



Galgotias College of Engineering and Technology, Greater Noida

Pre University Test (PUT) : Odd / Even Semester 2024 -2025

Course/Branch : CS-AI, CS-DS, AI&DS, AI&ML, CSD

Semester : VII

Subject Name : Internet of Things

Max. Marks : 100

Subject Code : KCS712

Time : 180 min

CO-1 : Demonstrate basic concepts, principles and challenges in IoT.

CO-2 : Illustrate functioning of hardware devices and sensors used for IoT.

CO-3 : Analyze network communication aspects and protocols used in IoT.

CO-4 : Apply IoT for developing real life applications using Arduino programming.

CO-5 : To develop IoT infrastructure for popular applications.

Section – A # 20 Marks (Short Answer Type Questions)

Attempt **ALL** the questions. Each Question is of 2 marks (10 x 2 = 20 marks)

Q. No.	COx	Question Description # Attempt ALL the questions. Each Question is of 2 marks	
1	a	CO1 Define Internet of Things.	(K1)
	b	CO1 Explain how M2M different from IoT.	(K2)
	c	CO2 Define RFID.	(K1)
	d	CO2 List features of Arduino.	(K2)
	e	CO3 Explain smart street light system in smart system.	(K2)
	f	CO3 Discuss Data aggregation & dissemination.	(K1)
	g	CO4 Define Neighbour Node Discovery	(K2)
	h	CO4 Write a simple program in Arduino.	(K2)
	i	CO5 Discuss security challenges in IoT	(K2)
	j	CO5 Discuss the application and challenges of IoT	(K1)

Section – B # 30 Marks (Long / Medium Answer Type Questions)

Attempt **ALL** the questions. Each Question is of 6 marks (5 x 6 = 30 marks)

Q.2 (CO-1): Explain industries can benefit from IoT. (K2)

OR

Explain IoT Architecture view. (K2)

Q.3 (CO-2): Explain three popular IoT hardware Platforms. (K2)

OR

Explain the basic concept of Embedded System and explain Raspberry Pi as example. (K2)

Q.4 (CO-3): Explain MAC protocol Survey. (K2)

OR

Discuss the main difference between Arduino and Raspberry Pi. (K2)

Q.5 (CO-4): Explain the primary hardware components that make up an embedded system. (K2)

OR

WAP to check the lowercase and uppercase version of alphabet character using logical operator (K3)

Q.6 (CO-5): Explain the functional layers and capabilities of an IoT solution with neat diagram. (K3)

OR

Explain the block diagram of IoT device hardware. (K2)

Section – C # 50 Marks (Medium / Long Answer Type Questions)

Attempt **ALL** the questions. Each Question is of 10 marks.

Q.7 (CO-1): Attempt any ONE question. Each question is of 10 marks.

a. Explain an embedded system on an IoT device. (K2)

b. Describe ease of designing and affordability of IoT devices. (K2)

Q.8 (CO-2): Attempt any ONE question. Each question is of 10 marks.

- a. Explain how RFID is helpful in IoT Architecture. (K2)
- b. Discuss the components of Raspberry Pi? (K2)

Q.9 (CO-3): Attempt any ONE question. Each question is of 10 marks.

- a. Discuss various standards and technologies that enable Ad hoc connectivity between devices that forms the basis of IoT. (K2)
- b. Classify MAC Protocol used in sensors network. (K3)

Q.10 (CO-4): Attempt any ONE question. Each question is of 10 marks.

- a. Write a C program to interface DHT sensor and LED. The program will switch on LED once the temperature rises above the 35 degrees. (K3)
- b. WAP a basic program of Arduino LED Blink. (K3)

Q.11 (CO-5): Attempt any ONE question. Each question is of 10 marks.

- a. Explain designing of smart streetlights in smart city. (K2)
- b. Explain development challenges in IoT. (K2)

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