ANSWER PAPER
INSTRUCTORS EYES ONLY.

DO NOT WRITE ON THIS ANSWER PAPER.

THE BRITISH GLIDING ASSOCIATION.
BRONZE CERTIFICATE EXAMINATION PAPER. 1997 EDITION

PAPER NUMBER :-TWO

NAVIGATION PART 2 REQUIRES CANDIDATES TO BE IN POSSESSION OF ONE OF THE FOLLOWING CURRENT 1:500 000 SCALE ICAO CHARTS

- ***SOUTHERN ENGLAND AND WALES***
- ***NORTHERN ENGLAND AND IRELAND***
- ***SCOTLAND, SHETLAND AND ORKNEY***

AND A MARKER PEN, RULER AND PROTRACTOR.

AN 'X' SHOULD BE PLACED IN THE BOX OF THE CANDIDATES CHOICE FOR EACH QUESTION.
IF THEY CHANGE THEIR MIND, THE WRONG ANSWER SHOULD BE CIRCLED AND A NEW CHOICE SELECTED BY PLACING THEIR 'X' IN THE APPROPRIATE BOX.

70 % CORRECT IN EACH SECTION IS REQUIRED TO ACHIEVE A PASS.

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AIR LAW AND BGA OPERATIONAL REGULATIONS.

QUESTION 1. Whilst hill soaring which of the following statements is always true?

A. A glider wishing to overtake another should pass on its left side.
B. A glider wishing to overtake another should pass on its right side.
C. A glider wishing to overtake another should pass between it and the hill.
D. A glider wishing to overtake another should pass beneath it.

QUESTION 2. What does a double white cross (++) showing on a runway indicate?

A. An area where the runway is not available for landing.
B. Gliders and powered aircraft are using the same runway.
C. An area that shall only be used for the take off and landing of gliders.
D. An area that shall only be used for powered aircraft.

QUESTION 3. Whilst approaching an airfield you notice a red flare fired from the control tower. What should your actions be?

A. Keep a good look out as there must be another aircraft near by.
B. Do not land, wait for permission.
C. Remain clear of the ATZ.
D. Continue with the circuit and watch for further instructions.

QUESTION 4. What does a red and yellow striped arrow in the signal square of an airfield indicate?

A. The direction to follow the taxiway when recovering aircraft or gliders to park.
B. The direction of thermal turns for gliders.
C. The direction in which to vacate the runway after landing.
D. The direction of circuit in use.

QUESTION 5. What does a white 'T' in the signal square of an airfield denote?

A. Aircraft landing and taking off will do so in a direction parallel with the shaft of the 'T' and towards the cross arm.
B. The location of the tea cabin.
C. Gliders will be landing at right angles to that of powered aircraft.
D. Two runways are simultaneously in use.

QUESTION 6. What does a white dumbbell displayed in the signal square signify?

A. Both gliders and powered aircraft are operating from the airfield.
B. Movements of aircraft on the ground are confined to paved surfaces.
C. Winch launching and aerotows are in progress at the same time.
D. Paved areas are only available for powered aircraft. Gliders must land on the grass.

QUESTION 7. Which statement is most correct? You should not fly -

A. Over or within 3000 ft of any open air gathering of more than 1000 people assembled for the purpose of witnessing or participating in any organised event.
B. Below a height of 2000 ft above the highest fixed obstacle within 1500 ft of the glider.
C. Below a height of 2000 ft above any congested area of a city, town or settlement.
D. At a height where you are not able to glide clear of a congested area to a suitable landing place.

QUESTION 8. Your cross country route takes a line through East Midlands CTA. What must be your actions during the flight?

A. Maintain VMC whilst in the CTA and keep a good look out.
B. Cross at the lowest possible level to avoid conflict with other traffic.
C. Call the ATC unit to inform them of your presence. They will provide separation from other traffic. You must hold a CAA RT license.
D. Cross at right angles, maintaining VMC.

QUESTION 9. What is the tug pilot signalling when you see the rudder waggling?

A. Check your air brakes are not open or drag chute deployed and close or jettison as necessary.
B. You are to release immediately.
C. Wait until the tug tows you overhead the airfield and releases his end of the rope.
D. Expect the tug to slow down and continue at a slower speed.

