

**GLIDING NEW ZEALAND
QUALIFIED GLIDER PILOT CERTIFICATE
AIRMANSHIP - NAVIGATION EXAM**

Time Allowed: 1 hour

INSTRUCTIONS:

1. Do not write on this examination paper. Write only on the answer sheet provided. It should be Form OPS-02 and is available on the Gliding NZ web site under "Operations Forms".
2. On the answer sheet, enter your name, date, club and subject.

This is a SAMPLE Airmanship - Navigation Exam.

3. Questions are of the multiple choice answer type and are to be answered by placing a cross on the answer sheet and over the appropriate letter (A, B, C or D) at the number corresponding to the question.

e.g. 7. ☒ B ☐ C ☐ D

4. If you make an error and wish to change your choice of answer, circle the error and place a cross on the new answer chosen.

e.g. 7. ☒ B ☐ C ☒ D

5. The paper consists of twenty questions. Read all the questions carefully before making your choice of the possible answers. To attain a pass you must answer at least fourteen questions correctly.
6. You must return both the examination paper and the answer sheet to the supervisor at the completion of the exam.
7. If you consider that any aspect of this examination requires amendment or can be improved upon, please do not hesitate to advise the National Operations Officer

Tips On Exam Technique

This is a multi choice exam where you have 4 possible answers. Only one will be completely correct. The other answers may range from being partly or nearly correct to being obviously wrong!

Read all the answers before committing yourself to the answer you consider correct.

Work out how much time to allow for each question then keep track of time.

Don't get hung up on one particular question - move on and complete those where you are confident you know the right answer - then come back to those you left.

1. As pilot you see a knot in the rope when taking up slack for the for launch. You should
 - a) release immediately and have the knot removed before proceeding with the launch.
 - b) only proceed with the launch if you know the knot has already been safely flown on.
 - c) call out to the wing runner to stop the "Take up slack" signal.
 - d) call the wing runner over and advise them the knot needs taking out.

2. You pass through a rain shower in the circuit and there is now water on the glider's wings. You should
 - a) watch for falling into the trap of looking too closely at the canopy rather than further out down the field to get the correct landing perspective.
 - b) be alert for warning of an increase in the stall speed because the droplets disturb the airflow over the wing - so increase the approach speed accordingly.
 - c) expect a higher rate of descent because the water droplets increase the drag
 - d) all of the above.

3. The correct recovery from a spiral dive is
 - a) the same as the standard spin recovery.
 - b) roll the wings level as you pull out to ensure minimum height loss.
 - c) relax the back pressure, roll the wings level, ease out of the dive.
 - d) extend the brakes as you roll the wings level then ease out of the dive.

4. The chances of damaging a glider in a downwind landing increase because
 - a) the glider will be landing at a higher TAS due to the tailwind.
 - b) the glider's controls will lose effectiveness at a higher ground speed thus making it hard to keep the wings level - so a groundloop is likely as a wing goes down at speed.
 - c) downwind ground effect reduces elevator effect which could cause a heavy landing.
 - d) the glider's ASI under-reads with a tail wind so a heavy landing is likely.

5. You are approaching a thermalling glider from a higher altitude. It is turning left. You should
- a) keep them in sight and join below them as they were there first.
 - b) keep them in sight and aim to join opposite them in a left turn.
 - c) stay above them and turn whatever way the lift works best.
 - d) dive to accelerate then join outside them in a left turn.
6. You see cloud thickening below when wave flying so decide to descend quickly. A controlled, maximum rate descent is achieved by
- a) diving at V_{ne} with the brakes out.
 - b) spinning with the brakes out.
 - c) flying at or a little under the Max Rough Airspeed, in a turn with the brakes out and gear down.
 - d) sideslipping with the brakes out in a turning spiral.
7. The correct recovery from a fully developed spin is
- a) apply opposite rudder and aileron until the spin stops, then ease out of the dive.
 - b) roll the wings level as you apply rudder opposite to the direction of rotation.
 - c) relax the load (G), roll wings level, then ease out of the dive.
 - d) apply full opposite rudder and ease the stick centrally forward till the rotation stops, then centralise the rudder, roll wings level and ease out of the dive.
8. On aerotow you see the tow plane's rudder waggle left and right. You must
- a) check your brakes and close them if they are unlocked or open.
 - b) fish-tail the glider while holding the release open as the tow pilot wants you to release.
 - c) release immediately as this has the makings of a tow upset.
 - d) open your air brakes because the pilot is signalling he is ready to practice descending on tow.

