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18CS81

Eighth Semester B.E. Degree Examination, Dec.2023/Jan.2024
Internet of Things

Time: 3 hrs.   Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1   a.   What is IOT? Explain in detail on genesis of IOT with example.   (07 Marks)
    b.   Write a short note on IOT impact in real world with example.   (07 Marks)
    c.   Discuss the IOT challenges with example.   (06 Marks)

OR

2   a.   What is M2M IOT architecture? Explain its elements with architecture in detail.   (07 Marks)
    b.   Explain in detail simplified IOT architecture with example.   (07 Marks)
    c.   Compare and contrast IT and OT.   (06 Marks)

Module-2

3   a.   List and explain types of sensors with example.   (07 Marks)
    b.   What is smart object? Explain its characteristics with example.   (07 Marks)
    c.   What is SANET? Explain its advantages and disadvantages that a wireless based solution offers.   (06 Marks)

OR

4   a.   List out the limitation of smart objects in WSN's and explain the data aggregation in WSN with neat diagram.   (07 Marks)
    b.   What is Zigbee? Explain 802.15.4 physical layer, MAC layer and security with example.   (07 Marks)
    c.   Explain in brief LORaWAN standard and Alliance MAC layer and security.   (06 Marks)

Module-3

5   a.   Explain Business case for IP with example.   (07 Marks)
    b.   Explain generic web based protocol with example.   (07 Marks)
    c.   What is COAP? Explain with example.   (06 Marks)

OR

6   a.   What is SCADA? Explain with example.   (07 Marks)
    b.   Explain optimization of IP with example.   (07 Marks)
    c.   What is RPL? Explain with example.   (06 Marks)

Module-4

7   a.   Explain structured vs unstructured data with example.   (07 Marks)
    b.   What is IOT data analytics? Explain its 4 types of data analytics with example.   (07 Marks)
    c.   What is Hadoop ecosystem? Explain in detail with example.   (06 Marks)

OR

8   a.   What is Apache Kafka? Explain in detail with example.   **(07 Marks)**
      b.   Explain in detail Lambda architecture with example.   **(07 Marks)**
      c.   What is distributed analytics system? Explain with example.   **(06 Marks)**

Module-5

9   a.   What is Ardino? Explain in detail with example and why Ardino.   **(07 Marks)**
      b.   Explain foundation of Ardino program with example.   **(07 Marks)**
      c.   What is SOC? Explain in detail with example.   **(06 Marks)**

OR

10   a.   What is Raspbery operating system? Explain its various OS with example.   **(07 Marks)**
      b.   Explain in detail OS set upon Raspbery pi with example.   **(07 Marks)**
      c.   How do you programming in Raspbery pi? Explain with example.   **(06 Marks)**

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