

Code No: 844AX

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 device 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]