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KAMALA INSTITUTE OF TECHNOLOGY & SCIENCE, SINGAPUR
23IT28PC305

II.B. Tech. I. Semester Supplementary Examinations, June-2025

INTRODUCTION TO IOT

(IT)

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)	Define Internet of Things.	1	1
1.b)	State the characteristics of IoT.	1	2
1.c)	What are the different functions of an Arduino	1	2
1.d)	Mention one key difference between IoT and M2M.	1	1
1.e)	Who is the father of Python Programming?	1	1
1.f)	What is Raspberry Pi?	1	1
1.g)	What is the need for SDN?	1	1
1.h)	What is data handling in IoT?	1	1
1.i)	What is cloud computing?	1	1
1.j)	How does a Sensor-Cloud differ from a traditional cloud?	1	2
PART-B		(50Marks)	
Q.No.	Questions	Marks	BTL
2. a)	Illustrate briefly physical design of IoT?	5M	2
b)	Explain in detail about IoT communication APIs?	5M	2
OR			
3. a)	Compare the protocols associated with transport layer of IoT?	5M	2
b)	Evaluate the role of lightweight protocols in constrained IoT environments.	5M	4
OR			
4. a)	With the help of neat diagrams, explain the M2M system Architecture?	5M	2
b)	Analyze the pin diagram of an Arduino sketch and explain its flow.	5M	4
OR			
5. a)	Explain the challenges of achieving interoperability in IoT.	5M	2
b)	Illustrate with an example how IoT extends beyond M2M.	5M	3
OR			
6. a)	Explain with neat block diagram about Raspberry Pi board?	5M	2
b)	Write a program that implements the operators in Python?	5M	3

OR			
7. a)	Analyze the role of Raspberry Pi in collecting and transmitting sensor data in IoT system.	5M	4
b)	Propose a new case study using Raspberry Pi to address an urban issue like smart parking	5M	4
OR			
8. a)	Explain in detail about Software Defined Network	5M	2
b)	List and explain various data analytics platforms for processing IoT data	5M	2
OR			
9. a)	Illustrate how SDN improves scalability in IoT networks.	5M	2
b)	Explain Implementation of IoT with Raspberry Pi	5M	2
10.a)	Describe the usage of IoT in Smart Homes	5M	3
b)	Write a short note on Industrial IoT	5M	2
OR			
11.a)	Explain in detail about different services provided by the Cloud Computing?	5M	2
b)	How IoT is used in agriculture and explain with real time example	5M	2

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