

## PRINCIPLES OF FLIGHT

- 1) "When once you have tested flight, you will forever walk the earth with your eyes turned skyward, for there you have been, and there you will always long to return." said by \_\_\_\_\_
- 2) It is essential to have a basic knowledge of elementary mechanics to understand the various Principles of Flight, because both the \_\_\_\_\_ and \_\_\_\_\_ in which it flies are matter subjected to the laws of mechanics.
- 3) The mass of a body is a measure of how difficult it is to \_\_\_\_\_ or \_\_\_\_\_
- 4) Motion is said to be there when a body changes its \_\_\_\_\_ in relation to its surroundings.
- 5) Speed is the \_\_\_\_\_.
- 6) Velocity is speed in \_\_\_\_\_.
- 7) Velocity is a \_\_\_\_\_ quantity
- 8) Acceleration is the \_\_\_\_\_.
- 9) A body moving along a circular path at constant speed has \_\_\_\_\_.
- 10) A body will continue to be in state of \_\_\_\_\_ or of \_\_\_\_\_ motion in a straight line unless acted upon by an external force.
- 11) A push or a pull'. That which causes or tends to cause a \_\_\_\_\_ of a body.
- 12) Pressure is \_\_\_\_\_.
- 13) The rate of change of momentum of a body is directly proportional to the \_\_\_\_\_ and takes place in the direction of the application of the said force.
- 14) To every action, there is an \_\_\_\_\_ and \_\_\_\_\_ reaction.
- 15) The earth exerts a certain force towards its \_\_\_\_\_ on all objects on its surface.
- 16) Weight of the body is equal to the mass of the body multiplied by \_\_\_\_\_
- 17) A force is said to do work on a \_\_\_\_\_ when it moves the body in the direction in which the force is acting.
- 18) The amount of work done on a body is the product of the force applied to the body and \_\_\_\_\_ moved by that force in the direction in which it is acting. If a force is exerted and \_\_\_\_\_ takes place, no work has been done
- 19) Power is simply the \_\_\_\_\_
- 20) Mass has energy if it has \_\_\_\_\_.
- 21) Law of Conservation of Energy, sum \_\_\_\_\_ in the universe remains \_\_\_\_\_.
- 22) The point through which the weight of an aircraft acts is \_\_\_\_\_
- 23) Kinetic Energy, mass that is moving can do work in \_\_\_\_\_
- 24) A body designed to produce more lift than drag is \_\_\_\_\_
- 25) A typical aerofoil section is cambered on top surface and is more or less \_\_\_\_\_ at bottom.
- 26) Chord Line It is line joining the \_\_\_\_\_ of leading and trailing edges of an aerofoil.
- 27) Chord Length, It is the length of chord line intercepted between the \_\_\_\_\_ and \_\_\_\_\_ edges.
- 28) Angle of Attack. It is the angle between the chord line and the \_\_\_\_\_
- 29) Angle of Incidence. The angle between the chord line and \_\_\_\_\_.
- 30) \_\_\_\_\_ is one single force representing all the pressures (force per unit area) over the surface of the aerofoil. It acts through the \_\_\_\_\_ which is situated on the chord line.
- 31) Lift. The vertical component of Total Reaction, resolved at \_\_\_\_\_ angles to the relative airflow.
- 32) Drag. The horizontal component of the \_\_\_\_\_ and in the same direction as the relative airflow.
- 33) \_\_\_\_\_ is the shape of a wing or blade
- 34) An airfoil-shaped body moved through a fluid produces an \_\_\_\_\_.

- 35) The component of this force \_\_\_\_\_ to the direction of motion is called lift.
- 36) The component \_\_\_\_\_ to the direction of motion is called drag
- 37) \_\_\_\_\_ flight airfoils have a characteristic shape with a rounded leading edge, followed by a sharp trailing edge
- 38) Any object with an angle of attack in a moving fluid, such as a flat plate will generate an \_\_\_\_\_ perpendicular to the flow.
- 39) Aerofoils are more \_\_\_\_\_ shapes, able to generate more lift with less drag.
- 40) Modern aircraft wings may have different airfoil sections along the wing span, each one optimized for the conditions in each \_\_\_\_\_ of the wing.
- 41) Movable high-lift devices, flaps and sometimes slats, are fitted to \_\_\_\_\_ on almost every aircraft.
- 42) A flying object is a \_\_\_\_\_ in a three dimensional space

UNITS :

- 43) Force \_\_\_\_\_
- 44) Momentum \_\_\_\_\_
- 45) Weight \_\_\_\_\_
- 46) Work \_\_\_\_\_
- 47) Power \_\_\_\_\_
- 48) Energy \_\_\_\_\_
- 49) Velocity \_\_\_\_\_
- 50) Kinetic Energy \_\_\_\_\_