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Question Paper Code	12386
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023
Third Semester
Computer Science and Engineering (IoT)
20CIPC302 - INTRODUCTION TO INTERNET OF THINGS
(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

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

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. What is the role of a controller service in an IoT system? | 2,K1,CO2 |
| 2. What are the differences between machines in M2M and Things in IoT? | 2,K1,CO2 |
| 3. Draw a neat diagram of IoT level specification which doesn't use cloud. | 2,K1,CO3 |
| 4. List the challenges while opting for IoT and cloud computing and how can we overcome them. | 2,K1,CO3 |
| 5. Differentiate IPV4 and IPV6. | 2,K2,CO4 |
| 6. What are the advantages of DDS in IoT? | 2,K1,CO4 |
| 7. How is function overriding implemented in Python? | 2,K1,CO5 |
| 8. What is a keyword argument in Python? | 2,K1,CO5 |
| 9. List out Pros and Cons of Raspberry Pi. | 2,K1,CO6 |
| 10. What is the use of GPIO pins? | 2,K1,CO6 |

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

- | | |
|---|-----------|
| 11. a) Describe how NFV can be used in virtual IoT device. | 13,K2,CO2 |
| OR | |
| b) Design YANG model for bread toaster. | 13,K3,CO2 |
| 12. a) Brief about smart irrigation using cloud system. | 13,K2,CO3 |
| OR | |
| b) With an example brief about the IoT Methodology in monitoring the real time application based on cloud system. | 13,K2,CO3 |
| 13. a) Justify how in real time scenario the smart parking system is useful. | 13,K2,CO4 |
| OR | |
| b) Explain in brief about the IoT level for implementing automated industry system. | 13,K2,CO4 |

14. a) Describe the functions in the Python with a program. 13,K2,CO5

OR

b) Create a Python program with functions for reading the file, computing word count and top 10 words. Use the template below: 13,K2,CO5

```
def readfile(filename)
#Implement this
def wordCount(contents).
#Implement this
def topTen Words (wordCountDict):
#Implement this
def main():
filename=sys.argv[1] contents readfile(filename) wordCountDict
wordCount(contents) topTen Words (wordCountDict)
if namemain main()
```

15. a) Explain about JavaScript Object Notation with a real time example. 13,K2,CO6

OR

b) Explain about the exemplary device Raspberry pi and its working with an example. 13,K2,CO6

PART - C (1 × 15 = 15 Marks)

16. a) Elucidate a structural health monitoring system for IoT system. 15,K2,CO1

OR

b) Explain the application of IoT for Environment System. 15,K2,CO1