Roll No: -----

# UPES

## UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017		
Program: B.Tech (CSE+IOT-SC)	Semester – 3 <sup>rd</sup>	l
Subject (Course): Introduction to Internet of Things	Max. Marks	: 100
Course Code : CSIB227	Duration	: 3 Hrs
No. of page/s:		

## Section-A

#### (4 Marks Each)

	(Thurks Luch)			
1.	(a) What is IoT?	(1 Mark)		
	(b) What is the role of WSN in IoT?	(3 Marks)		
2.	Explain any two applications of IoT.	((2 x 2) Marks)		
3.	Define following terminologies of IoT:	((2x2)Marks)		
	(a) Router			
	(b) Big Data			
4.	Will IoT actually work over the internet or will it have its own dedicated	I wide area network?		
	Briefly explain it.	(4 Marks)		

5. What are the challenges and issues in RFID system? ((2+2) Marks)

### Section-B

### (10 Marks Each)

6.	Define RFID. Elucidate various components of RFID	((2+8) Marks)
7.	What do you mean by Home Automation?	(10 Marks)
8.	Explain IoT Hosted Services.	(10 Marks)
9.	Describe some different types of sensors that are used in IOT devices?	(10 Marks)

#### Section-C (Attempt any two Questions) (20 Marks Each)

10. Elaborate main requirements of IoT Communication?	(20 Marks)
11. Explain four Embedded Products that are used in IoT?	((4x5) Marks)
12. With the help of some applications explain security requirements in IoT.	(20 Marks)

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#### Section-A (4 Marks Each)

1.	(a) What is IoT?	(1 Mark)
	(b) What is the role of Cloud in IoT?	(3 Marks)
2.	Define following terminologies of IoT:	((2x2)Marks)
	(a) Sensors and Actuators	
	(b) WSN	
3.	What are Security Threats for IoT?	((2+2) Marks)
4.	Will IoT actually work over the internet or will it have its own dedicate	ed wide area network?
	Briefly explain it.	(4 Marks)
5	Discussion of development and standarding in LT	$((2, 2)) \mathbf{M}_{-1}$

5. Discuss area of development and standardization in IoT. ((2+2) Marks)

#### Section-B (10 Marks Fach)

	(10 Marks Each)		
6.	(a) Mention the Role of Trusted Environment in IoT.	(5 Marks)	
	(b) Draw the block diagram of M2M Device.	(5 Marks)	
7.	Describe some different types of sensors that are used in IOT devices?	(10 Marks)	
8.	Explain following IoT Based applications	((2 x 5) Marks)	
	(a) Health Care		
	(b) Traffic Management		
9.	Explain IoT Hosted Services.	(10 Marks)	

#### Section-C (Attempt any two Questions) (20 Marks Each)

10. Elaborate IoT Security Framework?	(20 Marks)
11. Explain four Embedded Products that are used in IoT?	((4x5) Marks)
12. With the help of Block Diagram elaborate every component of basic IoT device.	(20 Marks)