9. Climbing up through 13,000 ft in wave you should
- a) set 1013 on the altimeter's subscale.
 - b) set 1013 on the altimeter's subscale and call altitudes as Flight Levels.
 - c) set the local QNH on the altimeter's subscale and call altitudes as Flight Levels.
 - d) set 1031 on the altimeter's subscale and call your altitude as Flight Altitudes.
10. You join the circuit at the same height as a lower performance two seater. You should
- a) fly at your min sink speed for as long as it takes for them to get well ahead of you.
 - b) use your extra performance to fly faster and get ahead and land before them.
 - c) dive off your height and get in front of him where you can be seen ahead in the circuit.
 - d) give way to the other glider by spacing your circuit out wider.
11. You plan to outland on a sloping topdressing strip. You should
- a) plan to land uphill even if this means landing with a light tail wind.
 - b) land into wind even if it means landing downhill.
 - c) consider landing downhill only if you can retract the wheel to shorten the landing roll.
 - d) Use a higher approach speed and land uphill only if it is calm or a headwind on finals.
12. You are on aerotow and find that you can not release. You should
- a) fish-tail the glider while holding the release open.
 - b) fly in to the low tow position and attempt to release from there.
 - c) fly out to the left of the tug and rock your wings if not able to advise the tug by radio.
 - d) Open the glider's airbrakes fully to create more drag then operate the tow release.

13. You are on a cross country flight and become uncertain of your position. You should
- a) stay calm, focus on flying the glider to stay airborne while you try to work out where you are.
 - b) work from your last known position and check ground features against map features.
 - c) use the radio to advise others of your predicament. Plan to land if it is getting near dark.
 - d) all of the above.
14. At sea level, IAS equals TAS. But as altitude increases, TAS is higher than IAS. Which of the following is correct for a day when the surface temperature is 20 degrees C and the lapse rate is standard
- a) using a Navigation Computer, 70 kts IAS at 5000 ft gives a TAS of 76 kts and at 10,000 ft it increases to make the TAS 82 kts.
 - b) at 70 kts IAS at 10,000 ft the TAS is doubled to 140 kts.
 - c) at 10,000 ft the TAS increases by half the IAS, ie 70 kts = 105 kts TAS.
 - d) calculate TAS by adding 10% of the altitude in thousands to the IAS.
15. In steady, light wind conditions the normal approach speed of a glider is calculated by taking the basic stall speed and adding
- a) at least half the estimated wind strength.
 - b) 10 knots plus half the estimated wind strength.
 - c) half again plus any wind speed.
 - d) two-thirds of the glider's clean stall speed.
16. During a cross-country flight, position reports should be:
- a) passed to the nearest Air Traffic Control Centre.
 - b) made regularly, either to club base or other airborne gliders.
 - c) are only required if operating beyond 30 km from your launch point.
 - d) made every hour stating your position and altitude.

17. You are set up for a landing in a strange paddock after a cross country flight. As you start your final turn you fly into strong lift. You should:
- a) use it, while treating the selected paddock as your base.
 - b) use it if there are large paddocks downwind of your position.
 - c) ignore it and concentrate on the final approach.
 - d) use it if above 300 ft, but ignore it if below.
18. Which of the following is correct?
- a) at the placarded Max Rough Airspeed it is safe to use any control to full deflection.
 - b) at V_{ne} , use of full control will overstress the glider.
 - c) there is a 50% safety margin on V_{ne} .
 - d) both a) and b).
19. The magnetic variation in an area of NZ where it is planned to do a cross country flight is 20 degrees East. This should be:
- a) halved and added to the true heading to give magnetic heading.
 - b) added to the true heading to give the magnetic heading to steer.
 - c) subtracted from the true heading to give the magnetic heading.
 - d) ignored, because your compass automatically compensates for variation.
20. You are flying a glider with an L/D ratio of 30:1. In still air how far will you travel for the loss of 1,000 ft?
- a) 9 kilometers.
 - b) 6 kilometers.
 - c) 18 kilometers.
 - d) 30 kilometers.

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Answer	A	D	C	B	B	C	D	A	B	D	A	C	D	A	B	B	C	D	C	A