Assignment 1

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) The evaporation rate of liquid ______ by increasing the surface 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 ______ 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
- \(100\)

No, the answer is incorrect. Score: 0
Accepted Answers: \(100\)
4) The properties of the spray are considered to be ____________ when the time stamp of instantaneous spray image is indistinguishable.

- unsteady
- steady
- uniform
- non-uniform

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

5) what are the scalar properties of the spray

- 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?

- 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?

- 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?
9) For the above question, the sampling frame increased to 5m then the mean diameter___________.

- Increases 5 times
- Increases 25 times
- remains same
- decreases 5 times

No, the answer is incorrect.
Score: 0
Accepted Answers: 
33.8μm

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

- 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.