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NPTEL

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Courses » Design for internet of things

Announcements Course Ask a Question Progress Mentor

Unit 9 - IoT Case Studies

Course outline

How to access the portal

Introduction to IOTs - Improving Quality of Life

System Design and Overview of Power Supply Section

Designing with LDO's, Switching Regulators and Case Studies

Power Conditioning with Energy Harvesters

Battery less power supply and battery life calculation for embedded devices

IoT Protocols

IoT LAN and WAN Connectivities

IoT Case Studies

- Choice of Microcontrollers
- Case Study 1
- Case Study 2
- Quiz : Week8 Assessment
- solutions for Week 8 Assessment

Week8 Assessment

The due date for submitting this assignment has passed. **Due on 2017-09-20, 23:59 IST.**

Submitted assignment

1) What was the necessity to tap out two different voltages i.e 'x' Volts and 'y' Volts from the step down transformer? **1 point**

- To power the microcontroller using the 'x' volts supply and the wifi chip(CC3000) using the 'y' volts supply.
- To power only the microcontroller with two different voltages depending on the requirement.
- To power the microcontroller using the 'x' volts supply and the potential transformer measurement using the 'y' volts supply.

No, the answer is incorrect.

Score: 0

Accepted Answers:

To power the microcontroller using the 'x' volts supply and the potential transformer measurement using the 'y' volts supply.

2) Which of the following is not a part of the Joule Jotter hardware? **1 point**

- Potential transformer
- Current transformer
- Switching regulator
- LDO

No, the answer is incorrect.

Score: 0

Accepted Answers:

Switching regulator

3) What is the purpose of configuring registers on ADE7953? **1 point**

- Calibrate the sensed values
- Store the values on the buffer
- Send the values to the microcontroller
- None of the above.

No, the answer is incorrect.

Score: 0

Accepted Answers:

Calibrate the sensed values

4) ESP8266 can be configured as **1 point**

- Wi-Fi Direct

- Wi-Fi Access Point
- Repeaters
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of the above

5) Why was an android app developed for Joule Jotter? **1 point**

- To configure the joule jotter with necessary parameters
- To turn on and turn off the joule jotter remotely
- To power the ESP8266 module
- None of the above.

No, the answer is incorrect.

Score: 0

Accepted Answers:

To configure the joule jotter with necessary parameters

6) Which type of calibration is done on the joule jotter? **1 point**

- Gain Calibration
- Phase Calibration
- Offset Calibration
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Gain Calibration

Phase Calibration

7) A smart phone user running a localization app takes a 90° turn in a corridor in the texting mode. Which among these sensors is a good indicator? **1 point**

- Accelerometer
- Gyroscope
- Magnetometer
- barometer

No, the answer is incorrect.

Score: 0

Accepted Answers:

Magnetometer

8) In the Zigbee-Bluetooth gateway system, the simplest way to implement the bluetooth (advertisement mode) would be to ensure the Zigbee packet size is: **1 point**

- Equal to the bluetooth payload
- Less than the bluetooth payload
- More than the bluetooth payload
- There is no relation to packet sizes

No, the answer is incorrect.

Score: 0

Accepted Answers:

Less than the bluetooth payload

9) There are 8 bit, 16 bit and 32 bit microcontrollers available. We would like to design a system which runs on a monolithic code block along with timers to sense various sensors over fixed intervals of time. Which microcontroller among the available would you choose. **1 point**

- 8 bit microcontroller

- 16 bit microcontroller
- 32 bit microcontroller
- Any of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

8 bit microcontroller

10) There is an application which involves math intense functions to be calculated in very less interval of times by the microcontroller which is involved. Your choice would be **1 point**

- 32 bit microcontroller with Harvard architecture and CISC instruction set
- 32 bit microcontroller with von Neumann architecture and RISC instruction set
- 32 bit microcontroller with Harvard architecture and RISC instruction set
- 16 bit microcontroller with Von Neumann architecture and CISC instruction set

No, the answer is incorrect.

Score: 0

Accepted Answers:

32 bit microcontroller with Harvard architecture and CISC instruction set

11) Among how many calculated IBI's are we averaging out BPM in pulse sensor application? **1 point**

- 7
- 10
- 15
- 20

No, the answer is incorrect.

Score: 0

Accepted Answers:

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