Total No. of Printed Pages: 1

PRN No.	

PAPER CODE	U315-292(RE)

(AY:2025-26) December 2025 (ENDSEM) EXAM

TY (SEMESTER - I)

COURSE NAME:	BRANCH:	COURSE CODE:
INTERNET OF THINGS	ELECTRONICS AND TELECOMMUNICATION	ETUA31232

(T.Y (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) Explain four-layer IoT architecture with neat diagrams	[5]	CO1	Understand
	b) Explain how IoT differs from traditional embedded systems.	[5]	CO1	Understand
	c) Discuss enabling technologies in IoT.	[5]	CO1	Understand
Q2	a) Relate the functional features of ESP32 and NodeMCU to their use in low-power IoT environments.	[5]	CO2	Apply
	b) Select appropriate short-range or long-range communication technology for a given IoT application based on power and data rate requirements.	[5]	CO2	Apply
	c) Illustrate how RTOS improves system reliability and responsiveness in IoT nodes.	[5]	CO2	Apply
Q3	a) Choose an appropriate transport protocol for a smart irrigation system.	[5]	CO3	Apply
	b) Use the concept of Edge vs. Cloud communication to propose an architecture for real-time industrial monitoring.	[5]	CO3	Apply
	c) Describe MQTT publish/subscribe mechanism with diagram.	[5]	CO3	Apply
Q4	a) Compare structured, unstructured, and semi-structured IoT data and analyze their implications on data storage and processing.	[5]	CO4	Analyze
	b) Analyze the different types of attacks in IoT systems.	[5]	CO4	Analyze
	c) Identify dependencies between sensor selection, communication protocols, and data analytics in the smart agriculture IoT design cycle.	[5]	CO4	Analyze