

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)



B. Tech (Sixth Semester – Regular/Supplementary) Examinations, April 2025

21BMEOE36011/22BMEOE36011 – Internet of Things

(Mechanical)

Time: 3 hrs

Maximum: 70 Marks

Answer ALL questions
(The figures in the right-hand margin indicate marks)

PART – A

(2 x 5 = 10 Marks)

Q.1. Answer **ALL** questions

- | | CO # | Blooms
Level |
|--|------|-----------------|
| a. How do 'Things' and the Internet interact to enable the functionality and impact of the Internet of Things (IoT)? | CO1 | K3 |
| b. List any two limitations of conventional network architecture. | CO2 | K3 |
| c. Differentiate between list and Tuple. | CO3 | K3 |
| d. How Beagle Bone Black is different from Raspberry Pi? | CO4 | K3 |
| e. What are the various memory interfaces used in IoT devices? | CO4 | K2 |

PART – B

(15 x 4 = 60 Marks)

Answer **all** the questions

- | | Marks | CO # | Blooms
Level |
|---|-------|------|-----------------|
| 2. a. Describe an example of an IoT system in which information and knowledge are inferred from data. | 8 | CO1 | K3 |
| b. Describe an example of IoT service that uses Web Socket-based communication model. | 7 | CO1 | K3 |
| (OR) | | | |
| c. Why do IoT systems have to be self-adapting and self-configuring? | 8 | CO1 | K2 |
| d. Describe an example of IoT service that uses publish- subscribe communication model. | 7 | CO1 | K3 |
| 3.a. Describe the role of YANG and Trans API modules in device management. | 8 | CO2 | K3 |
| b. Which limitation makes SNMP unsuitable for IoT system? | 7 | CO2 | K2 |
| (OR) | | | |
| c. Explain the IoT system Management with NETCONF-YANG | 7 | CO2 | K2 |
| d. Describe how NFV can be used for virtualizing IoT devices? | 8 | CO2 | K3 |
| 4.a. What is a keyword argument in Python and explain the various conversion types in Python? | 8 | CO3 | K2 |
| b. What is the difference between procedure-oriented programming and object-oriented programming? | 7 | CO3 | K2 |
| (OR) | | | |
| c. What is the purpose of the information model in M2M configuration, justify with example. | 8 | CO3 | K2 |
| d. What is the difference between a physical and virtual entity? | 7 | CO3 | K2 |
| 5.a. Explain a simple python program for controlling an LED with a switch | 8 | CO4 | K3 |
| b. What is an IoT Device? Explain the basic building blocks of IoT device | 7 | CO4 | K2 |
| (OR) | | | |
| c. How Raspberry Pi is different from Desktop computers? | 7 | CO4 | K2 |
| d. Explain with a simple program to control LED with Raspberry Pi | 8 | CO4 | K2 |

--- End of Paper ---