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BMS College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

December 2017 Semester End Main Examinations

Course: Internet of Things
Course Code: 16CS5DCIOT

Duration: 3 hrs.
Max Marks: 100
Date: 16.12.2017

Instructions: Answer any FIVE full questions, choosing one from each Unit.

UNIT 1

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| 1. | a) | Explain the characteristics of Internet of Things | 05 |
| | b) | List the various protocols used in IOT at different layers | 05 |
| | c) | Explain the different IOT levels and Deployment Templates | 10 |

UNIT 2

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|----|----|---|----|
| 2. | a) | Analyze how ultrasonic sensor can be used in a reverse parking system? | 06 |
| | b) | Explain how sensor network is established using Zigbee as wireless communication medium | 06 |
| | c) | Design a sprinkler system based on the moisture content of the soil. | 08 |

OR

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| 3. | a) | Illustrate with a neat figure the architecture of Arduino Board | 10 |
| | b) | Design a building access system using RFID | 10 |

UNIT 3

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| 4. | a) | With an example explain the RPL DODAG building process. | 10 |
| | b) | Explain the process of registering and de-registering a resource with proper sequence diagram | 10 |

OR

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| 5. | a) | Explain the IOT reference architecture | 07 |
| | b) | Explain CoAP protocol and discuss how reliability is achieved in the protocol. | 07 |
| | c) | Draw the structure of a Mesh header and explain. | 06 |

UNIT 4

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| 6. | a) | Explain how Xively Cloud for IOT is used as Platform as Service for creating IOT solutions | 05 |
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| b) | Enlist the various Amazon Web Services for IOT | 05 |
| c) | Define the following in the context of WAMP. | 10 |
| | (i) Transport (ii)Session (iii) Client (iv) Router (v) Application Code | |

UNIT 5

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|-----------|----|--|----|
| 7. | a) | Explain briefly with a neat figure how WAMPP server establishes the connection between Client and Router | 06 |
| | b) | Differentiate between CoAP and HTTP. | 06 |
| | c) | Discuss Intel IoTivity Architecture | 08 |
