

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2025**

INTERNET OF THINGS

[Maximum Marks: 75]

[Time: 3 Hours]

PART-A

I. Answer ‘all’ the following questions in one word or one sentence. Each question carries ‘one’ mark.

(9 x 1 = 9 Marks)

		Module Outcome	Cognitive level
1.	Define Internet of Things.	M1.01	R
2.	List any two categories of 'enabling technology' in IOT.	M1.02	U
3.	What is CoAP?	M2.01	R
4.	Define URI.	M2.02	U
5.	Name any two cloud services.	M3.01	R
6.	What is the use of HC-SR04?	M4.01	R
7.	Show with a diagram the digital pins in Arduino Board.	M4.02	U
8.	Illustrate the syntax of declaring "list" in python.	M4.04	U
9.	List the uses of NodeMCU ESP8266 in Smart Perishable Tracking System.	M4.06	U

PART-B

II. Answer any ‘eight’ questions from the following. Each question carries ‘three’ marks.

(8 x 3 = 24 Marks)

		Module Outcome	Cognitive level
1.	Describe "Things" in IoT.	M1.01	R
2.	Compare layer 1 and layer 2 of IoT stack.	M1.02	U
3.	Explain features of BLE.	M2.03	U
4.	Describe features of IPv4.	M2.04	U
5.	Explain public cloud deployment.	M3.01	U
6.	List any two security aspects of cloud computing in IoT.	M3.05	R
7.	Summarize different types of messages supported by CoAP.	M2.02	U
8.	Explain the function of gyro sensor.	M4.01	U
9.	List the features of NodeMCU.	M4.03	R
10.	Demonstrate with a diagram how to interface IR sensor with Raspberry PI.	M4.05	U

PART-C

Answer 'all' questions from the following. Each question carries 'seven' marks.

(6 x 7 = 42 Marks)

		Module Outcome	Cognitive level
III.	Explain the levels of IoT based on architectural approach. OR	M1.02	U
IV.	What are the challenges in building an application with IoT?	M1.05	R
V.	Explain MQTT protocol. OR	M2.02	U
VI.	Explain Li-Fi protocol.	M2.02	U
VII.	Explain IPV4 classes. OR	M2.04	U
VIII.	Explain broadcasting and connections in BLE.	M2.03	U
IX.	Explain different cloud service deployment models. OR	M3.03	U
X.	Explain the working and benefits of Fog computing.	M3.04	U
XI.	What are the features of Arduino Board? OR	M4.02	R
XII.	Illustrate the interfacing of MQ-2 gas sensor with NodeMCU.	M4.03	U
XIII.	Show the use of 'while' and 'if....else' statements in python in programming RaspberryPI. OR	M4.04	R
XIV.	Explain interfacing of LDR sensor with RaspberryPI.	M4.05	U
