

Total No. of Question: 4

Total No. of Printed Pages: 2

PRN No.	
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PAPER CODE	U225-239A(EE)
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(AY:2024-25) May 2025 (ENDSEM) EXAM

SY (SEMESTER - II)

COURSE NAME: INTRODUCTION TO IOT

Branch: **ALL BRANCHES**

COURSE CODE: CSOEUA22239A

SY (Pattern 2023)

Time: [1Hr 30 Min]

[Max. Marks: 40]

Instructions to candidates:

- 1) Figures to the right indicate full marks. Use of scientific calculator is allowed
- 2) Use suitable data wherever required
- 3) All questions are compulsory. Solve any two sub question each from Questions 1 , 2 ,3 and 4

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) What are the key characteristics of IoT? Provide a short explanation of each.	[5]	CO 1	Remember
	b) Discuss the role of data processing and storage in an IoT application.	[5]	CO 1	
	c) What challenges can arise in integrating different communication technologies into an IoT system? Analyse with examples.	[5]	CO 1	
Q2	a) Define the role of a gateway in an IoT network.	[5]	CO 2	Understand
	b) Explain how sensors are interfaced with IoT devices such as Arduino or Raspberry Pi.	[5]	CO 2	
	c) Evaluate how gateways contribute to interoperability in a heterogeneous IoT environment.	[5]	CO 2	
Q3	a) Apply best practices to secure an IoT-enabled smart lock system against unauthorized access	[5]	CO 3	Apply
	b) Evaluate the importance of securing data at rest versus data in transit in IoT environments. Which is more critical and why?	[5]	CO 3	
	c) Create a data processing pipeline for an IoT system that uses edge computing to pre-process data before cloud storage.	[5]	CO 3	

Q4	a) Illustrate how IoT can enhance energy efficiency in smart cities through connected infrastructure.	[5]	CO 4	Apply
	b) Evaluate the role of AI in improving the intelligence and decision-making capabilities of IoT systems.	[5]	CO 4	
	c) Create a strategic roadmap to overcome security, scalability, and interoperability challenges in the development of IoT applications.	[5]	CO 4	