

External assessment 2025

Multiple choice question book

# Aerospace Systems

## General instruction

- Work in this book will not be marked.



Queensland  
Government

**QCAA**

Queensland Curriculum  
& Assessment Authority

## Section 1

### Instruction

- Respond to these questions in the question and response book.
- 

### QUESTION 1

Which option correctly identifies a difference between centrifugal and axial flow jet engines?

- (A) Axial flow jet engines are less efficient than centrifugal jet engines.
- (B) Centrifugal jet engines can tolerate large volumes of airflow, whereas axial flow jet engines cannot.
- (C) Centrifugal jet engines use rotors and stators to compress airflow, whereas axial flow jet engines use a blade.
- (D) Axial flow jet engines move air parallel to the shaft, whereas centrifugal jet engines extract air at right angles.

### QUESTION 2

After flying in cloud for some time, a pilot suspects that their static system might be blocked.

What is the pilot's best course of action?

	Step 1	Step 2	Step 3
(A)	Continue level flight.	Check that the airspeed indicator is registering a speed.	Select an alternative static system.
(B)	Enter a slow descent.	Check that the airspeed increases and the vertical speed and altimeter decrease.	Select an alternative static source.
(C)	Enter a slow turn.	Check that the artificial horizon, turn and bank coordinator and directional gyro all indicate a turn.	Select an alternative static system.
(D)	Enter a slow climb.	Check that the airspeed decreases, the vertical speed indicator reads zero and the altimeter doesn't change.	Select an alternative static source.

## THIS PAGE WILL NOT BE MARKED

### QUESTION 3

Which statement best reflects the relationships between human error and sleep, stress and fatigue?

- (A) Stress and fatigue can increase the likelihood of human error, while quality sleep can mitigate these effects.
- (B) Sleep has a significant impact on human error, while stress and fatigue do not.
- (C) Human error is dependent on fatigue and is not affected by sleep or stress.
- (D) Sleep, stress and fatigue have no significant impact on human error.

### QUESTION 4

Which option explains the purpose, operation and one limitation of the instrument landing system (ILS)?

	<b>Purpose</b>	<b>Operation</b>	<b>Limitation</b>
(A)	precision approach system used only for night landings	uses one directional radio signal to provide horizontal guidance only	atmospheric interference
(B)	non-precision approach system used for landing in bad weather and at night	uses one directional radio signal to provide vertical guidance only	atmospheric interference
(C)	non-precision approach system used only for night landings	uses two directional radio signals to provide horizontal and vertical guidance	obstructions from buildings, hangars or terrain
(D)	precision approach system used for landing in bad weather and at night	uses two directional radio signals to provide horizontal and vertical guidance	obstructions from buildings, hangars or terrain

### QUESTION 5

A pilot became distracted following an issue with an engine instrument and neglected to make the compulsory radio call as they approached their destination airport. This resulted in a near collision with another aircraft.

What factor affecting situational awareness led to this near collision?

- (A) fatigue
- (B) fixation
- (C) poor weather
- (D) poor communication

**THIS PAGE WILL NOT BE MARKED**

**QUESTION 6**

The physiological cause of spatial disorientation is

- (A) conflicting sensory inputs.
- (B) loss of situational awareness.
- (C) over-reliance on proprioception feedback.
- (D) inadvertently flying into cloud while using visual flight rules (VFR).

**QUESTION 7**

While in flight, a pilot's ability to see an aircraft in the distance is aided by

- (A) bright sunlight.
- (B) binocular vision.
- (C) effective scanning.
- (D) high oxygen levels.

**QUESTION 8**

Which option describes the elements of the global navigation satellite system (GNSS) that are used to obtain a three-dimensional positive fix of a flying aircraft?

	<b>Number of satellites</b>	<b>Aircraft components</b>
(A)	3	only receive signals
(B)	4	only receive signals
(C)	3	send and receive signals
(D)	4	send and receive signals

**THIS PAGE WILL NOT BE MARKED**

**QUESTION 9**

Identify the adverse impact of smoking with respect to safety in an aerospace environment.

- (A) impaired vision
- (B) reduced fatigue
- (C) lower blood sugar levels
- (D) increased drug dependency

**QUESTION 10**

The primary purpose of turbulence penetration speed ( $V_b$ ) is to

- (A) penetrate turbulent air.
- (B) ensure the comfort of passengers.
- (C) reduce aerodynamic stress loads on the aircraft.
- (D) ensure aircraft and passenger safety when flying through cloud.

**THIS PAGE WILL NOT BE MARKED**

**THIS PAGE IS INTENTIONALLY BLANK**

**THIS PAGE WILL NOT BE MARKED**

**THIS PAGE IS INTENTIONALLY BLANK**

