X

NPTEL

Courses » **Spray Theory**

Announcements   **Course**   Ask a Question   Progress   FAQ

Unit 2 - Week 1: Introduction to sprays and atomization

Assignment 1

The due date for submitting this assignment has passed.
As per our records you have not submitted this   **Due on 2019-02-13, 23:59 IST.**
assignment.

1) The evaporation rate of liquid _____ by increasing the surface   *1 point*
area of the liquid.

 ○ increases
 ○ decreases
 ○ remains constant
 ○ become zero

No, the answer is incorrect.
Score: 0

Accepted Answers:
increases

2) The initial diameter of the liquid droplet is 1mm and it breaks into   *1 point*
_____ number of monodispersed droplets of size 10 micron.

 ○ 10^2
 ○ 10^3
 ○ 10^6
 ○ 10^9

No, the answer is incorrect.
Score: 0

Accepted Answers:
10^6

3) For the above question, what is the order of increase in surface area?   *1 point*

 ○ 10
 ○ 100

4) The properties of the spray are considered to be _____ when the time stamp of instantaneous spray image is indistinguishable.   *1 point*

- unsteady
- steady
- uniform
- non-uniform

No, the answer is incorrect.
Score: 0

Accepted Answers:
steady

5) what are the scalar properties of the spray   *1 point*

- drop size and velocity
- drop size and temperature
- velocity and concentration
- none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
drop size and temperature

6) Among the following which are microscopic measure of a spray?   *1 point*

- Rate of evaporation and penetration length
- Velocity distribution and spray angle
- Size and velocity distribution
- mass flow rate and spray (width or spread)

No, the answer is incorrect.
Score: 0

Accepted Answers:
Size and velocity distribution

7) Consider a semi-infinite pipe with the entry to the pipe located at x=0. Into this pipe, three classes of drops are being injected: 10μm drops are being injected at 100 drops per second with a velocity 1m/s,20μm drops are being injected at 200 drops per second with a velocity 0.2m/s and 50μm drops are being injected at 500 drop per second with a velocity 0.5m/s. If the drops are sampled temporally for a time of 1 second, what is the arithmetic mean diameter of the sample?   *1 point*

- 36.5μm
- 37.5μm
- 38.5μm
- 39.5μm

No, the answer is incorrect.
Score: 0

Accepted Answers:
37.5μm

8) For the above question, if the drops are sampled spatially with the frame containing 1m of the pipe, what will be the sample mean diameter?   *1 point*

○ 33.8μm

○ 21.2μm

○ 46.5μm

○ 12.8μm

No, the answer is incorrect.
Score: 0

Accepted Answers:
33.8μm

9) For the above question, the sampling frame increased to 5m then   *1 point*
the mean diameter_____.

○ Increases 5 times

○ Increases 25 times

○ remains same

○ decreases 5 times

No, the answer is incorrect.
Score: 0

Accepted Answers:
remains same

10) At what condition the spatial and temporal sampling will be same?   *1 point*

○ The velocity of the droplets are all same

○ The production rates of droplets are all same

○ The size of the droplets are all same

○ None of the above.

No, the answer is incorrect.
Score: 0

Accepted Answers:
None of the above.

Previous Page   End