1615665 **V**SN Sixth Semester B.E. Makeup Examination, May/June 2018-19 INTERNET OF THINGS – A PRACTICAL APPROACH Max. Marks: 100 Time: 3 Hours Unit I and II are compulsory. Instructions: Assume suitable data if necessary. 2. Answers must be precise and to the point. Draw diagrams / illustrations when necessary. 3. CO UNIT - I (Compulsory) Why embed microprocessor in a computer system? Explain Characteristics of Embedded Computing Applications. (06)(2) Explain embedded system design process with example of a GPS Moving Map taking all (4 phases) b. software engineering development process, with illustrative diagrams. (06)(1)Develop and Explain with sketch & schematic to put heater ON for 2 minutes and OFF for 1 C. minute.. (08)(3) **(2)** (3)M PO CO L **UNIT - II (Compulsory)** Explain any three IoT communication models. a. (06)(1)(2)(1)Explain IoT protocols for link layer. b. (06)(1) (1)(2) Develop an Arduino system with sketch & schematic that blinks 2 separate LEDs, red & blue, with delay of 2 seconds and 0.5 second respectively. 1 (2) (3) (80)(3)10 CO PO M L Illustrate IoTcommunication through Bluetooth and Wi-Fi, a. 3 (06)**(2)** (1) (1) Describe the Platforms for Makingthe IoT Design. b. **(2) (1)** (1) (06)Develop a sketch and schematic, toturns on and off a light emitting diode connected to digital pin 12, c. using a pushbutton attached to pin 2, for Arduino Uno. (3)(2)(3)(08)OR How we can read from Sensors, explain with any three sensors. a. (2)**(1)** (1)(06)DemonstrateWorking principles of sensors and actuators. b. (06)(1)(1)Develop a sketch and schematic, with Bluetooth Module, to control an LEDfor Arduino Uno, and a android app. (08)(3)(3) (2) **UNIT - IV** M PO CO Demonstrate the process of generation of concreate architecture for IoT System Design. a. 5

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b.

Illustrate the relation of an architectural reference model, best practice and concrete architecture.

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c. Develop and explain with sketch & schematic to control the intensity Arduino Uno.	of an l	ed witl	n IoT	device,
6 a. Fyrds: OR	oT-Ref	ference	-Archi	tecture
a. Explain high-level representation of IoT-reference-Model and I dependencies and model influences.	(2)	(1)	(1)	(06)
b. Explain IoT-A architectural reference model building blocks.	(2)	(1)	(1)	
c. Develop and explain with sketch & schematic, Arduino UNO, to detect module and buzzer.	objec	ts usin	g ultra	sound
and buzzer.	(3)	(2)	(3) PO	(08) M
7 a. Explain Django Architecture.	L	CO	PO	IVI
	(2)	7 (1)	(1)	(06)
Device Deregister process, using request-response formats.	(2)	(1)	(1)	(06)
c. Develop and explain, forRaspberry Pi and Python Program, with circuit dusing 1 second delay in between.	agram	to LE	D on	& off,
	(3)	(2)	(3)	(08)
8 a. Illustrate WAMP – AutoBahn for IoT, with session between Client and Rou	ter.			
b. Demonstrate Device Registration logical flow on a user self-service portal.	(2)	(1)	(1)	(06)
c. Develop and explain with about 1 a	(2)	(1)	(1)	(06)
LEDs ON & OFF, the following LEDs, with delay: red for (0.5s), green for (1s), yellow for (0.5s),	(1s),r	ed for	0, to p (2s), y	out the rellow
	(3)	(2)	(3)	(08)
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발가장 나는 가는 모임 없는 경기를 받는 것이 없는데 가는데 되었다. 그 사람들은 사람들은 사람들은 사람들이 되었다. 그는 것은 사람들은 사람들이 없는데 없다면 그렇다면 살아 없다면 없다면 없다.			and the second	

