Reg. No. ☐☐☐☐☐☐☐☐☐

MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL

A Constituent Institution of Manipal University

VII SEMESTER B.TECH. (INFORMATION TECHNOLOGY / COMPUTER AND COMMUNICATION ENGINEERING)

END SEMESTER EXAMINATION, NOVEMBER 2017

SUBJECT:PROGRAM ELECTIVE IV: INTERNET OF THINGS [ICT 4019]

REVISED CREDIT SYSTEM
(23/11/2017)

Time: 3 Hours   MAX. MARKS: 50

> **Instructions to Candidates:**
> ❖ Answer ALL the questions.
> ❖ Missing data if any, may be suitably assumed.

1A.	Explain functionality of the main four pillars of IoT system.	5
1B.	What is the role of power SCADA, V2G and their variants in the smart grid technology?	3
1C.	What is a smart object as defined by Internet Protocol for Smart Objects (IPSO)?	2
2A.	What is the effect of OPC on the standardization process?	5
2B.	What are the roles of ETSI M2M interfaces?	3
2C.	List the ETSI M2M network service capabilities.	2
3A.	Explain the necessity of standardization in WSN, M2M. How is it carried out?	5
3B.	With a suitable example show how a complex event processing resource is mapped to an IoT service during the information flow.	3
3C.	Show how the internetworking issues are handled when a request is made from HTTP client to CoAP server through HTTP proxy.	2
4A.	Draw the high level IoT Information model. Show its relationship with core concepts of IoT Domain Model.	5
4B.	Explain the role of WSN in the following: i) Visual Sensor Network ii)Body Sensor Network iii) Vehicular Sensor Network	3
4C.	What is service enablement? What are the functionalities supported by this layer?	2

5A. Get the high level architecture of functional model. Explain the functionalities of each of the functional group.   5

5B. Explain UUID and OID. Provide the required structure and the hierarchy.   3

5C. What are the roles of the following enabling technologies in IoT? i)ebXML ii) BPML.   2