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RV COLLEGE OF ENGINEERING®
Autonomous Institution affiliated to VTU
IV Semester, B.E.
Model Question Paper (2022 SCHEME)
DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING
COURSE TITLE: IoT and APPLICATIONS

Time: 03 Hours ***Maximum Marks: 100***

Instructions to candidates:

1. Answer all questions from Part A. Part A questions should be answered in first three pages of the answer book only.
2. Answer FIVE full questions from Part B. In Part B question number 2 is compulsory. Answer any one full question from 3 and 4, 5 and 6, 7 and 8, 9 and 10

PART-A

1	1.1	_____ is the phase where collected data over the network are aggregated by the device itself.	1
	1.2	Diffrentiate between Gateway & Cloud Gateway	2
	1.3	Differntiate between Z-wave and ZigBee	2
	1.4	Mention any 2 differences between IoT & M2M	2
	1.5	Ultrasonic sensors use _____ waves to measure the _____ of an object.	2
	1.6	Mention any 2 IoT based Cloud Platforms	2
	1.7	Arduino Uno has got _____ voltage pins & _____ ground pins	2
	1.8	Differentiate between lcd.begin and lcd.print.	2
	1.9	Mention any 2 languages in which Raspberry Pi can be programmed.	1
	1.10	Mention any 2 applications of LDR sensors	2
	1.11	Name any 2 sensors used for smart home application.	2

PART-B

2	a	List and explain the characteristics of IoT.	8
	b	Write short notes on IoT System Management.	8

3	a	List the features of Arduino IDE with commands in detail.	10
	b	Write short notes on Raspberry Pi installation, commands and pin configuration	6
		OR	
4	a	Show with a neat diagram the Arduino with LCD and its working procedure.	8
	b	List the applications of Raspberry Pi with its unique features	8

5	a	Write a Python code for Controlling LED with Raspberry Pi with a neat diagram .	8
	b	With a python code show how LED works with Pi device.	8
		OR	
6	a	In detail explain the Installation of I2C driver on Raspberry Pi and SPI (serial peripheral interface) with Raspberry Pi.	10
	b	Write the steps for reading an edge triggered input using Pi device.	6

7	a	Illustrate the process of installation of Arduino IDE on Raspberry Pi,	10
	b	Differentiate between sensors and actuators.	6
		OR	
8	a	Explain the interfacing of LDR with Arduino with a neat diagram.	8

	b	How servo motor applications are built using arduino?	8

9	a	Explain in detail DHT11 Data Logger with ThingSpeak Server.	10
	b	List and explain any 2 smart IoT systems	6

OR

10	a	Explain in detail Air Quality Monitoring System and Data Logger with ThingSpeak Server	10
	b	Demonstrate the process to push IoT data to mail account in brief.	6

Signature of Scrutinizer: Signature of Chairman

Name: Name: