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NPTEL

Courses » Spray Theory

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Unit 11 - Week 10: Multiphase flow models of sprays

Register for Certification exam

Course outline

How to access the portal

Week 1: Introduction to sprays and atomization

Week 2: Drop size and velocity distributions

Week 3: Atomizers and their designs

Week 4: Atomizers and their designs

Week 5: Atomization theory

Week 6: Atomization theory

Week 7: Spray theory

Week 8: Spray theory

Week 9: Practical

Assignment 10

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.   **Due on 2019-04-10, 23:59 IST.**

1) The equation which describes the statistical evolution of sprays contained in another fluid is   *1 point*

- ○ Euler equation
- ○ Continuity equation
- ○ William spray equation
- ○ Energy equation

No, the answer is incorrect.
Score: 0

Accepted Answers:
William spray equation

2) The drop size ranges from 10 to 100 μm are generated using pressure injector. To computationally model the problem, what should be the grid size (δ) that should be assigned for capturing all the drops?   *1 point*

- ○ δ =100 μm
- ○ δ =10 μm
- ○ δ >10 μm
- ○ δ <10 μm

No, the answer is incorrect.
Score: 0

Accepted Answers:
δ <10 μm

3) The number averaged diameter and mass averaged diameter will be *1 point* same for

- ○ all drops have same density

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Accepted Answers:
None of the above

4) Primary atomization of liquid jet can be simulated by resolving   *1 point*

  ⚪ space domain

  ⚪ time domain

  ⚪ both space and time domain

  ⚪ none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
both space and time domain

5) The state equations can be equated on two spatial locations in different phase   *1 point*

  ⚪ True

  ⚪ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

6) In dilute spray, the force exerted due to collision is considered negligible   *1 point*

  ⚪ True

  ⚪ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

7) Water stored in the container is in the state of rest. This condition is possible only by making all water molecules to zero velocity   *1 point*

  ⚪ True

  ⚪ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

8) The dynamics of the interface of the droplet can be tracked by simulation using multiphase models   *1 point*

  ⚪ True

  ⚪ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

9) The volume of fluid method can be used to resolve the droplet interface in simulation   *1 point*

○ True

○ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

10) In William spray equation the advection of drops in the velocity 		***1 point***
co-ordinate is included with out considering the growth or decay of drops

○ True

○ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

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