QUESTION 10. Other than persons by parachute in an emergency, which is most correct statement with reference to items permitted to be dropped from a glider in flight?

A. Ballast in the form of water.
B. Tow ropes at an approved airfield.
C. Nothing.
D. Ballast in the form of fine sand or water.

QUESTION 11. What is the maximum width of an airway that may be crossed by a glider in

VFR conditions?

A. 10 nautical miles.
B. 15 nautical miles.
C. 5 nautical miles.
D. Gliders are not allowed to cross airways at all.

QUESTION 12. Under what circumstances is a weak link not required in the winch / auto tow cable?

A. If the launch is a hill top site where the conditions are likely to be rough and break the weak link on a regular basis.
B. The proven breaking strain of the launch cable is lower than that of the weak link strength required by the glider manufacturer.
C. The tow car is of low power.
D. The glider is a heavy two seater with a history of breaking weak links.

QUESTION 13. What are the requirements to fly a newly rigged club aircraft?

A. Any pilot with the type endorsement in their log book.
B. You must be an instructor authorised by the CFI or deputy for that purpose.
C. Any instructor who is self authorising may carry out the task.
D. You must be authorised by the CFI or deputy for that purpose.

QUESTION 14. What are the hours of day light (determined on the ground) as defined for flying purposes?

A. Street lights 'off ' to street lights 'on'.
B. 30 minutes before sunrise until 30 minutes after sunset.
C. 30 minutes after sunrise until 30 minutes before sunset.
D. Sunrise until sunset.

QUESTION 15. What are the requirements for keeping an accurate and up to date personal flying log book?

A. All pilots up to silver C and all instructors to prove their renewal requirements have been met.
B. All pilots.
C. There are no requirements.
D. All pilots flying club owned aircraft to prove their currency.

QUESTION 16. What are the rules for flight between FL 245 and FL 660?

A. There are no restrictions.
B. Only allowed in certain designated areas (windows) with prior permission.
C. No glider flights allowed due to the difficulties in controlling such airspace.
D. Only allowed with prior permission from the controlling authority.

QUESTION 17. Who has the right of way when two aircraft are landing together?

A. The faster aircraft.
B. The lower aircraft. (unless the other is obviously in distress).
C. The aircraft with the lower performance.
D. The least experienced pilot.

QUESTION 18. What are the requirements from a glider pilot who is unable to release from the aerotow?

A. Fly out to the left and rock his wings.
B. Fly out to the right and rock his wings.
C. Try to break the rope.
D. Call the tug on the radio and inform him of the problem.

QUESTION 19. You are joining below a glider in a thermal. What are your actions?

A. Leave the thermal and find another.
B. Turn either direction as long as there is sufficient separation.
C. Turn in the same direction.
D. Remain at a safe distance below the other glider.

QUESTION 20. What are your actions if you suspect any defect or damage to a glider?

A. Report it to the duty pilot before the next flight.
B. Report it to the duty instructor before the next flight.
C. Note the defect or damage in the DI book before the next flight.
D. Ground the glider until an inspector can check for defects or damage.

QUESTION 1. As the winch cable is being attached you notice that the weak link is damaged. What should you do?

A. Continue, as it launched the last glider alright.
B. Have the suspect item changed before launching.
C. Continue, as you are current on launch failures anyway.
D. Point it out to the winch member at the end of the days flying.

QUESTION 2. You are about to launch on the winch when you notice a glider down wind. Is this a problem?

A. No, it takes 20 seconds to launch and about 2 minutes to fly the circuit.
B. No, 'all clear' means the immediate vicinity.
C. Possibly, if it turns in early.
D. Yes, if you have a launch failure you may have conflicting approaches.

QUESTION 3. A glider on a head on collision course with a military aircraft could have a very high closing speed. In such a situation, how would the image of the military aircraft appear to grow in size with decreasing range?

A. It would grow at a constant rate.
B. Initial growth would be rapid and further growth at a constant rate.
C. Initial growth would be small until close to impact where growth would become rapid.
D. Initial growth would be rapid all the way to impact.

QUESTION 4. A glider and a military aircraft could have a closing speed of 600 kts. If the visibility is 5 miles, but the pilots only see each other at 3 miles, how much time would the pilots have to avoid collision?

