GEETHANJALIINSTITUTEOFSCIENCE&TECHNOLOGY
(ANAUTONOMOUS INSTITUTION)
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QUESTION BANK (DESCRIPTIVE)

Subject Name: Internet of Things
Subject Code: 23A0531D

Course & Branch : B.Tech & CSE(CS)
Year & Semester: III B.Tech II Semester **Regulation:** RG23

Unit-1

S.No	2 Marks Questions (Short)	[BT Level][CO][Marks]
1	Define Internet of Things (IoT)	L1, CO1, 2 M
2	State any two characteristics of IoT	L1, CO1, 2 M
3	What is meant by physical design of IoT?	L1, CO1, 2 M
4	Define IoT communication models.	L1, CO1, 2 M
5	What are IoT communication APIs?	L1, CO1, 2 M
6	List any two IoT communication protocols.	L1, CO1, 2 M
7	What is the role of embedded systems in IoT?	L1, CO1, 2 M
8	What are IoT levels?	L1, CO1, 2 M
9	Define IoT templates.	L1, CO1, 2 M
10	Mention any two application areas of IoT.	L1, CO1, 2 M

S.No	Descriptive Questions (Long)	[BT Level] [CO][Marks]
1	(a) Explain the concept of Internet of Things and its key characteristics with examples. (b) Describe the physical design of IoT with a neat diagram.	L2, CO1, 5M L2, CO1, 5M
2	(a) Explain different IoT communication models. (b) Discuss IoT communication APIs and their significance.	L2, CO1, 5M L2, CO1, 5M
3	Illustrate a basic IoT system architecture for a real-time application.	L2, CO1, 10M

4	(a) Explain different IoT levels with suitable examples. (b) Discuss IoT templates and their importance in solution design	L2, CO1, 5M L2, CO1, 5M
5	Compare traditional internet and Internet of Things.	L2, CO1, 10M
6	Explain how IoT enables smart environments.	L2, CO1, 10M
7	Explain challenges involved in IoT communication.	L2, CO1, 10M
8	Illustrate a basic IoT system architecture for a real-time application.	L3, CO1, 10M
9	Design a simple IoT use-case and explain its components.	L3, CO1, 10M
10	Describe the role of embedded systems in IoT applications.	L2, CO1, 10M

UNIT-2

S.No	2 Marks Questions (Short)	[BT Level][CO][Marks]
1	Define a sensor.	L1, CO2, 2 M
2	Define an actuator.	L1, CO2, 2 M
3	State the working principle of sensors.	L1, CO2, 2 M
4	What is IoT prototyping?	L1, CO2, 2 M
5	List any two IoT development boards.	L1, CO2, 2 M
6	What is the purpose of programming in IoT systems?	L1, CO2, 2 M
7	What is sensor data acquisition?	L1, CO2, 2 M
8	Define Bluetooth communication in IoT.	L1, CO2, 2 M
9	Define Wi-Fi communication in IoT.	L1, CO2, 2 M

10	List any two advantages of microcontrollers in IoT.	L1, CO2, 2 M

S.No	Descriptive Questions (Long)	[BT Level] [CO][Marks]
1	Explain the working principles of sensors and actuators.	L2, CO2, 10M
2	(a) Explain programming requirements for IoT systems. (b) Discuss sensor data acquisition in IoT.	L2, CO2, 5M L2, CO2, 5M
3	(a) Explain communication between sensors and microcontrollers. (b) Describe Bluetooth communication in IoT applications.	L2, CO3, 5M L2, CO2, 5M
4	Describe the process of setting up an IoT development board.	L2, CO2, 10M
5	Describe Wi-Fi communication in IoT applications.	L2, CO2, 10M
6	Compare Bluetooth and Wi-Fi communication in IoT.	L2, CO2, 10M
7	Develop an IoT prototype using sensors and actuators.	L3, CO2, 10M
8	Explain the role of microprocessors in IoT systems.	L2, CO2, 10M
9	Explain challenges in IoT prototyping.	L2, CO2, 10M
10	Describe power management issues in IoT devices.	L2, CO2, 10M

Unit-3

S.No	2 Marks Questions (Short)	[BT Level][CO][Marks]
1	Define IoT architecture.	L1, CO3, 2M
2	What is IoT reference model?	L1, CO3, 2M
3	State the purpose of architecture reference model.	L1, CO3, 2M
4	Expand 6LoWPAN.	L1, CO3, 2M
5	What is RPL protocol?	L1, CO3, 2M
6	Define CoAP.	L1, CO3, 2M
7	What is MQTT protocol?	L1, CO3, 2M
8	List any two IoT protocols.	L1, CO3, 2M
9	What is an IoT framework?	L1, CO3, 2M
10	What is ThingSpeak?	L1, CO3, 2M

