PCS020526CB-1

Reg No.: _____ Name: _____

Jyothi Engineering College(Autonomous)

M.Tech Degree S2 (R) Examination, May 2026 (2025 Scheme)

25PCST232 - WIRELESS SENSOR NETWORKS

Total Mark: 60 **Total Time: 2hr 30min**

CO MARK

PART A

Answer All Questions

1. Summarize the working and structure of a sensor node used in Wireless Sensor Networks. CO1 (5)
2. Describe the role of a gateway in WSN. CO2 (5)
3. Explain how low duty cycle protocols help in energy conservation in Wireless Sensor Networks. CO3 (5)
4. Describe the concept of routing in Wireless Sensor Networks. CO4 (5)
5. Discuss about the security concerns in the design of WSN. CO5 (5)

PART B

Answer Any Five Question(s)

6. Compare and analyze microprocessors and microcontrollers based on their design and usage in WSN. CO1 (7)
7. Illustrate how optimization techniques can be applied to improve the design of Wireless Sensor Networks. CO2 (7)
8. Design a mechanism using periodic wake-up and sleep concepts to improve energy efficiency in Wireless Sensor Network nodes. CO3 (7)
9. Explain the concepts of Rumor Routing and SPIN protocols used in Wireless Sensor Networks. CO4 (7)
10. Evaluate the methods used to address security challenges in Wireless Sensor Networks. CO5 (7)
11. Differentiate between the MAC and S-MAC protocols used in WSN. CO3 (7)
12. Describe the major challenges involved in sensor network programming. CO1 (7)

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