

UE15CS433 – Internet of Things (MOOC)

Max Marks: 100

1	a)	What is a "Thing" in the context of the IoT? Support your explanation with a modern day IoT applications.	6
	b)	Compare and contrast transducers and actuators with relevant examples.	6
	c)	In the context of IoT, what is a network protocol? Explain, with example, how CoAP works with a data flow diagram.	8
2	When you want to search for some information, you enter a search query in Google or similar search engine and you get an answer very rapidly. The way that that happens is that Google servers have crawled the internet to index and locate all the information on the internet.		20
	What would it take to have the equivalent of search for the physical world using the Internet of Things? How would you have the ability to keep track and know what is where in the world as a function of time? Please share your thoughts in crisp and cogent sentences.		
3	a)	List some of the flows/steps that a connected and self-driving vehicle like a car would have to follow to go from location A to location B safely.	10
	b)	What do you mean by SCADA? Can you give an example of impact of SCADA system in factory/process automation?	10
4	a)	What is interoperability in context of IoT? Why is interoperability important in IoT?	6
	b)	How can you make an intelligent traffic management system using Arduino? Discuss the objective, system architecture, functionalities, hardware and software specifications.	14
5	a)	Discuss the applications and challenges of IIoT.	6
	b)	Explain any 3 quantitative analysis models using in IoT in few lines.	6
	c)	Illustrate with suitable depiction for the following case studies in IoT: i) Precision agriculture ii) Real-time monitoring in healthcare	8