Unit 8 - Week 7

Assignment 7

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-03-18, 23:59 IST.

1) Gr/Re^2 is equal to *1 point*

(where g, β, L, T, Gr and Re are gravitation acceleration, volume expansion coefficient, characteristics length, temperature, characteristics velocity, Grashof number and Reynold number respectively)

- $\frac{g\beta\Delta T L}{U^2}$
- $\frac{g\beta\Delta T U^2}{L}$
- $\frac{g\beta\Delta T}{U^2 L}$
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
$\frac{g\beta\Delta T L}{U^2}$

2) The correct order of solving the numerical model is *1 point*

- Solving-Geometry-Meshing-Post processing
- Geometry-Meshing-Solving-Post processing
- Geometry-Solving-Meshing-Post processing
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Geometry-Meshing-Solving-Post processing

3) No slip boundary condition is generally specified at *1 point*

- Inlet
- Outlet
- Wall
- None of the above

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

4) Example(s) of thermal boundary condition is/are *1 point*

- Fixed heat flux
- Fixed temperature
- Convective heat transfer coefficient
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

5) Governing equation(s) to deal with isothermal fluid flow phenomena in tundish is/are *1 point*

- Continuity equation
- Momentum conservation equation
- Energy conservation equation
- Both a & b

No, the answer is incorrect.
Score: 0
Accepted Answers:
Both a & b

6) Function(s) of flow control devices in tundish is to *1 point*

- Increase residence time
- remove inclusions
- Modify the flow pattern
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

7) If ratio of buoyancy force to inertial is very high, it means *1 point*

- Natural convection dominates over forced convection
- Forced convection dominates over natural convection
- Both forced and natural convection are of same magnitude
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Natural convection dominates over forced convection

8) ..... boundary condition assumes that the speed of the fluid layer in direct contact with the boundary is identical to the velocity of this boundary. *1 point*

- Free slip
- No slip
- Zero stress
- None of the above

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

9) If plug flow residence time is 31.8 s and theoretical residence time of fluid in tundish is 1134.12 s, volume fraction of plug flow is *1 point*

- 0.018
- 0.028
- 0.080
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.028

10) If plug flow residence time is 31.8 s and theoretical residence time of fluid in tundish is 1134.12 s, volume fraction of dead flow is 0.15, then volume fraction of well mixed flow is *1 point*

- 0.822
- 0.178
- 0.628
- 0.526

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.822