S.No	Descriptive Questions (Long)	[BT Level] [CO][Marks]
1	Explain IoT architecture with a neat diagram.	L3, CO3, 10M
2	Describe IoT reference model and its layers.	L2, CO3, 10M
3	Discuss architecture reference model for IoT.	L2, CO3, 10M
4	(a) Explain 6LoWPAN protocol. (b) Explain RPL protocol and its functions.	L2, CO3, 5M L2, CO3, 5M
5	Compare CoAP and MQTT protocols.	L2, CO3, 10M
6	Explain ThingSpeak framework with applications.	L2, CO3, 10M
7	Design an IoT architecture for smart agriculture..	L2, CO2, 10M
8	Explain security challenges in IoT protocols.	L3, CO3, 10M
9	Explain MQTT protocol and its working.	L2, CO2, 10M
10	Discuss IoT frameworks and their role.	L2, CO2, 10M

Unit-4

S.No	2 Marks Questions (Short)	[BT Level][CO][Marks]
1	Define device discovery in IoT.	L1, CO4, 2M
2	What is device registration?	L1, CO4, 2M
3	What is device deregistration?	L1, CO4, 2M
4	Define cloud computing.	L1, CO4, 2M
5	What is cloud storage?	L1, CO4, 2M
6	List any two cloud storage models.	L1, CO4, 2M
7	Define communication APIs.	L1, CO4, 2M
8	What is a web server?	L1, CO4, 2M
9	State the role of web server in IoT.	L1, CO4, 2M
10	List any two benefits of cloud services in IoT.	L1, CO4, 2M

S.No	Descriptive Questions (Long)	[BT Level] [CO][Marks]
1	Explain device discovery mechanisms in IoT.	L2, CO4, 10M
2	Describe the process of device registration and deregistration.	L2, CO4, 10M
3	(a) Describe the role of web servers in IoT. (b) Explain cloud computing concepts for IoT.	L2, CO4, 5M L2, CO4, 5M
4	Develop a simple IoT cloud architecture.	L2, CO4, 10M
5	Discuss cloud storage models used in IoT.	L2, CO4, 10M
6	Explain communication APIs for IoT cloud services.	L2, CO4, 10M
7	Describe the role of web servers in IoT.	L2, CO4, 10M
8	Explain IoT data flow between device and cloud.	L2, CO4, 10M
9	Compare edge computing and cloud computing.	L2, CO4, 10M
10	Design a cloud-based IoT system.	L3, CO4, 10M

Unit-5

S.No	2 Marks Questions (Short)	[BT Level][CO][Marks]
1	Define Unmanned Aerial Vehicle (UAV).	L1, CO5, 2M
2	What is a drone?	L1, CO5, 2M
3	List any two types of drones.	L1, CO5, 2M
4	Mention any two defence applications of UAVs.	L1, CO5, 2M
5	Mention any two civil applications of UAVs.	L1, CO5, 2M
6	What is an Electronic Speed Controller (ESC)?	L1, CO5, 2M
7	State the function of GPS in UAVs.	L1, CO5, 2M
8	Define IMU sensor.	L1, CO5, 2M
9	What is ArduPilot?	L1, CO5, 2M
10	What is Internet of Drones (IoD)?	L1, CO5, 2M

S.No	Descriptive Questions (Long)	[BT Level] [CO][Marks]
1	Explain the concept of UAVs and drones.	L2, CO5, 10M
2	Describe different types of drones.	L2, CO5, 10M
3	(a) Explain defence applications of UAVs. (b) Explain civil applications of UAVs.	L2, CO5, 5M L2, CO5, 5M
4	Describe UAV components and sensors.	L2, CO5, 10M
5	Explain the role of motors and ESC in UAVs.	L2, CO5, 10M
6	(a) Describe Mission Planner software. (b) Explain Internet of Drones (IoD).	L2, CO5, 5M L2, CO5, 5M
7	Explain UAV software platforms like ArduPilot.	L2, CO5, 10M
8	Apply UAV-IoT for environmental monitoring.	L3, CO5, 10M
9	Design a UAV-based IoT system.	L3, CO5, 10M
10	Explain challenges in UAV-based IoT..	L2, CO5, 10M

Signature of the Staff :

Signature of Department Academic Committee Member 1:

Signature of Department Academic Committee Member 2:

Signature of Department Academic Committee Member 3: