

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## NATIONAL FORENSIC SCIENCES UNIVERSITY

Semester End Examination (April-May 2025)

M. Tech Artificial Intelligence & Data Science

Semester - II

Subject Code: CTMTAIDS SII P4

Date: 30-April-2025

Subject Name: Intelligent Systems and Security

Time: 10:30 AM to 01:30 PM

Total Marks: 100

**Instructions:**

1. Write down each question on a separate page.
2. Attempt all questions.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

			Marks
Q.1		Attempt any three.	
	(a)	Explain the Industry Revolution Stages. Elaborate relevance of the IoT.	08
	(b)	State comparative table of 5 wireless networks.	08
	(c)	Explain any 1 advanced concept AI, utilized into data-driven Intelligent Systems. State the prior literatures & corresponding technical milestones.	08
	(d)	Mention the types of Sensors in IoT, with their details about applications. Explain the other IoT components in Cloud Services like Things Speak & MIT App Inventor.	08
Q.2		Attempt any three.	
	(a)	Design an RFID system for a university library to improve book management. Your design should include the justification for the	08

		type and placement of RFID tags to be used.	
	(b)	Explain the architecture of MQTT.	08
	(c)	Write the difference between M2M and-IoT.	08
	(d)	Explain the architecture of COAP.	08
<b>Q.3</b>		<b>Attempt any three.</b>	
	(a)	Draw the IoT Protocol Stack. Explain 5 IoT Protocol connection models.	08
	(b)	How are the AI technology in modern smart cities adapted, to deliver QoE.	08
	(c)	Explain Smart City Framework.	08
	(d)	Design an AI based Energy Management system. Mention an implementation or design about, Lighting-Illumination monitoring been implemented using data-driven approach.	08
<b>Q.4</b>		<b>Attempt any two.</b>	
	(a)	What are the tools for achieving security? Elaborate.	07
	(b)	Elaborate any application or extension of Elliptic Curve Cryptography in IoT.	07
	(c)	Specify any challenge in the designing a data-driven IoT solution. Mention any python function which solution designer can utilize.	07
<b>Q.5</b>		<b>Attempt any two.</b>	
	(a)	What is a Smart City and what are its main objectives? Describe one application of smart healthcare in a Smart City.	07
	(b)	What are the security issues specifically in Smart Devices.	07
	(c)	What is the purpose of IoT gateways? Describe the concept of edge computing in IoT.	07

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