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Total Number of Pages: 02

B.Tech.  
PCS5J102

**5<sup>th</sup> Semester Regular Examination 2017-18**

**Internet of Things**

**BRANCH: CSE**

**Time: 3 Hours**

**Max Marks: 100**

**Q.CODE: B314**

**Answer Question No.1 and 2 which are compulsory and any four from the rest.  
The figures in the right hand margin indicate marks.**

- Q1 Answer the following questions: *multiple type or dash fill up type* (2 x 10)**
- a) Zigbee specifications are based on \_\_\_\_\_ protocol.
  - b) \_\_\_\_\_ provides services to the application layer and the network layer through the application support data entity (APSDE) and application support management entity (APSME).
  - c) A \_\_\_\_\_ network comprises of machines which have embedded hardware modules sensing, actuation and communication.
  - d) \_\_\_\_\_ is a control system architecture that uses computers, networked data communications and graphical user Interfaces for high-level process supervisory management, but uses other peripheral devices such as programmable logic controllers and discrete PID controllers to interface to the process plant or machinery.
  - e) \_\_\_\_\_ standards allow the interoperability of portlets across different portal platforms.
  - f) \_\_\_\_\_ Protocol is used for real-Time communication and streaming XML data between network entities.
  - g) Which of the following service is not offered by Cloud Computing? (i)IaaS(ii)PaaS(iii)SaaS(iv)DaaS
  - h) The collection of data sets whose volume, velocity or variety is so large that it is difficult to store,manage,process and analyze using traditional databases and data processing tools is termed as \_\_\_\_\_.
  - i) REST services operate over \_\_\_\_\_ protocol.
  - j) \_\_\_\_\_IoT layer protocol determines how data is physically sent over the physical medium in the network.
- Q2 Answer the following questions: *Short answer type* (2 x 10)**
- a) What is the role of things and Internet in IoT?
  - b) Why do IoT systems have to be self-adapting and self-configuring?
  - c) Differentiate between Raspberry Pi and desktop computer.
  - d) What is Zigbee?
  - e) What do you mean by RFID-based EPC Network?
  - f) What is Rflinks?
  - g) What is IEEE 802.15.4 protocol, how is it related to IoT?
  - h) Differentiate between SOA and Grid computing.
  - i) Explain the basic concept of Open Source e-Health sensor platform.
  - j) Distinguish between Web of Things and Internet of Things.
- Q3 a) Briefly explain about components in Internet of Things. (10)**  
**b) Define RFID.Explain principles of RFID. (5)**
- Q4 a) Briefly explain about Protocol Standardization for IoT. (10)**  
**b) Explain software agents for objects. (5)**

- Q5**   **a)** Explain applications of IoT in home automation systems. **(10)**  
      **b)** What are the differences between machines in M2M and things in IoT? **(5)**
- Q6**   **a)** Briefly explain about Platform Middleware for WoT. **(10)**  
      **b)** How Big Data can be used in IoT? Explain. **(5)**
- Q7**   **a)** Explain in details Clustering Principles in Internet of Things **(10)**  
      **b)** Explain concept of agility in IoT. **(5)**
- Q8**   **a)** Explain in details data synchronization techniques in IoT. **(10)**  
      **b)** Explain issues with IoT standardization. **(5)**
- Q9**   **a)** Briefly explain about Cloud of Things Architecture. **(10)**  
      **b)** Explain Grid Computing. **(5)**