
| | b) | Illustrate the design principles and standard considerations for the architecture of IoT. | L2 | CO1 | 7 M |
| OR | | | | | |
| 2 | a) | Explain M2M service layer standardization. | L2 | CO1 | 7 M |
| | b) | Describe IoT World Forum (IOTWF) standardized architecture. | L2 | CO1 | 7 M |
| UNIT-II | | | | | |
| 3 | a) | Identify and explain about various actuators and its applications in IoT. | L3 | CO2 | 7 M |
| | b) | Discuss Standardization and Alliances of IEEE 802.11ah. | L2 | CO2 | 7 M |
| OR | | | | | |

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|-----------------|----|--|----|-----|-----|
| 4 | a) | Explain the advantages and disadvantages of Sensor Networks. | L2 | CO2 | 7 M |
| | b) | Describe 802.15.4 physical layer & MAC layer. | L3 | CO2 | 7 M |
| UNIT-III | | | | | |
| 5 | a) | Explain the microcontroller and chips involved in embedded devices. | L2 | CO3 | 7 M |
| | b) | Define Arduino Uno. Summarize its features in detail. | L2 | CO3 | 7 M |
| OR | | | | | |
| 6 | a) | Illustrate parameters required to choose the platform in Embedded Computing. | L2 | CO3 | 7 M |
| | b) | Explain the following with respect to Arduino Uno: i) Wiring ii) Sketching in hardware iii) Arduino IDE software. | L2 | CO3 | 7 M |
| UNIT-IV | | | | | |
| 7 | a) | What is Internet Protocol? Select and summarize the IP among IPv4 and IPv6 which IP satisfy a better quality of service in industry level. | L4 | CO4 | 7 M |
| | b) | Differentiate TCP and UDP protocols. | L4 | CO4 | 7 M |
| OR | | | | | |
| 8 | a) | Explain in detail about TCP. | L3 | CO5 | 7 M |
| | b) | Summarize the response message format of HTTP. | L2 | CO5 | 7 M |

| UNIT-V | | | | | |
|---------------|----|---|----|-----|-----|
| 9 | a) | What is an API? Explain the concept of Mashing and Scrapping APIs. | L2 | CO5 | 7 M |
| | b) | Illustrate how to write new API? | L3 | CO5 | 7 M |
| OR | | | | | |
| 10 | a) | What is CLOCKODILLO? Explain how to solve the security issues of an API by CLOCKODILLO? | L3 | CO5 | 7 M |
| | b) | What are REAL-TIME REACTIONS? Explain two options such as “Polling” and “Comet”. | L3 | CO5 | 7 M |