

Enroll No

Rajarambapu Institute of Technology, Rajaramnagar

(An Empowered Autonomous Institute, affiliated to SUK)

Q.P. Code

U 2986

Unit Test -I / II (2025-26)**T.Y. B.Tech . - Department of Robotics and Automation****Course Code: RA311****Course Name: Wireless Sensors Networks for Robotics**Day & Date: *Wednesday 13/08/2025*Time: *10:30 To 12:30*

Max Marks- 25

- Instructions:**
- 1) All questions are compulsory.
 - 2) Figures in rounded () brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.
 - 3) CO is the index number of the Course Outcome statement.
 - 4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.
 - 5) Assume suitable data if necessary.
 - 6) Use of non-programmable calculators is allowed

			Marks	BT Level	COs
Q.1	A	Define Wireless Sensor Networks (WSNs). (2 marks) State any three applications of WSNs in Industry 4.0. (2 marks)	4	1	1
	B	List any four unique constraints of WSNs. (2 marks) State any three applications of WSNs in Industry 4.0. (2 marks)	4	1	1
	C	Explain the architecture of a sensor node with a neat diagram. (5 marks)	5	2	1
Q.2	A	Describe the communication models in WSNs with suitable examples. (2 marks for diagram)	6	2	1
	B	Discuss how clustering improves energy efficiency in WSNs. (4 marks) have your insights on ad-hod clustering	6	2	1
OR					
	C	Compare the features of Mica2 and TelosB sensor node platforms. (4 marks) [2 marks architecture diagram]	6	2	1

