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Question Paper Code	12431
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B.E/B.Tech - DEGREE EXAMINATIONS, NOV / DEC 2023
Fifth Semester
Artificial Intelligence and Data Science
20AIPC504 - IOT AND SENSORS TECHNOLOGIES
(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. List out the I/O interfaces used in IoT. | 2,K2,CO1 |
| 2. Differentiate between the Logical and physical design of IoT. | 2,K2,CO1 |
| 3. What is the purpose of the information model? | 2,K1,CO2 |
| 4. List out the various options involved in operational view specification? | 2,K2,CO2 |
| 5. Give the purpose of IEEE 802.15.4 MAC layer. | 2,K2,CO3 |
| 6. Define SCADA. | 2,K1,CO3 |
| 7. List out the advantages and disadvantages of DHT11. | 2,K2,CO4 |
| 8. Write short notes on Actuators. | 2,K1,CO4 |
| 9. Illustrate the concept of telehealth. | 2,K2,CO5 |
| 10. Explain ethical issues in digital world. | 2,K2,CO5 |

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11. a) Elaborate on Communication technologies 13,K2,CO1
(i) Zigbee
(ii) Wifi
(iii) LoRaWAN

OR

- b) Illustrate the design methodology of IOT with neat diagram. 13,K2,CO1

12. a) Design a neat sketch and discuss the M2M high-level ETSI architecture. 13,K2,CO2

OR

- b) Explain IOT reference architecture's deployment and operational view. 13,K2,CO2

13. a) Describe the IOT protocol about HTTP, XMPP, COAP. 13,K2,CO3

OR

b) Explain in detail about interfaces: Serial, SPI, I2C. *13,K2,CO3*

14. a) Point out six types of sensors with examples and relate its name with its principle of operation. *13,K2,CO4*

OR

b) Illustrate the application of IoT using suitable programming. *13,K2,CO4*

15. a) Illustrate the role of IoT to design Smart City in detail. *13,K2,CO5*

OR

b) Explain the role of IoT technology for smart transport with suitable diagram. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Develop a sensor-based application through Embedded System platform case study of weather monitoring. *15,K3,CO6*

OR

b) Analyse the application of IoT for Health Care Information System. *15,K3,CO6*