Total No. of Printed Pages: 02

PRN No.	

PAPER CODE	U325-214ACESE

(AY: 2024-25) May 2025 (ENDSEM) EXAM

TYB.TECH (SEMESTER - II)

COURSE NAME: Internet of Things **Branch:AI&DS** **COURSE CODE: ADUA32204(A)**

(T.Y PATTERN 2020R1)

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 and 2**
4) **Solve any one sub question (2 marks) from Questions 3 ,4 ,5 and 6 and sub question of 4 marks is compulsory from questions 3,4,5,and 6**

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) Apply the concept of IoT functional blocks to a smart agriculture system.	[4]	CO1	Apply
	b) How does the physical design of IoT help in building smart devices?	[4]	CO1	Apply
	c) How IoT communication models differ in use for smart city vs smart home.	[4]	CO1	Apply
Q2	a) Explain the purpose of CoAP in IoT?	[4]	CO2	Apply
	b) Compare different protocols (MQTT, CoAP, XMPP) based on speed, power use, and reliability.	[4]	CO2	Apply
	c) Analyze the advantages and limitations of using Bluetooth and Wi-Fi in IoT systems.	[4]	CO2	Apply
Q3	a) What is the role of actuators in IoT?	[2]	CO3	Understand
	OR			
	b) Write one use of Raspberry Pi in IoT.	[2]	CO3	Understand
	c) How can sensors and actuators work together in a smart water system?	[4]	CO3	Apply
Q4	a) What is non-repudiation in IoT security?	[2]	CO4	Understand
	OR			
	b) How can access control be applied in a smart office IoT system?	[2]	CO4	Understand

	c) Analyze the elements of an IoT security model with a healthcare monitoring system example.	[4]	CO4	Apply
Q.5	a) Define cloud computing.	[2]	CO5	Understand
	OR			
	b) What is the need for fog computing?	[2]	CO5	Understand
	c) Compare cloud computing and fog computing in terms of speed and usage.	[4]	CO5	Apply
Q.6	a) What is Industry 4.0?	[2]	CO6	Understand
	OR			
	b) List any two components of IIoT architecture.	[2]	CO6	Understand
	c) Analyze the impact of IIoT on the supply chain in terms of speed and accuracy.	[4]	CO6	Apply