**18EE604**

**Hall Ticket Number:**

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| **III/IV B.Tech (Regular) DEGREE EXAMINATION** | | | |
| **August, 2021** | **Electrical & Electronics Engineering** | | |
| **Sixth Semester** | **Application of IOT in Electrical Engineering** | | |
| **Time:** Three Hours | | **Maximum:** 50 Marks | |
| ***Answer question 1 compulsory.*** | | | **(10X1 = 10Marks)** |
| ***Answer one question from each unit.*** | | | **(4X10=40Marks)** |

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|  |  |  | CO | BL | M |
| 1 | a) | Give an equation representing general IOT frame work | CO1 | L1 | 1M |
|  | b) | Difference between edge computing and cloud computing | CO1 | L1 | 1M |
|  | c) | What is the full form of XaaS | CO1 | L1 | 1M |
|  | d) | How many PWM pins are there in Arduino UNO board | CO2 | L1 | 1M |
|  | e) | What are the applications of Ultrasonic sensors | CO2 | L1 | 1M |
|  | f) | What is an open-source cloud service provider and give an example? | CO3 | L1 | 1M |
|  | g) | What is data validation? | CO3 | L1 | 1M |
|  | h) | What are the different cloud models available in IOT industry? | CO3 | L1 | 1M |
|  | i) | What are the three data analytics phases? | CO4 | L1 | 1M |
|  | j) | List out local communication technologies used in building an IOT application | CO4 | L1 | 1M |
| **Unit-I** | | | | | |
| 2 | a) | Explain about IOT architecture. | CO1 | L1 | 5M |
|  | b) | Write short notes on Designing principles of IOT | CO1 | L2 | 5M |
|  |  | **(OR)** |  |  |  |
| 3 | a) | How does M2M relate to IoT? What are the differences between the two? | CO1 | L2 | 5M |
|  | b) | List the device platform communication protocols, network communication protocols and network backbone protocols which IoTs can use. | CO1 | L2 | 5M |
| **Unit-II** | | | | | |
| 4 | a) | What are the different sensors and actuators used in IOT applications? | CO2 | L1 | 5M |
|  | b) | What is a smart sensor? What are the capabilities of a smart sensors? | CO2 | L1 | 5M |
| **(OR)** | | | | | |
| 5 | a) | List the features which are common in Arduino boards. | CO2 | L2 | 5M |
|  | b) | Define MQTT & Explain Design principles of IOT. | CO2 | L2 | 5M |
| **Unit-III** | | | | | |
| 6 | a) | Define cloud computing? And explain the various services provided by the cloud. | CO3 | L2 | 5M |
|  | b) | Write Short notes on Data Storage & Data Processing. | CO3 | L1 | 5M |
| **(OR)** | | | | | |
| 7 | a) | Illustrate various IOT communication APIs | CO3 | L2 | 5M |
|  | b) | Explain the function of Data Validation & Data Acquisition**.** | CO3 | L2 | 5M |
| **Unit-IV** | | | | | |
| 8 |  | Design a scenario of health services provided using IOT application using an architecture and block diagrams and explain it.. | CO4 | L2 | 10M |
| **(OR)** | | | | | |
| 9 |  | Design a scenario of smart agriculture services provided using IOT application using architecture and block diagrams and explain it.. | CO4 | L2 | 10M |

