

Block Exam Paper

Seat No.: _____

Enrolment No. _____

NATIONAL FORENSIC SCIENCES UNIVERSITY M.Tech. Artificial Intelligence and Data Science (specialization in cyber security) Mid-Semester Exam

Subject Code: CTMTAIDS SH P4

Date: 4/03/2025

Subject Name: Information Systems and Security

Time: 2:00 to 4:30 PM

Total Marks: 50

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Calculators are allowed.

Q.1	Attempt all.	20 Marks
a)	Write the IP4 Header format.	2
b)	Draw the diagram and mention the layers of IoT, i.e. IoT Protocol Stack.	2+2
c)	What are the features of Bluetooth? <i>ZigBee, RF140, 6LOWPAN</i>	2
d)	What is 802.11ah, list advantages and disadvantages. <i>11h, 802.11ah, 802.11ah</i>	2
e)	Explain the role of Cloud Services like Things Speak in IoT.	2
f)	Explain how to you make use of ThinkerCAD tool in IoT Projects. <i>MQTT inverter app</i>	2
g)	Write one application of IoT in medical field.	2
h)	Write and explain the Internet stages.	2
i)	Draw the HTTP architecture.	2
Q.2	Attempt any four.	20 Marks
(a)	Missing data can be big issue in data-driven IoT solutions. Mention a function in sklearn, and its techniques used to handle the issue of missing values.	5
(b)	Explain the MQTT protocol.	5
(c)	Present the comparison of IT and OT.	5
(d)	Explain the XMPP protocol.	5
(e)	State and explain the XAMPP basics and architecture. Explain the relevance in IoT.	5
Q.3	Attempt any one.	10 marks
(a)	Explain the Industry Revolution Stages.	
(b)	State comparative table of 5 wireless networks.	

--- End of Paper---