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Reg. No. :

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Question Paper Code: 99456

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2022

Open elective

Civil Engineering

19UEC957– IOT BASED AUTOMATION AND MONITORING SYSTEM

(Common to CSE, EEE, Mechanical, IT, Chemical, Agriculture and Biomedical, CSBS & Biotechnology Engineering Branches)

(Regulations 2019)

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Duration: Three hours   Maximum: 100 Marks

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Answer ALL Questions

PART A - (5x 1 = 5 Marks)

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1. Gateway provides the connection between _____ and   CO1- U
    _____

    (a) Cloud and controller   (b) Network and Cloud

    (c) Network and Controller   (d) Controller and device

2. Which of the following is used to capture data from the physical   CO1- U
    world in IoT devices?

    (a) Sensors   (b) Actuators   (c) Microprocessors   (d) Microcontrollers

3. Arduino IDE is written in which programming language?   CO1- U

    (a) Java   (b) C/C++   (c) Javascript   (d) Python

4. The IoT platforms are mainly divided into how many types?   CO1- U

    (a) 3 types   (b) 5 types   (c) 4 types   (d) 2 types

5. The core element is operated by _____   CO1- U

    (a) PaaS   (b) IoT service Provider   (c) SaaS   (d) IaaS

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PART – B (5 x 3= 15 Marks)

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6. List out the IOT elements in domain specific applications.   CO1- U

7. Differentiate active and passive sensors with example.   CO1- U

8. Write short note on Automation application engineering in local clouds. CO1- U

9. Mention some visual programming languages. CO2- U

10. Mention the purpose of smart parking in cities CO2- U

PART – C (5 x 16= 80Marks)

11. (a) Apply the characteristics of the Internet of Things (IoT) in real time environment. Explain any one of the applications. CO3- App (16)

Or

(b) Apply the impact of the Internet of Things (IoT) in our daily lives with suitable examples. CO3- App (16)

12. (a) Describe how wireless sensor networks became one of the enabling technologies of IoT. CO1- U (16)

Or

(b) Explain in detail about the architecture of IOT gateway. CO1- U (16)

13. (a) Analyze the performance of IOT based application in terms of DCS and SCADA automation systems. CO6- Ana (16)

Or

(b) Analyze various state of the art IoT based automation systems for different case studies. CO6- Ana (16)

14. (a) Apply the different sensor concepts to build IOT based applications in Cisco Packet Tracer. CO4- App (16)

Or

(b) Apply the concept of visual coding blocks in packet tracer environment. CO4- App (16)

15. (a) Analyze the In-situ assessment of leaf area index using IoT-based agricultural system. CO6- App (16)

Or

(b) Analyze the requirements, challenges, architecture and advantages in implementing IoT in agriculture. CO6- App (16)

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