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MTECH
(SEM II) THEORY EXAMINATION 2021-22
INTERNET OF THINGS

Time: 3 Hours**Total Marks: 100****Notes:**

- Attempt all Sections and Assume any missing data.
- Appropriate marks are allotted to each question, answer accordingly.

SECTION-A	Attempt All of the following Questions in brief	Marks (10*2=20)
Q1(a)	What is vision of IoT?	
Q1(b)	What is Machine to Machine communication (M2M)?	
Q1(c)	Differentiate between Web of Things and Internet of Things.	
Q1(d)	What are different components required for IoT device?	
Q1(e)	What is IoT Analytics?	
Q1(f)	What is the significance of application layer in IoT system?	
Q1(g)	What is ZigBee?	
Q1(h)	What are the different wireless technologies used in IoT systems?	
Q1(i)	What is the importance of the Internet of Everything?	
Q1(j)	Write a short note on Light Dependent Resistor.	
SECTION-B	Attempt ANY THREE of the following Questions	Marks (3*10=30)
Q2(a)	What do you mean by building blocks of IoT? Explain.	
Q2(b)	Describe the architecture of IOT & explain about the main components of IOT.	
Q2(c)	What are WSN (Wireless Sensor Networks)? Name the different wireless technologies. What is the relation between WSN and IOT?	
Q2(d)	Explain the various elements of a Zig bee wireless network. Describe the applications of Zig bee wireless network.	
Q2(e)	Describe how the environment can be more protected with the help of IoT technology in the following categories: (i) Air pollution monitoring (ii) Noise pollution monitoring (iii) Forest fire detection (iv) River flood detection	
SECTION-C	Attempt ANY ONE following Question	Marks (1*10=10)
Q3(a)	What are different wired and wireless connectivity we can use in IoT explain with example.	
Q3(b)	Explain different networking and communication model in IoT.	
SECTION-C	Attempt ANY ONE following Question	Marks (1*10=10)
Q4(a)	Explain Near Field Communication (NFC) and RFID.	
Q4(b)	Describe an example of an IoT system in which information and knowledge are inferred from the data. What are the protocols associated with network/internet layer of IoT? Explain them in detail.	
SECTION-C	Attempt ANY ONE following Question	Marks (1*10=10)
Q5(a)	What are the different layers of IoT protocols? Explain the functions of each layer.	
Q5(b)	What effect will the internet of things (IoT) have in healthcare? Explain with any one example of smart device.	
SECTION-C	Attempt ANY ONE following Question	Marks (1*10=10)
Q6(a)	Explain briefly about Low Energy Bluetooth device.	
Q6(b)	Write a program of basic Wi-Fi application – Communication between two MSP430 based sensor nodes.	
SECTION-C	Attempt ANY ONE following Question	Marks (1*10=10)
Q7(a)	Draw and explain the design of IoT based Home Automation System.	
Q7(b)	Explain how IoT technology used to enable the agricultural industry to increase operational efficiency, lower costs, reduce waste, and improve the quality of their yield.	