

External assessment 2022

Multiple choice question book

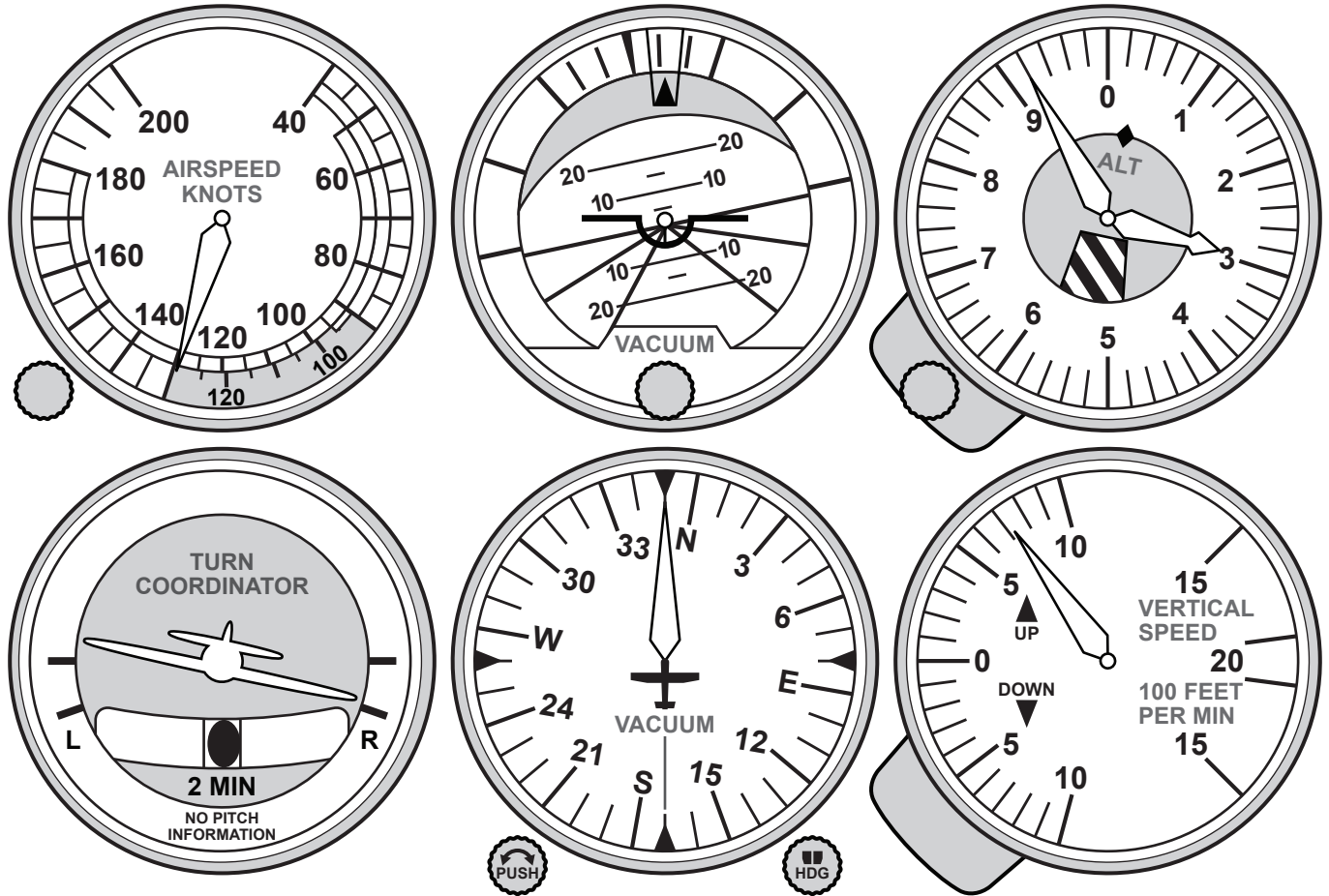
Aerospace Systems

General instruction

- Work in this book will not be marked.

Section 1

QUESTION 1



These flight instruments show the aircraft's altitude, vertical speed and heading is at

- (A) 2920 feet, 7 fpm, 340°
- (B) 12 920 feet, 7 fpm, 350°
- (C) 2920 feet, 710 fpm, 340°
- (D) 2920 feet, 710 fpm, 350°

QUESTION 2

A symptom common to both hypoxia and hyperventilation is

- (A) euphoria.
- (B) visual impairment.
- (C) impaired judgment.
- (D) reduced breathing rate.

