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**Question Paper Code: U5210**

M.E. DEGREE EXAMINATION, NOV 2025

Professional Elective

Computer Science and Engineering

21PCS510 – WIRELESS SENSOR NETWORKS

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Write in brief various standards used and applications of Wireless Sensor Networks. CO1-U (20)  
Or  
(b) Briefly explain IEEE 802.15.4, Zigbee Network Architectures and Protocol Stack. CO1-U (20)
  
2. (a) Discuss in brief Sensor taxonomy to be followed in building Wireless Sensor Networks. CO1-U (20)  
Or  
(b) Write a short note on available technologies. CO1-U (20)  
(i) Campus applications  
(ii) MAN/WAN applications
  
3. (a) Explain the performance requirements and commonly used MAC protocols in wireless sensor networks. CO1-U (20)  
Or  
(b) Analyze the Internet of Things with Wireless node technology for various Automation systems. CO1-U (20)
  
4. (a) Explain the location based energy efficient reliable routing protocol for Wireless Sensor Network. CO1-App (20)  
Or  
(b) Briefly discuss the Target Tracking in Wireless Sensor Network for a roaming object. CO1-App (20)

5. (a) Explain the various Node level simulators available for Sensor Networks. CO1-App (20)

Or

(b) Explain the implementation of Hardware and Software System-Level Simulator for Wireless Sensor Networks. CO1-App (20)