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Courses » Transport Phenomena of Non-Newtonian Fluids

Announcements **Course** Ask a Question Progress FAQ

## Unit 2 - Week 00

Register for Certification exam

### Course outline

How to access the portal

#### Week 00

Quiz : Assignment 00

Week 1: Introduction of Non-Newtonian Fluids

Week 2: Rheology Measuring Instruments

Week 3: Equations of Change

Week 4: Momentum Transfer of Non-Newtonian Fluids

Week 5: Momentum Transfer of Non-Newtonian Fluids

Week 6: Flow of Non-Newtonian Fluids

## Assignment 00

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2019-01-27, 23:59 IST.**

Week 0 assignment 1

1) Shear stress versus shear rate curve for a Newtonian fluid is: **2 points**

- Linear but does not pass through origin
- Nonlinear and passes through origin
- Linear and passes through origin
- Nonlinear but does not pass through origin

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Linear and passes through origin*

2) Units of viscosity of a Newtonian fluid: **2 points**

- Pa/s
- Pa.s
- N/s
- N.s

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Pa.s*

3) Critical Reynolds number for transition from laminar to turbulent flow of a Newtonian fluid in a pipe is: **2 points**

- 105
- 104

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<b>Week 8: Heat Transfer Phenomena of Non-Newtonian Fluids</b>	ce De	4) Friction factor ( $f$ ) for a laminar flow of a Newtonian fluid flowing through a pipe is:	<b>2 points</b>	
<b>Week 9: Mass Transfer Phenomena of Non-Newtonian Fluids</b>		<input type="radio"/> 4/Re <input type="radio"/> 8/Re <input type="radio"/> 12/Re <input type="radio"/> 16/Re	<b>No, the answer is incorrect.</b>	
<b>Interaction Session</b>		<b>Score: 0</b>	<b>Accepted Answers:</b>	
<b>Week 10: Simultaneous Heat and Mass Transfer with Chemical Reactions</b>		16/Re	5) Fourier's law of heat conduction is:	<b>2 points</b>
<b>Week 11: Mass Transfer Combined with Heat Transfer</b>		<input type="radio"/> $q = -k(dT/dy)$ <input type="radio"/> $q(dT/dy) = -k$ <input type="radio"/> $q(k) = -dT/dy$ <input type="radio"/> none of these	<b>No, the answer is incorrect.</b>	
<b>Week 12: Boundary Layer Flows of Non-Newtonian Fluids</b>	<b>Score: 0</b>	<b>Accepted Answers:</b>		
		$q = -k(dT/dy)$		
		6) Thermal conductivity of a material has units:	<b>2 points</b>	
		<input type="radio"/> m/(W.K) <input type="radio"/> (W.K)/m <input type="radio"/> (W.m)/K <input type="radio"/> W/(m.K)		
		<b>No, the answer is incorrect.</b>		
		<b>Score: 0</b>		
		<b>Accepted Answers:</b>		
		$W/(m.K)$		
		7) Prandtl number for a Newtonian fluid is defined as:	<b>2 points</b>	
		<input type="radio"/> $(C_p \cdot \mu)/k$ <input type="radio"/> $(C_p \cdot k)/\mu$ <input type="radio"/> $k/(C_p \cdot \mu)$ <input type="radio"/> $C_p/(\mu \cdot k)$		
		<b>No, the answer is incorrect.</b>		
		<b>Score: 0</b>		
		<b>Accepted Answers:</b>		
		$(C_p \cdot \mu)/k$		
		8) Momentum, thermal and mass diffusivity have units of:	<b>2 points</b>	
		<input type="radio"/> s/m <sup>2</sup> <input type="radio"/> m <sup>2</sup> /s <input type="radio"/> (m.s)/kg <input type="radio"/> kg/(m.s)		
		<b>No, the answer is incorrect.</b>		
		<b>Score: 0</b>		

Accepted Answers:

$m^2/s$

9) Schmidt number for a Newtonian fluid is defined as:

2 points

- $\mu \cdot \rho \cdot D_{AB}$
- $(\rho \cdot D_{AB})/\mu$
- $\mu/(\rho \cdot D_{AB})$
- $(\rho \cdot \mu)/D_{AB}$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$\mu/(\rho \cdot D_{AB})$

10) Fick's law of diffusion for a binary system is:

2 points

- $j_A = -D_{AB}(dC_A/dy)$
- $j_A(dC_A/dy) = -D_{AB}$
- $j_A(D_{AB}) = -dC_A/dy$
- None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

$j_A = -D_{AB}(dC_A/dy)$

End