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NPTEL

Courses » Design for internet of things

Announcements   **Course**   Ask a Question   Progress   Mentor

Unit 8 - IoT LAN and WAN Connectivities

Week7 Assessment

The due date for submitting this assignment has passed. **Due on 2017-09-13, 23:59 IST.**

Submitted assignment

1) The frequency ranges supported by UHF RFID is _____   *1 point*

○ 125 kHz to 134.3 kHz
○ 13.56 Mhz
○ 860 to 960 MHz
○ None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
860 to 960 MHz

2) What is singulation ?   *1 point*

○ Each tag selecting different time slot to respond
○ Active tags selecting the reader to which they have to respond
○ One reader selecting the tags from target A or target B
○ Reader selecting one tag out of many based on EPC

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reader selecting one tag out of many based on EPC

3) Which is the session which yields maximum tag reads in RFID?   *1 point*

○ Session S0
○ Session S1
○ Session S3
○ Session S2

No, the answer is incorrect.
Score: 0

Accepted Answers:
Session S0

4) What is persistence time?   *1 point*

○ Time taken by the tag to extract energy from RF source.
○ Time taken by the tag to return from Target B to Target A.
○ Delay between two consecutive tag reads.

○ All of the these.

No, the answer is incorrect.
Score: 0

Accepted Answers:
Time taken by the tag to return from Target B to Target A.

5) What is the size of the EPC of RFID tags?   **1 point**

○ 90 bits

○ 96 bits

○ 89 bits

○ 98 bits

No, the answer is incorrect.
Score: 0

Accepted Answers:
96 bits

6) Optimum selection of slot number in tag inventory helps in   **1 point**

○ Decreases collisions

○ Improving tag reads

○ None of these

○ Singulation

No, the answer is incorrect.
Score: 0

Accepted Answers:
Decreases collisions

7) Wifi is not a choice for a sensor node for indoor applications because **1 point**

○ Wifi in 2.4 GHz, has a lot of interference

○ Penetration across different floors of a building is poor

○ WiFi works with very low data rates

○ None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Penetration across different floors of a building is poor

8) Bandwidth requirement is not a primary factor in selecting a LPWAN technology because **1 point**
sensor data is in order of few bytes. This statement is not completely true when,

○ There is interference.

○ There are large number of sensor nodes

○ The data is to be collected at the same instant by end nodes

○ The sensor network requires very high data rate.

No, the answer is incorrect.
Score: 0

Accepted Answers:
There are large number of sensor nodes

9) TV white spaces are made available to users for sending and receiving data as a secondary **1 point**
user. This field of of interest is called

○ LPWAN

○ FM radio

○ Communication networks

○ Spectrum sensing or Cognitive radio

No, the answer is incorrect.
Score: 0

Accepted Answers:
Spectrum sensing or Cognitive radio

10)Low Range Low Power is   *1 point*

○ LoRa Alliance

○ WiFi in sub one GHz

○ NB-IOT in cellular spectrum

○ SigFox

No, the answer is incorrect.
Score: 0

Accepted Answers:
WiFi in sub one GHz

11)Arrange the following in sequence i. Interference ii. High frequency duty cycle iii.Battery   *1 point*
depletion iv. Packet loss v. Retransmit

○ i,ii,iv,v,iii

○ ii,i,iv,iii,v

○ ii,i,iv,v,iii

○ ii,i,v,iv,iii

No, the answer is incorrect.
Score: 0

Accepted Answers:
ii,i,iv,v,iii

12)A device with LPWAN technology powered with a battery to last 10 years, supports a data   *1 point*
rate of 3Kbps in the licensed spectrum for a city wide metro network.Which could be the technology
used in the case above

○ Sigfox

○ NB-IOT

○ LTE-M

No, the answer is incorrect.
Score: 0

Accepted Answers:
NB-IOT

13)In an environment there are large number of phones communicating with each other using   *1 point*
bluetooth.Device 1 decides to send some confidential information to Device 2. How can the same be
achieved in such a way that no other device is aware about the presence of Device1?

○ If Device 1 is kept nearer to Device 2.

○ If Device 1 decides to encrypt the information to be shared and then communicate.

○ If Device 1 shares a resolvable key with device 2 and sends the information using a random
address.

○ Any of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
If Device 1 shares a resolvable key with device 2 and sends the information using a random address.

14)To counter MITM attacks across Bluetooth devices, numeric comparison association model   *1 point*
can be used if and only if

○ Both the devices have Keyboard as their I/O capability.

○ Both the devices have display as their I/O capability

○ One device has a display and an input button and the other device has display

○ Any of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
One device has a display and an input button and the other device has display

15) There are two devices, one being a regular smart mobile phone and the other being an   ***1 point***
embedded device with BLE and WiFi features. How do you propose to establish a secured connection
between these two devices

- ○ Numeric comparison
- ○ OOB
- ○ Just works
- ○ Passkey

No, the answer is incorrect.
Score: 0

Accepted Answers:
OOB

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