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			Sixth Semester B.E. Semester End Examination, May/June 2016-19							
Ţ,			INTERMET OF THINGS "A"		Max. Ma	rks: 100				
7	Tin	1e: 3	Hours							
9			Instructions: 1. Unit I and II are compulsory. 2. Assume suitable data if necessary. 3. Answers must be precise and to the point. 4. Draw diagrams / illustrations when necessary.	ary.	(\			
			. (O-mouleary)	L	co 💎		M			
	1	a.	Why to embed microprocessor in a computer system? Explain Characteristics Computing Applications.	(2)	(1)	(1)	(00)			
•		b.	Explain embedded system design process with example of a GPS Modiagrams.	oving (2)	Map and	d illustra	(06)			
1		c.	Develop a system with sketch & schematic to switch on Electric Oven for	. ,	15 minut (2) CO	(3) PO	(08) M			
			UNIT – II (Compulsory)	L	CO					
100	2	a.	Explain four communication models.	(2)	(1)	(1)	(06)			
1		b.	Explain IoT protocols, for link layer, IEEE and mobile communication.	(2))	(1)	(1) inute OF	(06) FF.			
av.		c.	Develop and Explain with sketch & schematic blink an LED for 2 minute	(3)	(2)	(3)	(08)			
			UNIT - III	L	CO	PO	M			
	3	a.	Illustrate IoT communication through Bluetooth and Wi-Fi.	(2)	(1)	(1)	(06)			
		b.	Describe the Platforms for IoT Design.	(2)	(1)	(1)	(06)			
		c.	Develop an Arduino system with sketch and schematic that turns on a (LED) connected to digital pin 13, when pressing a pushbutton attached	to pi	f a light n 2. (2)	emitting (3)	g diode (08)			
			OR	(3)	(2)	(5)	(00)			
			Explain how sensor can be used for reading the data. Explain any three	senso	ors.					
	4	a.		(2)	(1)	(1)	(08)			
1		b.	Demonstrate working principles of actuators.	(2)) (1)	(1)	(04)			
•		6	Develop an Arduino system with sketch & schematic to control an LE							
1	,			(3		(3)	(08)			
	1	ene)	UNIT - IV	I	CO	PO	M			
)	5	r a.	Explain with a neat schematic working of RPL protocol. Illustrate the architecture reference model.	(2	2) (1)	(1)	(06)			
		b.	Illustrate the distriction foreign model.	(2) (1)	(1)	(06)			
•		c.	Develop an Arduino system with sketch & schematic to fade an led us	ر) Sing a	2) (1) inglog sig	gnal funct	ion.			
				6	2) (3)	(3)	(08)			

	6	a.		IoT-	Referenc	e-Archi	tecture
			Explain high-level representation of IoT-reference-Model and dependencies and model influences.	(2)	(1)	(1)	(06)
		b.	Explain with a neat schematic working of CoAP protocol.	(2)	(1)	(1)	(06)
		c.	Develop an Arduine system with buzzer interface for detecting obstacles	(-)	(2) CO	(3) PO 4	(08) M
	7		HAUT W	L	CO	The same	
		а.	Explain Django Architecture.	(2)	(1)	(1)	(06)
		b.	Illustrate Device Deregister process, using request-response formats.	(2)	(1),	(1)	(06)
		c.	Develop a python code to interface blinking of LED with Raspberry Pi.	(3)	(2)	(3)	(08)
9	}		Illumina v	(7		
		a.	Illustrate WAMP - AutoBahn for IoT, with session between Client and R	louter			
		b.	Demonster -	(2)	(1)	(1)	(06)
			Demonstrate Device Registration logical flow on a user self-service porta	ıl.			
		c.	Develop a guest	(2)	(1)	(1)	(06)
			Develop a system to put the LEDs ON & OFF for Texas Instruments following sequence of LEDs and specified delay.	IoT	device C	C3200,	with
			following sequence of LEDs and specified delay. Red for (1s), green for (0.5s), and for (1s).			WARE PERSON	
			Red for (1s), green for (0.5s), red for (1s), yellow for (1s), green for (0.5s)), yell	ow for (1	s).	(0.0)
				(3)	(2)	(3)	(08)
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