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Question Paper Code: R4E05

B.E./B.Tech. DEGREE EXAMINATION, APRIL / MAY 2025

Fourth Semester

(Artificial Intelligence and Data Science)

R21UAD405 - INTERNET OF THINGS AND SENSORS

(Regulations R2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

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|---|--------|
| 1. Define IOT | CO1- U |
| 2. What are the characteristics of IOT? | CO1- U |
| 3. List out the Features of IoT. | CO1- U |
| 4. Differentiate between IoT and M2M | CO1- U |
| 5. What are the components of Embedded Systems? | CO1- U |
| 6. Define Microcontroller | CO1- U |
| 7. What are the interfaces in Raspberry? | CO1- U |
| 8. Differentiate Raspberry with Arduino | CO1- U |
| 9. What are examples of IoT applications? | CO1- U |
| 10. List the Industrial IoT applications. | CO1- U |

PART – B (5 x 16= 80 Marks)

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|---|--------|------|
| 11. (a) Briefly Explain about IOT and its Characteristics | CO1- U | (16) |
| Or | | |
| (b) Define IOT. Explain Characteristics and component of IOT. | CO1- U | (16) |
| 12. (a) Define IoT and M2M. State the Characteristics of IoT and M2M and Illustrate the difference between IoT and M2M. | CO1- U | (16) |
| Or | | |
| (b) Explain in detail about IoT Value chain and M2M Value chain | CO1- U | (16) |

13. (a) Briefly explain about various Components of Embedded Systems. CO1- U (16)
- Or
- (b) Sketch the Micro-Controller Architecture and properties in detail CO1- U (16)
14. (a) Analyze the relative strength and limitation of Building IOT with RASPERRY PI CO3- Ana (16)
- Or
- (b) Construct a Python program using Raspberry PI with focus on interfacing external gadgets. CO3- Ana (16)
15. (a) Explain the concept of sensor nodes in IoT. Discuss their components, working, and significance in IoT applications. CO1- U (16)
- Or
- (b) Describe the different types of sensors used in IoT, with a focus on Position/Pressure Sensors and Velocity/Displacement Sensors. Explain their working principles and applications. CO1- U (16)