

AVIATION SUBJECTS – COMBINED ASSESSMENT PC

Cadet's Name: _____

Squadron: _____

Flight: _____

PART A – MULTIPLE CHOICE (10 points)

1. Aircraft stability is defined as:
 - a. the stability of the chemical bonds of the material used in the aircraft's construction;
 - b. the overall tendency of an aircraft to return to its original attitude;
 - c. the overall tendency of an aircraft to remain in a new attitude; or
 - d. the tendency of an aircraft in flight to remain in straight, level, upright flight and to return to this attitude, if displaced, without corrective action by the pilot.

 2. Which of the following is a factor influencing longitudinal stability?
 - a. centre of gravity,
 - b. centre of pressure,
 - c. dihedral, or
 - d. keel effect.

 3. Directional stability is defined as:
 - a. stability around the lateral axis;
 - b. stability around the vertical axis;
 - c. stability around the longitudinal axis; or
 - d. stability of the pilot.

 4. Which is the lowest layer of the atmosphere?
 - a. the troposphere,
 - b. the stratosphere,
 - c. the mesosphere, or
 - d. the thermosphere.

 5. Seventy-eight percent of the atmosphere is composed of this gas?
 - a. oxygen,
 - b. water vapour,
 - c. argon, or
 - d. nitrogen.
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6. Which layer of the atmosphere includes the ozone layer?
 - a. the troposphere,
 - b. the stratosphere,
 - c. the mesosphere, or
 - d. the thermosphere.

 7. The two main types of cloud classification are:
 - a. Romulus and Stradivarius,
 - b. Cumulus and Stratus,
 - c. Venus and Pluto, or
 - d. Cirrus and Alto.

 8. Areas of equal atmospheric pressure are joined together by:
 - a. isotherms,
 - b. isosceles,
 - c. contour lines, or
 - d. isobars.

 9. Wind is defined as:
 - a. the horizontal movement of air within the atmosphere;
 - b. the vertical currents created by uneven heating of the earth;
 - c. the circulation of air; or
 - d. the reaction that occurs when nitrogen and oxygen are mixed together.

 10. Relative humidity is defined as:
 - a. the amount of water consumed by a cousin;
 - b. the amount of water in relation to the density of the air;
 - c. the humidity of the earth's atmosphere relative to the moon; or
 - d. the ratio of the actual amount of water present in the air compared to the amount that the same volume of air could hold.
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PART B – SHORT ANSWER (15 points)

1. Describe static and dynamic stability. (2 points)

2. Describe convection as a lifting agent. (2 points)

3. Describe unstable air and the flight conditions associated with unstable air. (3 points)

4. Explain mobility as a property of the atmosphere. (1 point)

5. Explain capacity for expansion as a property of the atmosphere. (1 point)

6. Describe the assumptions for standard atmosphere in North America. (2 points)

7. Describe a low pressure area. (2 points)

8. Define dewpoint. (1 point)

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