QUESTION 3

A VFR aircraft has been flying at 160 knots for 3 hours and 10 minutes, using 32 L of fuel per hour. The next checkpoint is 282 nautical miles away. Calculate the elapsed time interval to this checkpoint and the fuel used.

- (A) 1 hour and 46 minutes, 56 L
- (B) 1 hour and 46 minutes, 36 L
- (C) 1 hour and 15 minutes, 101 L
- (D) 1 hour and 15 minutes, 32 L

QUESTION 4

Which visual approach slope indicator system provides a colour discrimination system that is usable day or night?

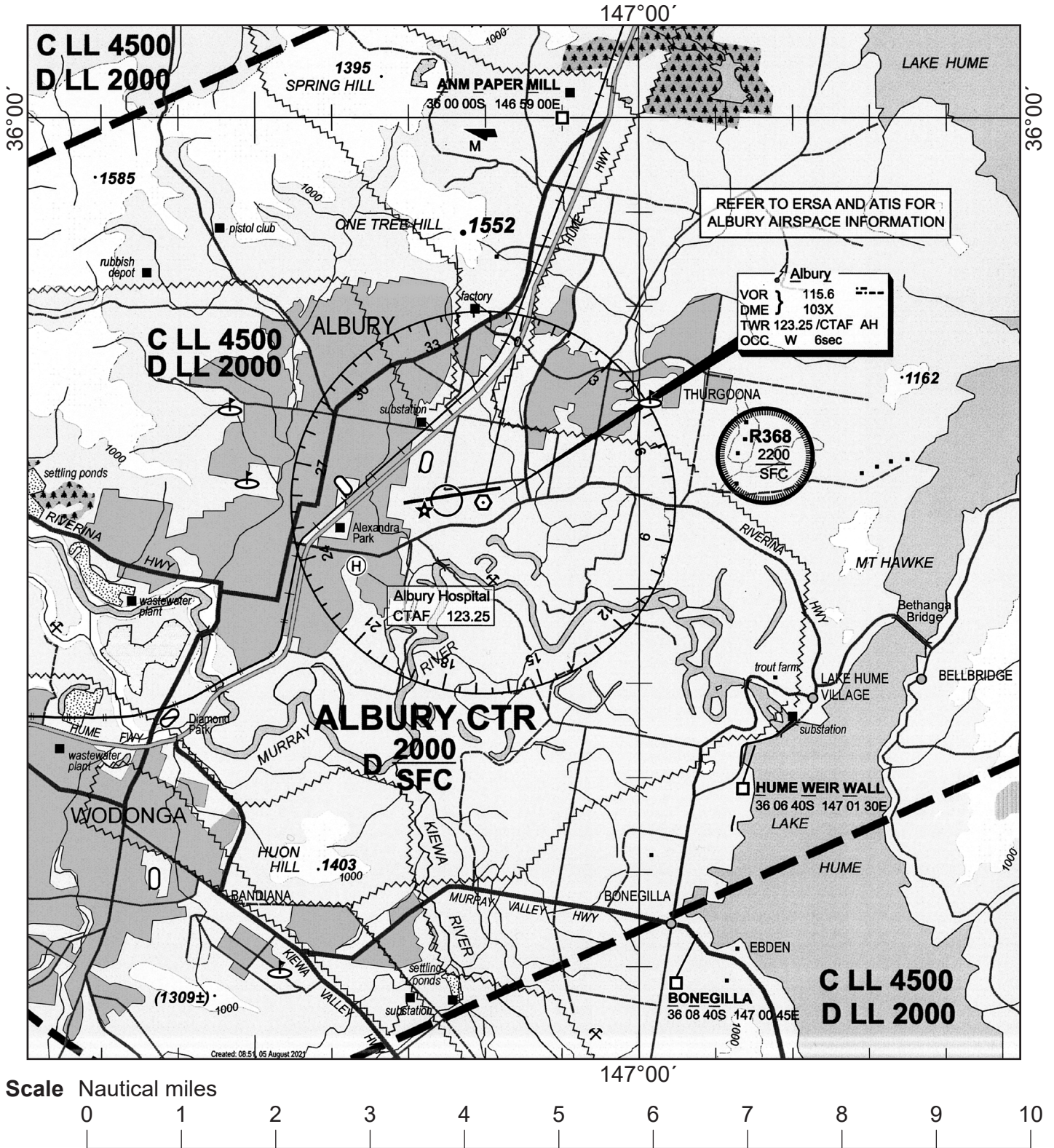
- (A) RVR
- (B) PAPI
- (C) VASIS
- (D) T-VASIS

QUESTION 5

An IFR aircraft is scheduled to depart Melbourne Airport, but ATC has informed the pilot that the aerodrome is covered in ground fog and visibility is near zero. Using systems thinking strategies, determine the pilot's best course of action.

