(3 Hours) **[Total Marks: 80]**

N.B.: (1) Question No. 1 is **Compulsory**.
(2) Attempt any **three** questions out of the remaining **five**.
(3) Each question carries 20 marks and sub-question carry equal marks.
(4) Assume suitable data if required.

1.	**(a)**	What is the difference between IoT and M2M?	**(5)**
	(b)	List and explain at least 3 sources of IoT.	**(5)**
	(c)	Write a short notes on AWS and Xively cloud for IoT.	**(5)**
	(d)	Describe integration of mobile with the server.	**(5)**
2.	**(a)**	Draw and Explain different IoTLevels in detail.	**(10)**
	(b)	Explain how RFID and bluetooth helps in device communications?	**(10)**
3.	**(a)**	Explain LPWAN with respect to LORA and NBIoT.	**(10)**
	(b)	Explain the significance of privacy and security measures in IoT based systems. Explain few privacy and security measures.	**(10)**
4.	**(a)**	Describe physical devices and end points in IoT based systems.	**(10)**
	(b)	Discuss SOAP and REST protocols used for web connectivity.	**(10)**
5	**(a)**	Explain data handling in IoT based systems with respect to data acquiring and storage.	**(10)**
	(b)	Draw and explain in detail the functional block diagram of IoT.	**(10)**
6.	**(a)**	How can IoT be used in agriculture with respect to monitoring weather conditions, soil quality, crop growth progress and water consumption? Explain with respect to the software, hardware, sensors, protocols, architecture and platforms used to design this system.	**(10)**
	(b)	Explain in brief various operating systems used in IoT	**(10)**

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