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Question Paper Code: 99456

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2024

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)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5x 1 = 5 Marks)

- Gateway provides the connection between _____ and _____ CO1- U
(a) Cloud and controller (b) Network and Cloud
(c) Network and Controller (d) Controller and device
- Which of the following is used to capture data from the physical world in IoT devices? CO1- U
(a) Sensors (b) Actuators (c) Microprocessors (d) Microcontrollers
- Arduino IDE is written in which programming language? CO1- U
(a) Java (b) C/C++ (c) Javascript (d) Python
- The IoT platforms are mainly divided into how many types? CO1- U
(a) 3 types (b) 5 types (c) 4 types (d) 2 types
- The core element is operated by _____ CO1- U
(a) PaaS (b) IoT service Provider (c) SaaS (d) IaaS

PART – B (5 x 3= 15 Marks)

- Define IOT according to IEEE and ITU standards. CO1- U
- 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. What are the challenges regarding IoT in smart homes? CO2- U

PART – C (5 x 16= 80Marks)

11. (a) Mention the components and functionality of each layer of the four layer IoT architecture. CO3- App (16)
- Or**
- (b) Explain in detail about seven layered architecture of IOT. CO3- App (16)
12. (a) Apply the IoT fundamentals to implement the layered architecture of IoT gateway CO5- Ana (16)
- Or**
- (b) Apply the fundamentals of Sensor concept in different IOT applications. CO5- Ana (16)
13. (a) Apply the Next Generation automation and digitization technology in IOT based applications and explain with one example. CO3- App (16)
- Or**
- (b) Apply the Local cloud automation approaches in Smart city applications and explain in detail. CO3- App (16)
14. (a) Explain in detail about the Open source IoT Platforms and Tools. CO4- App (16)
- Or**
- (b) How will you connect smart things and gateways directly in packet tracer. 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)