Hall Ticket No | | | | | | | | | | | Question Paper Code: BES006

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

M.Tech II Semester End Examinations (Regular/Supplementary) - July, 2018

Regulation: IARE–R16

INTERNET OF THINGS
(Embedded Systems)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) Compare different wireless communication technologies based on their range, data rate and frequency. **[7M]**
   (b) Explain how a bluetooth communication module can be connected to a micro controller device. **[7M]**

2. (a) Briefly explain the major components in IoT Devices. **[7M]**
   (b) Briefly discuss major communication technologies that can be utilized by devices in Internet of Things for communication. **[7M]**

UNIT – II

3. (a) What is buffer management? Explain different buffer management strategies. **[7M]**
   (b) Briefly discuss the significant issues related to an embedded communications device in device-to-manager communication. **[7M]**

4. (a) Illustrate the working of timer management task, with a tick equal to the lowest of all the ticks required for the various tasks. **[7M]**
   (b) Explain the process of saving the configuration of read-write basic and non basic parameters. **[7M]**

UNIT – III

5. (a) Illustrate the ways of impact of the Internet of Things onto the systems agility. **[7M]**
   (b) Briefly discuss the characteristics of autonomous control. **[7M]**

6. (a) Illustrate core concepts of agile manufacturing, which emanate from a strategic management perspective. **[7M]**
   (b) Illustrate the two dimensions of an object's intelligence as well as the physical distance between the object and the location of its intelligence by showing some exemplary technology equipment. **[7M]**

UNIT – IV

7. (a) Illustrate the working of network architecture and middleware for WSANs in DiYSE . **[7M]**

   (b) Explain the middle-ware services in DiYSE project that exposes Reduced Functionality Devices (RFDs). **[7M]**

8. (a) Briefly discuss the business impact on EURIDICE and the Internet of Things. **[7M]**

   (b) Illustrate different phases in semantic web services processes and life cycle with the help of neat diagram. **[7M]**

UNIT – V

9. (a) Illustrate the smart meter infrastructure application of the WoT architecture and the concept of Smart Gateways for monitoring and controlling the energy consumption of households. **[7M]**

   (b) Briefly discuss the Future Web of Things and explain setup of cloud environment in an IoT. **[7M]**

10. (a) Write the JSON and HTML representation of the temperature resource of a Sun SPOT while implementing web of things. **[7M]**

    (b) Explain how different HTTP methods are used to interact with resources in Web of Things. **[7M]**

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