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KAMALA INSTITUTE OF TECHNOLOGY & SCIENCE, SINGAPUR
23IT28PC305

II B. Tech. I Semester Regular Examinations, DEC/JAN 2024-25.

INTRODUCTION TO IOT
(Information Technology)

Time: 3 Hours

Max.Marks:60

Note: Question paper consists of Part-A & Part-B.

i) **Part-A** for 10M, ii) **Part-B** for 50marks

- Part A** is compulsory, consists of 10 sub questions from all units carrying equal marks.
- Part-B** consists of **10 questions** (numbered from 2 to 11) carrying **10marks** each. From each unit there are 2 questions and the students should answer one of them. Hence the student should answer **5 questions** from **Part-B**.

PART-A		(10Marks)	
Q.No	Questions	Marks	BTL
1.a)	What is a Sensor?	1	1
1.b)	Define network.	1	1
1.c)	What is an actuator?	1	1
1.d)	What is arduino in IOT.	1	1
1.e)	What is Raspberry Pi.	1	1
1.f)	What are the benefits of python programming.	1	1
1.g)	Define Data handling.	1	1
1.h)	What is SDN.	1	1
1.i)	Types of cloud computing service models.	1	1
1.j)	Define cloud computing.	1	1
PART-B		(50Marks)	
Q.No.	Questions	Marks	BTL
2. a)	List and Explain the characteristics of IOT.	5M	2
b)	Discuss about the functional blocks of IOT.	5M	5
OR			
3. a)	Explain the communication protocols used in IOT.	5M	2
b)	Discuss about the different types of sensors.	5M	5
4. a)	Differentiate between IoT and M2M.	5M	4
b)	What is interoperability and Explain why it is crucial for IoT devices?	5M	2
OR			
5. a)	What is M2M Communication? Justify with an example "IoT is much more than M2M communication".	5M	5
b)	How do IoT devices communicate? Explain with suitable diagram.	5M	2
6. a)	List the python data types with suitable examples.	5M	1
b)	List and Explain the basic peripherals that can be connected to a Raspberry Pi.	5M	2
OR			
7. a)	List and Explain the primary components of Raspberry Pi.	5M	2

b)	Explain how does a Raspberry Pi fit into IoT systems?	5M	2
8. a)	What role does SDN play in managing IoT networks and what challenges does it address?	5M	1
b)	Explain the difference between batch processing and real-time analytics in data handling.	5M	2
OR			
9. a)	What is Software-Defined Networking (SDN) and how does it differ from traditional networking?	5M	1
b)	What are common methods of data collection and storage in IoT systems?	5M	1
10.a)	What is Industrial IoT (IIoT) and how is it used in manufacturing industries?	5M	1
b)	Explain how smart homes use IoT devices to improve energy efficiency and security.	5M	2
OR			
11.a)	What is Sensor-Cloud and how does it integrate sensors with cloud computing?	5M	1
b)	What is meant by a connected vehicle, and what are its primary functions?	5M	1

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