- (A) Delay all ground movement until the fog has dissipated.
- (B) Increase aircraft visibility by illuminating it with taxi or landing lights.
- (C) Increase aircraft visibility by illuminating it with the anti-collision strobe lights.
- (D) Delay all ground movement until fog visibility improves and the runway visual range is above 65 m.

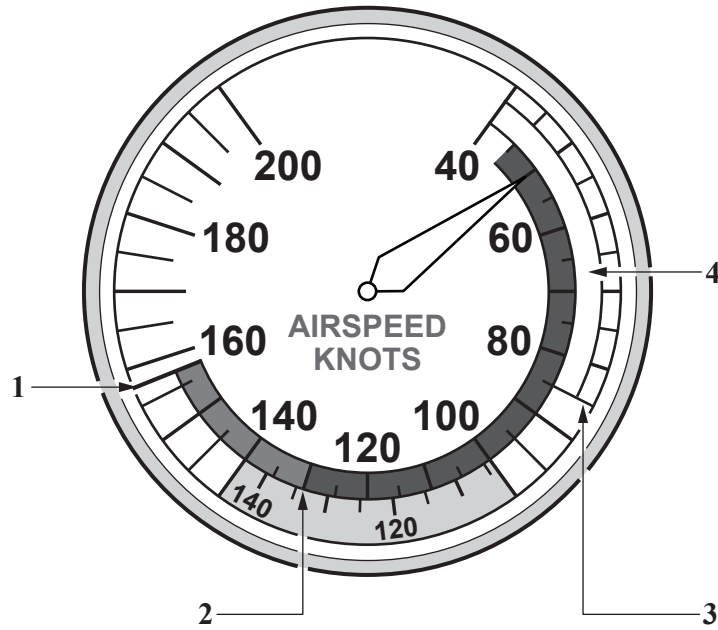
QUESTION 6



Using the visual terminal chart, determine the minimum height required from an aircraft 5 NM away from Albury Aerodrome with a track of 135°.

