



SNS COLLEGE OF TECHNOLOGY

(Autonomous)

MCA- Internal Assessment –I (June 2023)

Academic Year 2022-2023(EVEN) / Second Semester

19CAE725– Internet of Things

Maximum Marks: 50

Answer Key

PART - A (5 x 2 = 10 Marks)

A

Time: 1^{1/2} Hours

- | | CO | BL |
|--|-----|----|
| Define IoT | | |
| 1 What is the Internet of Things and who is using it. Learn about the "Internet of Things" (IoT) in 3 minutes | CO1 | R |
| Explain about transport layer in physical design of IoT. | | |
| 2 The transport layer in IoT is responsible for transmitting data from multiple devices to an on-premise or cloud data center | CO1 | U |
| List the fundamental blocks of IoT | | |
| 3 An IoT system comprises four basic building blocks: sensors,processors, gateways, and applications. | CO1 | U |
| Define M2M. | | |
| 4 Machine-to-machine, or M2M , is a broad label that can be used to describe any technology that enables networked devices to exchange | CO2 | R |
| Discuss about the Application Layer in IoT. | | |
| 5 The application layer is the interface between the IoT device and the network with which it will communicate. It handles data formatting and presentation and serves as the bridge between what the IoT device is doing and the network handoff of the data it produces. | CO2 | U |

PART - B (2 x 13 = 26, 1 X 14 = 14 Marks)

- Identify the IoT enabling technologies in real time.**
IoT (internet of things) enabling technologies are
- | | | | |
|-------|--|-----|----|
| 6 (a) | 1. Wireless Sensor Network
2. Cloud Computing
3. Big Data Analytics
4. Communications Protocols
5. Embedded System | CO1 | AN |
|-------|--|-----|----|

(Or)

- | | | | |
|-----|---|-----|---|
| (b) | Describe the different application used in City Automation | CO1 | U |
|-----|---|-----|---|



- **Cost** is a key driver in the decision to convert from wired solutions to wireless, as it is massively expensive to install and maintain landlines. Additionally, the costs of cellular data plans are dropping and the robustness and throughput of wireless communications are therefore enabling new use cases that would previously have been cost-prohibitive.
- **Efficiency** is another important impetus. In most wired solutions, service personnel must physically go to the installation site to audit and service the communications infrastructure. These "truck rolls" are expensive and inefficient, since they typically occur on a schedule whether or not a problem exists. By contrast, wireless communications enable remote monitoring and management of IoT deployments. This enables administrators to perform firmware updates and security patches across the entire deployment, and get automated notifications in the event of any issues.
- **Resource reduction** is often a driver as well, particularly in use cases such as smart street lighting and monitoring assets. These IoT applications make it possible to use sensors to gather data and wireless modules to control resource use, which can result in a dramatic reduction in energy use.

7 **Describe the difference between the IoT and M2M.**

	IoT	M2M		
(a)	Abbreviation	Internet of Things	Machine to Machine	CO2 AN
		Devices have objects	Some degree of	

	for decision making	observed in this.
Connection type used	The connection is via Network and using various communication types.	The connection is a point to point
Communication protocol used	Internet protocols are used such as HTTP, FTP, and Telnet.	Traditional protocols and communication technology techniques are used
Data Sharing	Data is shared between other applications that are used to improve the end-user experience.	Data is shared with only the communicating parties.
Internet	Internet connection is required for communication	Devices are not dependent on the Internet.
Type of Communication	It supports cloud communication	It supports point-to-point communication.
Computer System	Involves the usage of both Hardware and Software.	Mostly hardware-based technology
Scope	A large number of devices yet scope is large.	Limited Scope for devices.
Business Type used	Business 2 Business(B2B) and Business 2 Consumer(B2C)	Business 2 Business (B2B)

(Or)

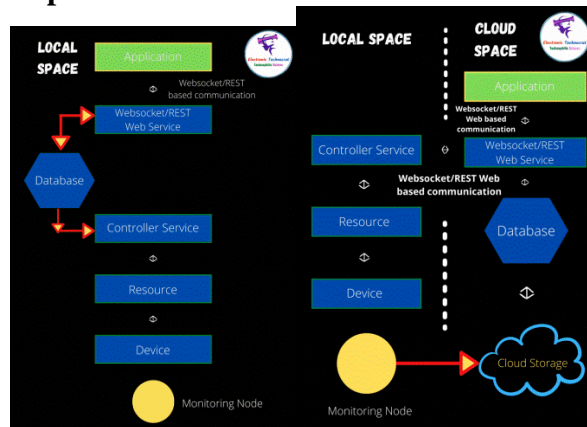
(b) Elaborate the Role of Automation in Logistics.

CO2

C

Explain about IoT level & Process of Level up Details

8 (a)



CO1 U

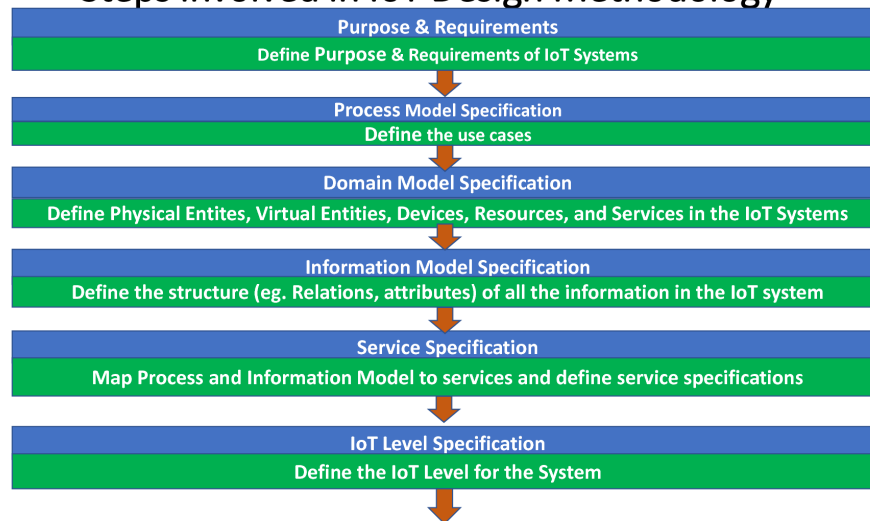
Refer: <https://technophileholmes.hashnode.dev/internet-of-things-iot-levels>

(Or)

How Domain specific IoT systems are developed and managed.

Steps involved in IoT Design Methodology

(b)



CO2 AN