A. About 20 seconds.
B. About 35 seconds.
C. About 45 seconds.
D. About 55 seconds.

QUESTION 5. You are wire launching when you notice the parachute opening. What should be your immediate actions?

A. Pull back so as to tension the cable and close the chute.
B. Wait on the winch driver sorting out the power.
C. Investigate the serviceability of the parachute once back on the ground.
D. Treat the situation as a launch failure and take the appropriate actions.
E.

QUESTION 6. There are certain vital actions to be taken in the event of a launch failure. Which of the following is the most correct statement?

A. Release the cable, regain flying speed and land ahead.
B. Adopt a nose down attitude, regain a safe flying speed, release what is left of the cable and land according to your 'eventualities' brief.
C. Adopt a nose down attitude, release what is left of the cable, land ahead if possible or choose an alternative landing area.
D. Return to the normal gliding attitude, check speed and land ahead or on an alternative area.

QUESTION 7. On visiting a hill site, you read on the notice board a club rule stating a minimum height to leave the hill and return to site. Who does this apply to?

A. All pilots, regardless of experience and ability.
B. Only local pilots as this is a local rule.
C. Only non instructors.
D. Only visitors, as they are unlikely to be familiar with the site.

QUESTION 8. Who is responsible for initiating the signals to commence a launch?

A. The duty instructor.
B. The pilot.
C. The launch Marshall.
D. The wing tip holder.

QUESTION 9. Whilst flying downwind with a higher performance glider in front, and at about the same height as yourself, you notice he appears to be extending downwind further than you would like. What action should you take?

A. Follow the other glider and use less airbrake on the approach.
B. Ignore the other glider and fly your own circuit.
C. Follow the other glider and land in the undershoot if necessary.
D. Turn in early and be prepared to land up the field if necessary in order to avoid a potential conflict.

QUESTION 10. After getting low on a cross country and choosing a field, you notice there is a stream along one side of it. What might this signify?

A. The field slopes down towards the stream.
B. The field slopes up towards the stream.
C. The field will be very soft, therefor the landing run will be short.
D. There are probably cattle nearby, so land with caution.

METEOROLOGY.

QUESTION 1. What is the name given to a line drawn on a map joining places of equal pressure?

A. An Isobar.
B. A millibar.
C. A pressure gradient.
D. An Isogonal.

QUESTION 2. Whilst flying cross country you notice that the cumulus are getting larger and some have developed an anvil shape at the top. What weather is most likely to follow?

A. Rapidly improving soaring conditions.
B. Deteriorating soaring conditions due to the increase in cloud shadow.
C. Thunder storms, leading to unsoarable areas.
D. Wide spread rain.

QUESTION 3. What effect in general, does a building high pressure system have on the level of an inversion?

A. The level rises through out the day.
B. The level remains the same, however, the dew point does rise above it.
C. The level falls slowly as the high pressure system approaches.
D. There is no effect on the inversion, however, the cloud base will lower.

QUESTION 4. Where might you find rotor cloud?

A. Over hill tops and in the lee of hills in association with wave systems.
B. Along a sea breeze front in association with strong lift and sink.
C. In front of orographic cloud.
D. Underneath cumulus nimbus clouds in association with down draughts.

QUESTION 5. What happens to visibility and temperature at the passage of a cold front?

A. Visibility increases and temperature decreases.
B. Visibility decreases and temperature decreases.
C. Visibility increases and temperature increases.
D. Visibility decreases and temperature increases.

QUESTION 6. What are the effects of diurnal variation on the soaring day?

A. The wind increases at the start of the day and decreases at the end of the day.
B. The wind veers and increases at the start of the day and backs and decreases at the end of the day.
C. The wind backs and increases at the start of the day and veers and decreases at the end of the day.
D. The wind veers and decreases at the start of the day and backs and increases at the end of the day.

QUESTION 7. The forecast wind is due to veer by 30 degrees during the day. If the wind direction is a north easterly at the start, what will be the wind direction at the end, assuming the forecast is correct?

A. 045 degrees.
B. 015 degrees.
C. 075 degrees.
D. 225 degrees.

QUESTION 8. The prevailing wind is from the south west on a summers day. What name best describes this wind?

