Total No. of Printed Pages: 2

PRN No.	

PAPER CODE	V 313 – 2105-C (RE)

December 2023 (REEXAM)

TYIT (SEMESTER - I)

COURSE NAME: INTERNET OF THINGS **COURSE CODE: ITUA31205C**

Branch: INFORMATION TECHNOLOGY

(PATTERN 2020)

Time: [2 Hrs] **[Max. Marks: 60]**

Instructions to candidates:

1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed**
3) **Use suitable data wherever required**
4) **All questions are compulsory. Solve any two sub questions each from each Question 1 ,2, 3,4,5,and 6 respectively**

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) List Few IoT Applications. Also demonstarate the working of smart refrigerator	[5]	1	3
	b) Define IoT. Explain various pillers of IoT	[5]	1	3
	c) Illustrate the REST-based Communication APIs with architecture diagram, also compare REST based and WebSocket based communication models	[5]	1	4
Q2	a) Interpret the specifications of ZigBee Technology, also draw its protocol architecture diagram	[5]	2	3
	b) Illustrate how RTS and CTS control signals solves the hidden and exposed terminal problems in MACA protocol.	[5]	2	3
	c) What is the use of interframe spacing in IEEE 802.11? Illustarte various IFS with figure	[5]	2	3
Q3.	a) Explain a proposed WP (work package) framework of ongoing works towards the IoT Protocol Standardization	[5]	3	3
	b) Discuss China Mobile's WMMP standards with future revision	[5]	3	2
	c) Explain the "CoAP: RESTful environment in constrained environment" with figure	[5]	3	3
Q.4	a) Recommend different communication protocols which can be used between M2M nodes and the M2M gateway, also comment on the range of these protocols	[5]	4	4

	b) Compare IoT and M2M based on machines in M2M vs Things in IoT, Hardware emphasis, and types of applications	[5]	4	4
	c) Diffrentiate Piezo Buzzer, IR Sensor and Temperature Sensor – DHT11 based on applications, working principle and interfacing with Raspbery Pi	[5]	4	4
Q.5	a) Compare Arduino and Raspberry Pi IoT devices based on various parameters	[5]	5	4
	b) Illustrate the generic block diagram of a single-board computer based IoT device	[5]	5	3
	c) Illustrate the different attacks at Physical, transport and application layers	[5]	5	3
Q.6)	a) Design the information model of the smart parking IoT system	[5]	6	3
	b) Illustarte the deployment design of the weather monitoring IoT system	[5]	6	3
	c) Design the service specification for the home intrusion detection IoT system for door and room service	[5]	6	3

Note:[BT Level- 1.Remember 2.Understand 3.Apply 4.Analyze 5.Evaluate 6.Create]