



R20 Regulation

Subject code: 3E7FF

# TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

## B.Tech VII Semester Regular Examinations, November 2023

### INTERNET OF THINGS (Information Technology)

Maximum Marks: 70

Date: 06.12.2023 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
  2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
  3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
  4. Each question carries 10 marks and may have a, b, c, d as sub questions.

#### Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

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|----|--|--|----|
| 1  | Define IoT.                                      |  | L1 |
| 2  | State the characteristics of IoT.                |  | L1 |
| 3  | List the key elements of NFV.                    |  | L1 |
| 4  | Write the advantages of M2M communication.       |  | L1 |
| 5  | Is python platform independent language. Justify |  | L1 |
| 6  | Define modules.                                  |  | L1 |
| 7  | What is the purpose of I2C in IoT                |  | L1 |
| 8  | What is an IoT Device.                           |  | L1 |
| 9  | What are communication APIs.                     |  | L1 |
| 10 | List the cloud storage models                    |  | L1 |

#### Part-B

Answer All the following questions.

(5X10M=50Marks)

|    |  |              |          |
|----|--|--------------|----------|
| 11 | A. Enlighten different IoT Protocols.<br>B. Explain IoT communication models with neat diagram.                        | (6M)<br>(4M) | L2<br>L2 |
| OR |  |              |          |
| 12 | A. Discuss Domain specific IoTs .<br>B. Summarize the various IoT enabled technologies.                                | (6M)<br>(4M) | L2<br>L2 |
| 13 | A. Explain the following terms NETCONF, YANG, SNMP NETOPEER.<br>B. Discuss the need for IoT Systems Management         | (5M)<br>(5M) | L2<br>L2 |
| OR |  |              |          |
| 14 | A. Write notes on software defined networks<br>B. Write the steps involved for IoT device Management with NETCONF-YANG | (5M)<br>(5M) | L2<br>L2 |
| 15 | A. Write notes on<br>i. Packages (3M)<br>ii. File handling (3M)<br>B. Discuss the language features of python.         | (4M)         | L2<br>L2 |
| OR |  |              |          |

|    |   |              |          |
|----|---|--------------|----------|
| 16 | A. Explain functions in python using examples.<br>B. Write a python program which will throw exception if the value entered by user is less than zero.                    | (5M)<br>(5M) | L2<br>L3 |
| 17 | A. Construct the Design of reading input from pins using Raspberry Pi and other hardware devices with neat sketch.<br>B. Explain the basic building blocks of IoT device. | (5M)<br>(5M) | L3<br>L2 |
| OR |   |              |          |
| 18 | A. Explain IoT Physical Devices and Endpoints.<br>B. Write a python program with Raspberry Pi with focus of interfacing external gadgets.                                 | (5M)<br>(5M) | L2<br>L3 |
| 19 | A. Explain the python web application framework.<br>B. Discuss cloud for IoT.   | (5M)<br>(5M) | L2<br>L2 |
| OR |   |              |          |
| 20 | A. Discuss designing a RESTful web API.<br>B. Explain python web application framework.   | (5M)<br>(5M) | L2<br>L2 |