Code: 20A05603T

R20

B.Tech III Year II Semester (R20) Regular Examinations August 2023

INTERNET OF THINGS

(Computer Science & Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1		Answer the following: (10 X 02 = 20 Marks)	
	(a)	Define Embedded System.	2M
	(b)	Write about IoT levels and Templates.	2M
	(c)	What is an actuator?	2M
	(d)	How to select a sensor for a humidity measurement?	2M
	(e)	Specify the applications for RPL protocol.	2M
	(f)	What is Reference mode?	2M
	(g)	Write about Cloud storage models.	2M
	(h)	What are the issues associated with a Web server?	2M
	(i)	Show the scope for Ultra sonic sensors in IoT applications.	2M
	(j)	What are the features of Fly Base?	2M

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

2	(a)	What are the distinct communication protocols of IoT systems?	5M
	(b)	Explain physical design of an IoT system.	5M
		OR	
3		Illustrate the working principles of different IoT communication models.	10M
4	(a)	Outline the working principle of an IoT system which reads data from a humidity sensor.	5M
	(b)	How an IoT system perform communication through Bluetooth?	5M
		OR	
5	(a)	Demonstrate the procedure to setup the board to programming for IoT.	5M
	(b)	How an IoT system perform communication through Wi-Fi?	5M
6		Draw a neat sketch for an IoT architecture and describe the functionalities of their components.	10M
		OR	
7		Illustrate an IoT reference model diagram and explain the role of CoAP protocol in it.	10M
8		Explain the procedure for registering and deregistering a device through an IoT application.	10M
		OR	
9		Explain about Communication APIs in Building a Web server based IoT application.	10M
10		Explain the following:	
	(a)	GPS.	5M
	(b)	Internet of Drones.	5M
		OR	
11	(a)	Construct the IoT based application using Arudpilot.	5M
	(b)	Write in detail about UAV elements.	5M

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Code: 20A05603T

R20

B.Tech III Year II Semester (R20) Supplementary Examinations January 2024

INTERNET OF THINGS

(Computer Science & Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a)	What is the role of Link Layer in IoT?	2M
(b)	What is Data Distribution Service (DDS)?	2M
(c)	What is the Difference Between Sensor and Actuator?	2M
(d)	List few Raspberry Pi Terminal Commands.	2M
(e)	What are Web Socket?	2M
(f)	List Types of MQTT Messages.	2M
(g)	What is the significance of analysing the data generated by IoT application?	2M
(h)	What is IoT server?	2M
(i)	What are the parts of a drone?	2M
(j)	Write short notes on Inertial Measurement Unit (IMU).	2M

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

2	Discuss IOT Levels and Deployment Templates.	10M
	OR	
3	Discuss various Communication Protocols.	10M
4	Discuss Setting Up the Board –Programming For IoT Using Arduino.	10M
	OR	
5	Explain the Block diagram of Reading Data from Analog Sensor using Arduino.	10M
6	Draw the IoT architecture and explain.	10M
	OR	
7	Discuss 6LoWPAN protocol in detail.	10M
8	Discuss Communication API with examples.	10M
	OR	
9	Explain Device discovery capabilities like Registering a device, Deregister a device with IoT. Briefly discuss how communication will be held between devices.	10M
10	Briefly discuss The Internet of Drones (IOD).	10M
	OR	
11	Discuss Key Features and Aspects of ArduPilot.	10M

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