# Aerodynamic Module-8 March 2017

Q1 - what r basic factors acc to isa
Ans. Press,density,temp

Q2. Stander temp ,preand density
A.273c,1.023N/M2,1.225kgper m3
B.273c,1.023×105 N/m2,1.225kg per m3

Q3 if fin is very large ie rudder too then what will be condition
A) laterally stable but dirvectioly unstable
B)ds but later unstable
C)strong ds
D strong ls

Q4 speed of sound
340m/s

Q5 condition for longitudnal stability
Ans position of tail plane frm cg

6) rolling is abt which axis
Lateral axis

:7) related to gliding ,when ac is having powerful engine
A plotting curve
B Performance characteristic
C Lift curve

8) coeffi of viscocity
A Dec with increase in altitude
B. as in a,but constant in tropopause
C. As in a ,increase in tropopose
D. As in b ,increase in stratosphere

9) aspect ratio
Span/mean cord

11 when ac is banking then what other factor will it depend on except radius
A. Speed
B.lift
C inertia

10) when a/ c is climbing its speed
A.inc with inc in altitude
B.dec with inc in alt.
C remain const

13) thin airfoil is used to
A ) inc lift
B ) incre speed
C ) inc drag

12) when some pressure is acted on any surface ,then what actally acting
A press
B force
C inertia

15)aspect ratio is _____ when induced drag is halved.
Ans double both r inversly propor

16) when ac is banking at high speed then ac will roll
A ) inward
B outward
C doesnt affect

14) if camber of an airfoil is changed thn wht happns
Ans all of the above

## Module - 08 x MARCH 2017

1) In which layer of atmosphere at below its tight in sudden change atmospinere takes place
a) Troposphere
b) stratosphere
c) Ionosphere

2) What is density of air ?
a) Weight of air per unit its volume
b) Mass of air per unit its volume
c) Weight of air with respect to its viscosity

3) Which laws of mechanics is/are applicable to air
a) 1st law
b) 1st & 2nd law
c) 1st, 2nd & 3rd law

4) Aileron provides ___ Movement
a) Pitching
b) Rolling
c) Yawing

5) ___ is the distance travelled by a/c in straight & level flight with given weight of fuel.
a) Endurance range
b) Safe range

6) Induced drag is inversely propotional to
a) Square of fwd velocity.
b) Lift produced by a/c.
c) Weight of an a/c.

7) The logitudinal stability is depend largely on
a) Aspect ratio of Tailplane
b) Center of pressure of Tailplane
c) center of gravity distance from Tailplane

8) The point on upper surface of wing where Laminar flow of air turns into Turbulent air
a) Transition point
b) Stagnation point
c) Aerodynamic center point

9) The center of pressure is the point
a) At which low pressure on upper surface of wing gives resultant effect.
b) At which on chordline the resultant lift force acts.
c) At which high pressure below the wing gives resultant effect.

10) The longitudinal unstable a/c can restore its stability by
a) Adjusting pitching moment about fuselage.
b) Increasing aspect ratio of tailplane
c) Adjusting cp on tailplane.

11) The boundary layer is the flow of relatively slow flow rate
a) Ahead of leading edge of wing
b) Close to upper surface of wing
c) Close to the power blew surface of wing.

12) The induced drag which is produced by lifting component of a/c is

a) Decreases by increasing weight of a/c

b) Increases by increasing square of the density of airflow

c) Decreases by increasing square of velocity of a/c.