K. K. Wagh Institute of Engineering Education & Research, Nashik

(An Autonomous Institute From A.Y. 2022-23)

WINTER-2025	
Exam Seat No.:	
Academic Year:2025-2026	Semester:V
Class:TY	Program:B.Tech
Branch Code:ADS/COM	Pattern:2023
Name of Course:Internet of Things	Course Code:2301306A
Max. Marks:60	Duration:2.30 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 2 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

		Marks	CO
Question No. 1			
1	Explain IOT Level 5 and Level 6 with a neat diagram.	(6)	CO1
Question No. 2			
2	Choose and explain suitable connectivity technologies used in IoT devices for smart home system.	(6)	CO2
Question No. 3			
3.a)	llustrate with neat and labeled diagrams architecture of M2M and WSN	(6)	CO3
	OR		
3.b)	Compare and contrast the four pillars of IoT M2M, WSN, SCADA, and RFID.	(6)	CO3
3.c)	Illustrate the working and architecture of the RFID protocol used in IoT applications.	(5)	CO3
	OR		
3.d)	Illustrate the working of IEEE 802.15.4 protocol and explain how it forms the basis of ZigBee and WSN communication.	(5)	CO3
3.e)	Compare 6LoWPAN and LoRa technologies based on architecture, range, data rate, and power consumption.	(5)	CO3
	OR		
3.f)	Explain how the Modbus protocol enables data communication in IoT and industrial automation.	(5)	CO3
Question No. 4			
4.a)	Outline key IoT vulnerabilities affecting essential domains including healthcare, industrial automation, and smart urban systems, giving relevant examples.	(6)	CO4
	OR		
4.b)	Explain the concept of threat modelling and its importance in securing IoT systems.	(6)	CO4

4.c)	Explain the different types of access control mechanisms used in IoT.	(5)	CO4

OR

4.d)	Explain the Mirai botnet attack on IoT devices and outline the steps to protect systems from such threats.	(5)	CO4
4.e)	Classify IoT security elements based on Identity Management and Access Control techniques.	(5)	CO4

OR

4.f)	Describe the various layers and functions involved in the IoT security model.	(5)	CO4

Question No. 5

5.a)	Describe the communication models implemented in WAMP architecture with suitable examples.	(6)	CO5

OR

5.b)	Summarize the functionalities of Xively Cloud platform for Internet of Things solutions.	(6)	CO5
5.c)	Explain how Amazon Web Services supports IoT device connectivity and data management.	(5)	CO5

OR

5.d)	Describe the importance of Cloud Computing in the development of IoT applications.	(5)	CO5
5.e)	Illustrate the working of Django's MVT architecture using a suitable diagram.	(5)	CO5

OR

5.f)	Write a brief note on Skynet architecture and its role in IoT communication.	(5)	CO5

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