Q. Code:679339

Reg. No. | | | | | | | | | | | | | |

B. E / B. TECH.DEGREE EXAMINATIONS, MAY 2024

Fifth Semester

EE18011 – IOT FOR ELECTRICAL ENGINEERS

(Electrical and Electronics Engineering)

(Regulation 2018 / 2018 A)

TIME:3 HOURS **MAX. MARKS: 100**

CO1 Understand the architecture of Internet of Things and develop python coding in Raspberry pi processor for basic operations.
CO2 Apply IoT in Home & Building automation.
CO3 Apply IoT in Industrial automation.
CO4 Apply IoT in smart grid & Energy Management.
CO5 Apply IoT in Electric Vehicle.

PART- A(10x2=20Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	What are the physical devices used in IoT?	**1**	**2**
2.	Compare SPI and I2C.	**1**	**4**
3.	Differentiate Sensors and smart sensors.	**2**	**4**
4.	What is internet enabled light?	**2**	**2**
5.	Analyze the impact of IoT in real time applications.	**3**	**4**
6.	How automation increases workplace productivity and safety?	**3**	**3**
7.	How the remote operation of devices conserves energy?	**4**	**4**
8.	Why green energy should be observable and controllable?	**4**	**3**
9.	What is the role of IoT in battery monitoring?	**5**	**2**
10.	How can be parking converted into smart parking?	**5**	**3**

PART- B (5x 14=70Marks)

			Marks	CO	RBT LEVEL
11. (a)		Discuss the advantages of pi 3 board is IoT based monitoring and control applications with the architecture and specifications.	**(14)**	**1**	**2**
		(OR)			
(b)	**(i)**	Why are different IoT levels classified? Explain in detail.	**(8)**	**1**	**2**
	(ii)	Illustrate the control of an LED using a Switch with Raspberry Pi.	**(6)**	**1**	**2**

12. (a)	Design an IoT based detection systems for smoke and gas in an Industry.	**(14)**	**2**	**3**
	(OR)			
(b)	Discuss the design steps involved in the process of Video, audio, and projector control in the home.	**(14)**	**2**	**3**
13. (a)	Analyze how to optimize production and supply chain networks in manufacturing using IoT?	**(14)**	**3**	**4**
	(OR)			
(b)	Describe the architecture of elements - Automation Pyramid in process industries.	**(14)**	**3**	**4**
14. (a)	How IoT is applied in Advanced Metering Infrastructure (AMI) of a smart grid? With a neat sketch explain the AMI.	**(14)**	**4**	**3**
	(OR)			
(b)	Design a Smart Inverter which can be monitored and controlled by IoT and Elaborate.	**(14)**	**4**	**3**
15. (a)	Design a IoT based Battery Management System (BMS) for an Electric Vehicle.	**(14)**	**5**	**3**
	(OR)			
(b)	Design an IoT based EV charging station locator.	**(14)**	**5**	**3**

PART- C (1x 10=10Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	Design suitable IoT based solutions for the problems with renewable energy based electrical power production.	**(10)**	**4**	**3**

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