Module 8
Basic Aerodynamics

01) _____ Property of air which makes all flights possible.

   a) Viscosity   b) Pressure   c) Density

02) Mark the correct statement about density.

   a) Density = Mass / volume
   b) Density = weight / volume
   c) Density = Mass x volume
   d) Density = Area x Mass

03) The aeroplane may travel to left or right along the lateral axis, such motion is called as

   a) Side slipping
   b) Skidding
   c) Both (a) and (b)

04) Point at which laminar boundary layer turns into turbulent is

   a) Transition point
   b) Separation point
   c) Critical point

05) Velocity of sound at sea level is

   a) 340 m/s
   b) 580 m/s
   c) 650 m/s

06) The layer of lower atmosphere where temperature decreases rapidly

   a) Troposphere   c) Ionosphere
   b) Stratosphere   b) Exosphere

07) The Drag which varies inversly with airspeed
1) Profile drag
2) Wake drag
3) Induced drag

08) Aileron gives _____ control
a) Roll
b) Pitch
c) Yaw

09) If centre of gravity of aircraft is forward of CP then nose of aircraft will,
a) Drop
b) Rise
c) It depends on distance b/w CP and CG.

10) The laws of mechanism that is/are applicable to air
a) 1st and 2nd law
b) 1st and 3rd law
c) 1st, 2nd and 3rd law

11) The distance covered, related to air, in straight & level flight per unit weight of fuel used is,
a) Endurance
b) Specific air range
c) Specific fuel consumption

12) Tail plane contribution in longitudinal stability depends on
   a) Area and distance from cp
   b) Aspect ratio and distance from cp
   c) Distance from cg

13) Point on wings surface from where boundary layer starts
   a) Leading edge
   b) Trailing edge
   c) Transition point

14) Induced drag varies
   a) Inversely with square of airspeed
   b) inversely with airspeed
   c) directly with square of airspeed

15) Mark the correct statement
   a) Centre of pressure is point on chord of wings from where resultant force acts
   b) Centre of pressure is point on chord of wings from where lift force acts
   c) Centre of pressure is point on chord of wings from where weight acts

16) The most important consideration in determining longitudinal stability is
   a) Position of centre of gravity
   b) Area of horizontal stabiliser
   c) Longitudinal dihedral

17. the Which has lightes: m e⁻ P + N.

18. Netural atom — when & & are = .

19. bar magnet . —

20. ferite is — Ferromagnetic.

21. hesterisis loop . .

27. low heate loop & high permiability suitable for —
   a. Permanent Magnet
   ✓ b. electro =11=
   c. Armature
   d. ATC

23. Capaiturce Unit — culam / volt $c = Q/v$

27. Angular speed & torque calculate power.

23. Armature netuualize cross magnetus — Compasitive winding

24. Two chemical combin — its called chemical power

25. Foam factor → RMS / Average

26. RMS value — %.