

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA V Semester Examinations, January - 2018****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) Define IoT? Mention the characteristics of IoT. [5]
- b) What is the significance of M2M in IoT? [5]
- c) List and mention the functions available in Python packages. [5]
- d) Correlate Raspberry PI with python. [5]
- e) List the web servers for IoT. Suggest the best web server to use in IoT. [5]

**PART - B****5 × 10 Marks = 50**

2. Illustrate the IoT enable Technologies. [10]

**OR**

3. Explain the following  
a) IoT communication model  
b) Communication APIs in IoT. [5+5]

4. How do you manage the IoT system with following?  
a) NETCOZF  
b) YANG- NETCONF. [5+5]

**OR**

- 5.a) Write a short note software defined networks.  
b) What is concept of Network function virtualization? [5+5]

6. Illustrate the concepts of data types and datastructures in Python. [10]

**OR**

7. Write down the final values of A0, A1, ...An.

```
A0 = dict(zip(('a','b','c','d','e'),(1,2,3,4,5)))
```

```
A1 = range(10)
```

```
A2 = sorted([i for i in A1 if i in A0])
```

```
A3 = sorted([A0[s] for s in A0])
```

```
A4 = [i for i in A1 if i in A3]
```

```
A5 = {i:i*i for i in A1}
```

```
A6 = [[i,i*i] for i in A1] [10]
```

8. Write a Python program with Raspberry PI for interfacing controlling output. [10]

**OR**

9. Write a Python program with Raspberry PI for reading inputs from pins. [10]

10. Illustrate the python web application frame work. [10]

**OR**

11. How do you design a RESTful web API? [10]