

10. Turbulent + Dimensional Analysis + Rest.

1. The Boundary Layer on a Flat Plate is called Laminar ~~Sub~~ Boundary Layer if. (UKD-JE-13)
  - a) Re is less to 2000 , b). Re is less to 4000 .
  - c) Re is less to  $5 \times 10^5$  , d) None.
2. Head Loss in turbulent Flow in Pipe varies directly as the (JOFJE-14)
  - a) velocity b) square of velocity c) square root of velocity d) None
3. Reynold's No is the Ratio of Inertia force to (DMRCJE-13)
  - a) Gravitational force b) Surface tension c) Elasticity d) viscous force
4. With the same cross-sectional area and place in the turbulent Flow, the largest drag will be experience by. (SSCJE-13)
  - a) A Sphere b) A Streamlined Body c) A Circular disc held normal to the Flow dir<sup>n</sup>
  - d) None
5. The Shear stress in a turbulent Pipe Flow (SSCJE-13)
  - a) Varies Parabolically with Radius - b) is Const over the Pipe Radius
  - c) Varies according to the  $\frac{1}{7}$ th power law d) is zero at the centre and Incr linearly to the wall.
6. velocity distribution for turbulent is. (MPJE-11)
  - a) logarithmic b) Blasius eq<sup>n</sup> c) Power law d) Prandtl  $\frac{1}{7}$ th law
7. The most feature of turbulent Flow is. (MP-JE-11)
  - a) large discharge b) High velocity c) high Frequency d) Const time
8. The Ratio of Inertia force to surface tension is (MP-16) + (SSCJE-15)
  - a) mach No b) Froude No c) Reynold's No d) weber's No
- 9\* match. (discuss in class)

1 - c    3 - d    5 - d    7 - b  
2 - b    4 - c    6 - a    8 - d

10. Mach No is the ratio of (UK D-08)

- a) Square root of the Inertia force to the Pressure force
- b) Inertia force to the surface tension force
- c) Inertia force to the elastic force.
- d) None

11. Froude No Related to. (SSC JE-14)

- a) Inertia force ~~to~~ & gravity force
- b) Inertia force ~~to~~ & Pressure force
- c) Inertia force & surface tension force
- d) Inertia force & elastic force

12. Eulers No Related to Inertia to (MP JE-11)

- a) gravity force
- b) viscous force
- c) pressure force
- d) Bouyancy

13. match.

List I      List II.

(SSC JE-16)

1. Compressible Flow

Reynold's No

2. Free Surface Flow

Nusselt No

3. Boundary layer Flow

Weber No.

4. Pipe Flow

Froude No

5. Heat Convection

match No

Skin Friction Coefficient

- a) A-1, B-4, C-2, D-6, E-3,
- b) A-3, B-4, C-6, D-1, E-2
- c) A-5, B-3, C-6, D-1, E-4,
- d) A-5, B-3, C-6, D-1, E-2

10-c      12-c

11-a      13-d