- (A) 2085 ft
- (B) 2403 ft
- (C) 2552 ft
- (D) 2585 ft

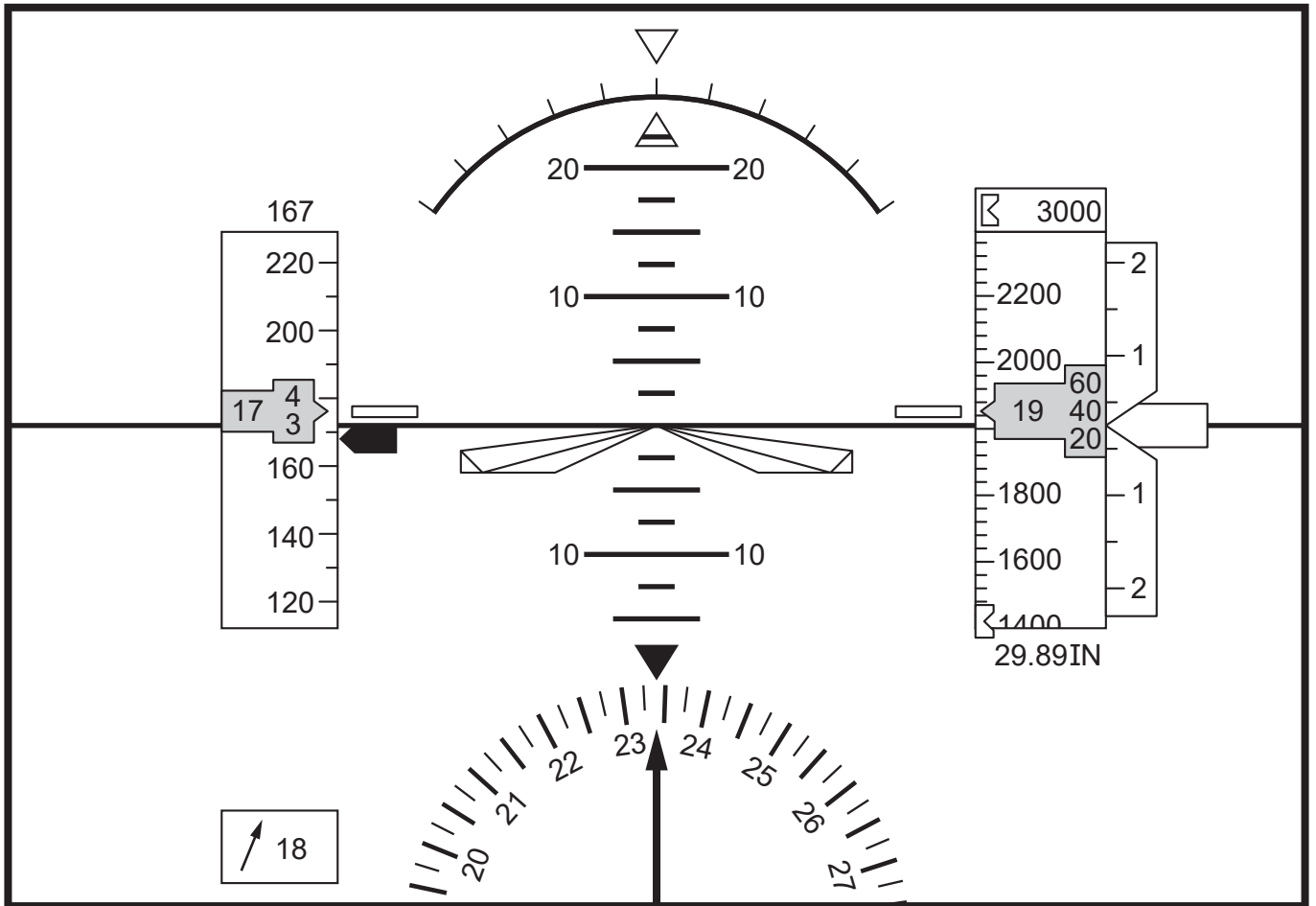
QUESTION 7



Identify 1, 2, 3 and 4 on the airspeed indicator.

	1	2	3	4
(A)	Vfo = flap operating speed	Vne = never exceed speed	Vno = normal operating speed/maximum structural cruising speed	Vfe = flap extension speed
(B)	Vne = never exceed speed	Vno = normal operating speed/maximum structural cruising speed	Vfo = flap operating speed	Vfe = flap extension speed
(C)	Vne = never exceed speed	Vno = normal operating speed/maximum structural cruising speed	Vfe = flap extension speed	Vfo = flap operating speed
(D)	Vne = never exceed speed	Vfe = flap extension speed	Vfo = flap operating speed	Vs0 = minimum steady flight speed

QUESTION 8



This primary flight display indicates that the aircraft is flying at a heading and speed of

- (A) 173° M at 194 kt.
- (B) 173° M at 223 kt.
- (C) 223° M at 167 kt.
- (D) 223° M at 173 kt.

QUESTION 9

Identify the correct definitions for airspeed limitations of stall speed in single-engine aircraft.

	Vs0 is the	Vs1 is the
(A)	stalling speed in the landing configuration.	maximum structural cruising speed that cannot be exceeded, except in smooth air.
(B)	stalling speed obtained in a specified configuration.	normal operating speed of the aircraft where flying occurs.
(C)	stalling speed or the minimum steady flight speed in the landing configuration.	stalling speed or the minimum steady flight speed obtained in a specified configuration, normally regarded as the 'clean'.
(D)	minimum steady flight speed obtained in the landing configuration.	stalling speed or the minimum steady flight speed in the landing configuration.

QUESTION 10

Which environmental factors will impair a pilot's performance the most when flying under the influence of alcohol?

- (A) altitude and fatigue
- (B) altitude and low humidity
- (C) fatigue and lack of exercise
- (D) circadian cycle and irregular food intake

References

Question 1

Adapted from 2019, 'Complete set for any aircraft', *RealityXP*, <https://reality-xp.com/flightsim/flt/features/index.html>

Question 6

Airservices Australia, Visual Terminal Chart (VTC): Albury, <https://data.airservicesaustralia.com/data-product/vfrifr-charts>,

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Question 7

Adapted from Federal Aviation Administration 2016, 'Figure 8-8: Single engine airspeed indicator (ASI)', *Pilot's handbook of aeronautical knowledge*, p. 8-9, https://www.faa.gov/sites/faa.gov/files/2022-03/pilot_handbook.pdf

Question 8

Adapted from South of Lakeland Airport Florida (KLAL), *Garmin SAR detailed demo tutorial*, pg. 15 onwards, https://savannah.cap.gov/media/cms/G1000GarminSARUSGrid_BC2FA7D9482AC.pdf



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