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BMS College of Engineering, Bangalore-560019

(Autonomous Institute, Affiliated to VTU, Belgaum)

December 2016 Semester End Main Examinations

Course: **Internet of Things** Duration: **3 hrs**
Course Code: **15CS5DCIOT** Marks: **100**

Date: 17.12.2016

Instructions: **1.Answer any five full questions choosing one from each unit.**
2. Assume missing data (if any) suitably

UNIT 1

1	a)	Explain the characteristics of Internet of Things and describe a typical IoT device with the aid of a neat diagram.	10
	b)	Analyze the IoT levels for designing home automation IoT systems including smart lighting and intrusion detection.	05
	c)	Describe the need of IoT specific protocol and mention the IoT protocol in each layer in the protocol stack.	05

UNIT 2

2	a)	Write a program to read the tag information present on RFID tag and print it in serial monitor.	08
	b)	Analyze the type of sensors for various measurement Objectives.	08
	c)	Explain in brief about Bluetooth communication.	04

OR

3.	a)	Design and implement Smart Light System based on ambient light.	10
	b)	Design IoT client device requesting www.google.com from Arduino using Ethernet Communication Module.	10

UNIT 3

4.	a)	Explain the IoT Reference Architecture and its functional responsibility of each layer.	10
	b)	Describe the characteristics of IEEE 80.15.4 Networks.	04
	c)	Explain why CoAP protocol is suitable than HTTP protocol.	06

OR

5.	a)	Explain RPL DODAG building process with suitable example.	10
	b)	Explain 6LoWPAN Adaptation Layer.	10

UNIT 4

6.	a)	Define the following in the context of WAMP. (i) Transport (ii)Session (iii) Client (iv) Router (v) Application Code	10
	b)	Describe the architecture of Django framework.	06
	c)	List the various Amazon Web Services for IoT.	04

UNIT 5

7.	a)	IoT can be used in a wide range of domains. Justify this statement using examples.	05
	b)	List the static and dynamic factors to be considered in the selection of a suitable sensor to measure the physical parameters desired.	05
	c)	Explain the differences between Metric and Constraint in the context of routing in RPL.	05
	d)	Describe how Xively Cloud can be used for IoT?	05

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