

**CMR ENGINEERING COLLEGE: : HYDERABAD****UGC AUTONOMOUS****IV–B.TECH–I–Semester End Examinations (Supply) - December- 2025****INTERNET OF THINGS****(Common for CSE, CSM)****[Time: 3 Hours]****[Max. Marks: 70]****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART-A****(20 Marks)**

1. a) Write the characteristics of IoT. [2M]
- b) List the applications of IoT. [2M]
- c) Define M2M. [2M]
- d) What are the Key elements of NFV? [2M]
- e) What are the key features of Python? [2M]
- f) Define Dictionary. [2M]
- g) Give examples for IoT devices. [2M]
- h) Define Actuation. [2M]
- i) What is Local API? [2M]
- j) What are REST based communication APIs? [2M]

**PART-B****(50 Marks)**

2. Explain the most common communication protocols used in IoT. [10M]
- OR**
3. What are the key enabling technologies that make the Internet of Things (IoT) possible, and how do they contribute to the success of IoT applications. [10M]
4. Illustrate the architecture of Network Function Virtualization with a neat diagram. [10M]
- OR**
5. Explain the steps in IoT Systems Management with NETCONF-YANG protocol. [10M]
6. Explain python data structures with examples. [10M]
- OR**
7. Discuss about exception handling and python packages JSON, XML, HTTP Lib. [10M]
8. With a neat sketch, explain the Block diagram of an IoT Device. [10M]
- OR**
9. How LED and switch are Interfaced with Raspberry Pi? Write the equivalent python code for interfacing. [10M]
10. Illustrate the Django Architecture with a neat sketch. [10M]
- OR**
11. Explain about the communication APIs Web server for IoT. [10M]

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