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 in detail the IoT system design methodology with an example (e.g., Smart Home or Smart Agriculture system).	(6)	CO1
Question No. 2			
2	Build an application to read the environment temperature. If temperature crosses a threshold value 22.5, the application indicates the user using LED or Buzzer.	(6)	CO2
Question No. 3			
3.a)	Illustrate the architecture and working of a Wireless Sensor Network (WSN) in IoT applications.	(6)	CO3
	OR		
3.b)	Explain why IoT standardization is important for interoperability and also state issues with IoT standardization.	(6)	CO3
3.c)	Explain how SCADA is used for industrial IoT applications.	(5)	CO3
	OR		
3.d)	Explain the working of BACNet protocol and its utilization in IOT Application.	(5)	CO3
3.e)	Explain use of Unified Data Standards and its role in IoT communication.	(5)	CO3
	OR		
3.f)	Explain the working of IEEE 802.15.4 protocol and how it supports low-power wireless communication.	(5)	CO3
Question No. 4			
4.a)	Explain the common vulnerabilities of IoT such as weak authentication, data leakage, and poor encryption.	(6)	CO4
	OR		
4.b)	Explain the security requirements of IoT systems in detail with examples.	(6)	CO4

4.c)	Explain how encryption and secure communication protocols protect IoT data.	(5)	CO4

OR

4.d)	What is Non-repudiation explain the different measures to ensure non-repudation.	(5)	CO4
4.e)	Consider an application for home automation for controlling and monitoring various appliances. Identity different security threats which could arise.	(5)	CO4

OR

4.f)	Describe the challenge of maintaining security in heterogeneous IoT environments.	(5)	CO4

Question No. 5

5.a)	Draw and explain the architecture of Django framework.	(6)	CO5

OR

5.b)	Explain various cloud model used in IOT.	(6)	CO5
5.c)	Explain the difference between REST and WebSocket APIs in IoT communication.	(5)	CO5

OR

5.d)	Explain in detail WAMP Protocol used in IOT.	(5)	CO5
5.e)	Explain the concept and functions of Xively Cloud for IoT**.**	(5)	CO5

OR

5.f)	Explain how Amazon Web Services (AWS) for IoT supports cloud-based device management.	(5)	CO5

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