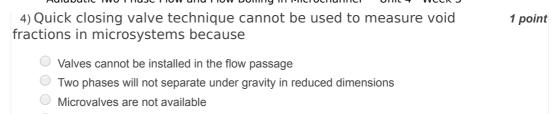
ourses » Adiabat	ic Two-Phase Flow and Flow Boiling		annei		
		incements	Course	Ask a Question	Progress
Jnit 4 - We	eek 3				
Course	Assignment 3				i
outline	The due date for submitting this				
How to access the portal ?	As per our records you have not submitted this assignment.				
Week 1:	 Match the following Rectangular channel 	a)	Asymmetr	ic Taylor bubble	1 poi
Week 2:	2) Circular channel	b) Corner drainage			
Week 3	3) Annular channel	c) Axisymmetric Taylor bubble			
 Lecture 11: Flow Regimes and Void Fraction 	4) Bends 1-d, 2-c, 3-a, 4-b	(d) Intense	slugging	
Estimation	1-b, 2-c, 3-a, 4-d				
 Lecture 12: Influence of Operating 	 1-c, 2-b, 3-a, 4-d 1-b, 2-c, 3-d, 4-a 				
Parameter on Flow Patterns	No, the answer is incorrect. Score: 0				
Lecture 13 : Influence of	Accepted Answers: 1-b, 2-c, 3-a, 4-d				
Operating Parameter on Flow Patterns (Contd.)	2) Taylor bubbles moving through water filled circular tube becomes 1 poir asymmetric				
O Lecture 14 :	With inclinationWith insertion of a rod concentrically in the flow passage				
Influence of Operating	 With insertion of a rod eccer With insertion of a rod eccer 	-		-	
Parameter on Flow Patterns (Contd.)	All of the above				
Conta.)	No, the answer is incorrect. Score: 0				
Influence of Operating	Accepted Answers: All of the above				
Parameter on Flow Patterns (Contd.)	3) Which of the following st Function Analysis (PDF)?	atement is	correct fo	⁻ Probability Density	/ 1 poir
 Assignment 3 Solution 		the signal is r	recorded shou	ld be sufficiently large	
O Quiz :	 The time interval over which the signal is recorded should be sufficiently large The time interval over which the signal is recorded should be small Measurement interval should be less than the time period of signal fluctuations 				
Assignment 3	 Measurement interval shoul Nature of PDF is not influen 		-	-	led
	No, the answer is incorrect. Score: 0				

Adiabatic Two-Phase Flow and Flo	w Boiling in Microchannel	Unit 4 - Week 3
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Leakage occurs

No. the answer is incorrect. Score: 0

Accepted Answers:

Two phases will not separate under gravity in reduced dimensions

5) Which of the following is wrong about void fraction estimation in microchannels?

Impedance techniques require prior knowledge about flow patterns

1 pci Radiation – scattering technique is undesirable as the attenuation caused by the two phase mixture is very small

- High intensity radiations are preferable for radiation-scattering technique
- Photographic image analysis is the most commonly used method

No, the answer is incorrect. Score: 0

Accepted Answers:

High intensity radiations are preferable for radiation-scattering technique

6) How is falling film flow differentiated from annular flow during gas-liquid downflow through 1 point vertical conduits?

Annular flow occurs for air-water flows, whereas falling film flow occurs for liquid-liquid flows

Annular flow is characterized by wavy interface with droplet entrainment, whereas falling film flow is associated with smooth interface

Annular flow occurs for low liquid velocities, whereas falling film flow occurs for high liquid velocities

Annular flow occurs for hydrophilic conduits, whereas falling film flow occurs for hydrophobic conduits

No, the answer is incorrect. Score: 0

Accepted Answers:

Annular flow is characterized by wavy interface with droplet entrainment, whereas falling film flow is associated with smooth interface

7) Which of the following is not true about flow in hydrophobic tubes?

1 point

Rivulet and multirivulet flow exist

- Dry zones develop in liquid film region and liquid droplets stick to dry zones
- Dispersed bubbly flow pattern exists with a number of equally shaped spherical bubbles
- None of the above

No, the answer is incorrect. Score: 0

Accepted Answers:

Dispersed bubbly flow pattern exists with a number of equally shaped spherical bubbles

8) Pick the correct statement

1 point

Mass transfer rate in square shaped monolith channel (catalyst) was found to be greater than that in circular shaped channel

Mass transfer rate in square shaped monolith channel (catalyst) was found to be lower than that in circular shaped channel

Mass transfer rate in square shaped monolith channel (catalyst) was found to be same as that in circular shaped channel

Mass transfer rate was found to be independent of channel shape

Adiabatic Two-Phase Flow and Flow Boiling in Microchannel - - Unit 4 - Week 3

No, the answer is incorrect.

Accepted Answers:

Score: 0

Mass transfer rate in square shaped monolith channel (catalyst) was found to be lower than that in circula shaped channel

9) Pick the correct statement (for a circular channel as the inclination is changed from horizontal **1** point to vertical upflow)

- The bubble rise velocity increases continuously
- The bubble rise velocity decreases continuously
- The bubble rise velocity increases till it reaches a maximum and then it decreases
- The bubble rise velocity remained same

No, the answer is incorrect.

Score: 0

Accepted Answers:

The bubble rise velocity increases till it reaches a maximum and then it decreases

10Find out the Taylor bubble rise velocity (in m/s) through a liquid filled **1** po annular conduit for an inertia dominant system. Given, the outer and inner diameters of annular region are 20 cm and 10 cm respectively. Use the equiperiphery diameter as the characteristic dimension of an annulus.

\bigcirc	0.55
\bigcirc	1.23
\bigcirc	0.35
\bigcirc	0.12
No, ti Score	he answer is incorrect. e: 0
Acce	pted Answers:
0.55	

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End

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