

X

NPTEL

reviewer1@nptel.iitm.ac.in ▼

Courses » Design for internet of things

Announcements Course Ask a Question Progress Mentor

Unit 2 - Introduction to IOTs - Improving Quality of Life

Course outline

How to access the portal

Introduction to IOTs - Improving Quality of Life

- Introduction to IOTs – Part I
- Introduction to IOTs- Part II
- Introduction to IOTs— Examples
- IOT applications - I
- IOT applications - II
- Quiz : Week1 Assessment
- solutions for Assignment 1

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

Week1 Assessment

The due date for submitting this assignment has passed. **Due on 2017-08-07, 23:59 IST.**

Submitted assignment

1) Which sensor cannot be used to detect human presence? 1 point

- Hall sensor
- PIR
- RADAR
- Thermocouple

No, the answer is incorrect.

Score: 0

Accepted Answers:

Hall sensor

2) Which of the following sensor uses pyro-electric principle? 1 point

- Thermocouple
- Thermopile
- LCT
- PIR

No, the answer is incorrect.

Score: 0

Accepted Answers:

PIR

3) Which all is true for a thermocouple? 1 point

- Uses Plack's law of black body radiation
- Stephen Boltzmann law of radiative heat transfer
- Both (a) and (b)
- None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Both (a) and (b)

4) Where do all the complex data computations happen? 1 point

- Things
- Gateway
- Edge Device

IoT Protocols

IoT LAN and
WAN
Connectivities

IoT Case Studies

Server

No, the answer is incorrect.

Score: 0

Accepted Answers:

Edge Device

5) When would you choose PIR over thermocouples? **1 point**

- When the subject is still
- When the subject is in motion
- When the subject is non-living
- Depends on the application

No, the answer is incorrect.

Score: 0

Accepted Answers:

When the subject is in motion

6) How to increase the source voltage from 3.3V to 5V? **1 point**

- Use a rectifier
- Use a boost converter
- Use an additional capacitor
- Increase the load resistor

No, the answer is incorrect.

Score: 0

Accepted Answers:

Use a boost converter

7) In the Ball Bearing Energy Harvesting case, how do you choose the value of the output storage capacitor? **1 point**

- Depends on the SoC (microcontroller + BLE radio)
- Depends on the size of the PCB
- Depends on the energy to be accumulated
- Depends on the passives on the board

No, the answer is incorrect.

Score: 0

Accepted Answers:

Depends on the SoC (microcontroller + BLE radio)

Depends on the energy to be accumulated

Depends on the passives on the board

8) Pull-up resistors are used for which type of communication protocol? **1 point**

- SPI
- I2C
- UART
- None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

I2C

9) $V_{out} = S_x(T_x - T_{ref})$: What is the coefficient S_x known as? **1 point**

- Sobel coefficient
- Planck's constant
- Boltzmann coefficient
- Seebeck coefficient

No, the answer is incorrect.

Score: 0

Accepted Answers:

Seebeck coefficient

10) The set of rules followed to exchange data between two devices is called?

1 point

- Connections
- Wires
- Protocols
- None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Protocols

11) In the system design related to the Ball Bearing application, the SoC was unable to transmit BLE packets to the mobile phone, why? **1 point**

- Insufficient supply voltage
- Improper ground connections
- Lack of proper wireless connectivity
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of the above

12) Monitoring the ball bearing in real time helps us to

1 point

- Predict the status of the machinery
- Increase the use of magnets
- Keep track of the magnets
- Demonstrate the magnetic field effect

No, the answer is incorrect.

Score: 0

Accepted Answers:

Predict the status of the machinery

13) In which critical factor does the accuracy of detection depend on?

1 point

- Ambient Temperature
- Distance
- Field of View
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of the above

14) What would be the optimum distance at which the sensor has to be placed to measure the core body temperature in a non-invasive way? **1 point**

- 1.0 cms
- 75 cms
- 0 cms
- 1 mtr

No, the answer is incorrect.

Score: 0

Accepted Answers:

1.0 cms

15A single sensor gives the ambient temperature as well as the subject temperature. How? **1 point**

- The sensors are piled on one another on the front side
- The sensors are piled on one another on the rear side
- External sensors have to interfaced
- Sensors split the obtained temperature

No, the answer is incorrect.

Score: 0

Accepted Answers:

The sensors are piled on one another on the rear side

Previous Page

End

© 2014 NPTEL - Privacy & Terms - Honor Code - FAQs -



A project of



In association with



Funded by

Government of India
Ministry of Human Resource Development

Powered by

