Week 2 Assessment

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-02-13, 23:59 IST.

1) Which of following will introduce an offset to the phase readings obtained by RFID reader?

- Reader’s transmit circuits
- Tag’s reflection characteristic
- Reader’s receiver circuits
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers: 
All of the above

2) "RFID based localization" technique used in FMCW radar is

- TD-PDOA
- FD-PDOA
- SD-PDOA
- Hyperbola positioning

No, the answer is incorrect.
Score: 0
Accepted Answers: 
FD-PDOA

3) Using DBSCAN clustering algorithm, which one of the following points is an outlier for epsilon=40, with min number of points=3

Points = (-70,84),(-100,117),(-33,50),(-72,95),(-132,141),(-55,74)

No, the answer is incorrect.
Score: 0
Accepted Answers: 
-(70,84)
4) Considering the hyperbola positioning demonstration shown in the “RFID based localization” lecture, calculate the path difference from the data given below.

Given:
Frequency of operation is 865MHz.
Phase of tag read by the reader positioned at (0,0) = [154.0, 151.0, 149.0, 140.0, 146.0, 143.0, 163.0, 151.0, 160.0, 137.0, 135.0, 157.0, 163.0, 101.0, 123.0, 104.0, 106.0, 109.0, 112.0, 118.0] (take an average of all phase values obtain theta_one)
and Phase of tag read by the reader positioned at (0,8) = [56.0, 70.0, 59.0, 50.0, 47.0, 45.0, 42.0, 53.0, 64.0, 61.0, 50.0, 5.0, 2.0, 11.0, 98.0, 90.0, 84.0, 92.0, 87.0, 95.0] (take an average of all phase values obtain theta_two)

- 3.76 cms
- 1.8 cms
- 5.8 cms
- 9 cms

No, the answer is incorrect.
Score: 0
Accepted Answers: 3.76 cms

5) In TD-PDOA technique of “RFID based localisation” lecture, which one is the correct statement?

- Reader and tag are stationary
- Reader and tag are mobile
- Either reader or tag is stationary and the counterpart is mobile
- None of the above

No, the answer is incorrect.
Score: 0
6) Which among the following helps us to obtain the orientation of the phone for “Localization using IMU sensors”  

- Acceleration  
- Magnetic field intensity  
- Gravity  
- None of the above  

No, the answer is incorrect. 
Score: 0 

Accepted Answers:  
Gravity

7) In “Localization using IMU sensors”, Weinberg’s principle for stride length estimation considers the following  

- Linear acceleration produced while taking steps  
- Vertical bounce observed while taking steps  
- Both a and b  
- None of the above  

No, the answer is incorrect. 
Score: 0 

Accepted Answers:  
Vertical bounce observed while taking steps

8) Denoising accelerometer values for “Localization using IMU sensors” will account the following  

- Right Cut off frequency  
- Optimum roll off factor  
- Both a and b  
- None of the above  

No, the answer is incorrect. 
Score: 0 

Accepted Answers:  
Both a and b

9) In “Localization using IMU sensors”, the process to check if the phone is held in Left/Right hand is:  

- Using Gravity  
- Using Accelerometer values  
- Using Magnetometer values  
- Using Barometer values  

No, the answer is incorrect. 
Score: 0 

Accepted Answers:  
Using Gravity

10) In “Localization using IMU sensors”, extensive filtering of IMU sensor reads leads to the following  

Score: 0 

Accepted Answers:  
...
Enhance the signal of interest
Better stride length estimation
Both a and b
Inaccurate results

No, the answer is incorrect.
Score: 0
Accepted Answers:
Inaccurate results