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Code No: 844AX **R17**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA IV Semester Examinations, December - 2019
INTERNET OF THINGS

Time: 3hrs **Max.Marks:75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

5 × 5 Marks = 25

1.a) What is data collection in IoT? [5]
b) Explain the difference between M2M and IoT. [5]
c) How memory is managed in Python? [5]
d) How the GPIO pins on Raspberry Pi categorized? [5]
e) How cloud models relied on communication APIs? [5]

PART - B

5 × 10 Marks = 50

2.a) What impact will the IoT has on manufacturing sector?
b) Explain the difference between Internet of Things and Cloud of Things. [5+5]

OR

3.a) What are the main challenges of the Internet of Things implementation?
b) Discuss device to cloud and devce to gateway communication model with their respective advantages and drawbacks. [5+5]

4.a) Explain the role of NFV in building IoT networks.
b) Describe how NFV can be used for virtualizing IoT devices. [5+5]

OR

5. Explain four different device management requirements of IoT environment. Discuss some best practices for IoT systems management. [10]

6.a) Explain the difference between Java and Python with regard to exception handling.
b) Discuss the optional clauses for a <Try-Except> block in Python. [5+5]

OR

7.a) Explain the dogpile effect in python and how can you prevent this effect?
b) Explain database connection in Python Flask? [5+5]

8. Discuss Raspberry-Pi pulse width modulation (PWM) functions in Python. [10]

OR

9.a) How is Raspberry-Pi used in IoT?
b) How is Raspberry-Pi different from Arduino? [5+5]

10.a) Explain real time reactions in API development for IoT environment.
b) Explain Polling method to make an IoT device to respond immediately (real time reaction). Explain term "COMET" regarding to Polling method. [5+5]

OR

11. Discuss important factors that one should consider while selecting appropriate IoT web server. [10]

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