A. Tropical maritime.
B. Tropical continental.
C. Polar maritime.
D. Polar continental.

QUESTION 9. In the lower atmosphere, what is regarded as being the accepted reduction of pressure with increase in height?

A. 30 mb per 1000 feet.
B. 1 mb per 30 feet.
C. 1mb per 1000 feet.
D. 30 mb per 10,000 feet.

QUESTION 10. In the atmosphere, air flows from high pressure to low pressure in an attempt to reach equilibrium. Why then, does the wind flow anti clockwise round a low pressure when viewed from above?

A. Due to the Earths rotation and the coriander effect.
B. Due to the Earths rotation and the Coriolis effect.
C. Due to the high pressure systems in association with the low.
D. Due to temperature gradients within the low creating friction between layers

NAVIGATION part 1.

QUESTION 1. You note on a chart that an airway extends upwards from FL 45. What does this mean with reference to the base of the airway?

A. The base is 4500 ft above mean sea level.
B. The base is 4500 ft indicated with the pressure setting on the subscale that made the altimeter read zero before take off.
C. The base is 4500 ft above the ground at all times.
D. The base is 4500 ft indicated with 1013 millibars set on the altimeter subscale.

QUESTION 2. You contact a thermal immediately under neath an airway, the base of which is FL 35. The in flight visibility is less than 2 nm. Your altimeter is set to QNH at an airfield which is 200 ft AMSL. Given that the sea level pressure is 1013 mb, how high can you legally climb as indicated on your altimeter?

A. 3500 ft which is the base of the airway.
B. 3000 ft to remain visual flight rules.
C. 3300 ft which is the base of the airway.
D. 2800 ft to remain visual flight rules.

QUESTION 3. Whilst flying cross country you stray several miles into a large control zone from which gliders are prohibited. What should be your actions on discovering your error?

A. Continue soaring and leave the zone as quick as possible.
B. Land at once.
C. Try to climb above the airspace if possible.
D. Continue as planned but inform the CFI after you land.

QUESTION 4. What is the approximation when using a 1:250 000 scale chart?

A. 2.5 statute miles or 3 nautical miles to the inch.
B. 4 statute miles or 3.5 nautical miles to the inch.
C. 6 statute miles or 5 nautical miles to the inch.
D. 8 statute miles or 6.5 nautical miles to the inch.

QUESTION 5. On a 1 : 500 000 scale chart, what length of line would represent 50 Kms?

A. 4 inches or 10 centimetres.
B. 7 inches or 18 centimetres.
C. 9 inches or 23 centimetres.
D. 13 inches or 33 centimetres.

QUESTION 6. What is the approximation when using a 1:500 000 scale chart?

A. 12 statute miles or 10 nautical miles to the inch.
B. 10 statute miles or 8.5 nautical miles to the inch.
C. 8 statute miles or 7 nautical miles to the inch.
D. 4 statute miles or 3.5 nautical miles to the inch.

QUESTION 7. What is the main limitation when using a 1:250 000 scale aeronautical chart?

A. The scale is too large for tasks over 100 kms.
B. Many key ground features are not shown.
C. Airspace above 3000 ft is not shown.
D. Too much information is shown, leading to confusion.

QUESTION 8. What is the importance of reading TNW's (Temporary Navigation Warnings) before flying cross country?

A. They contain useful information about air shows.
B. They serve as a reminder of restricted air space.
C. They contain information on royal flights.
D. They list important information about notified activities that may effect flight safety.

QUESTION 9. How often are TNW information bulletins published?

A. As necessary.
B. Twice annually.
C. Fortnightly.
D. Twice weekly.

QUESTION 10. Each individual entry in TNW's has a 4 digit code as part of the prefix. What does this code relate to?

A. The CAA serial number.
B. The Ordinance Survey grid reference.
C. The most northerly co-ordinate or latitude.
D. The nearest identifying feature as a latitude and longitude.

PRINCIPLES OF FLIGHT.

QUESTION 1. What is the approximate distribution of production of lift on a glider wing?

A. 50% from above and 50% from below.
B. 60% from above and 40% from below.
C. 70% from above and 30% from below.
D. 90% from above and 10% from below.

QUESTION 2. What happens to induced drag as airspeed is increased from the stall towards Vne?

A. Induced drag increases approximately as the square of the IAS.
B. Induced drag reduces towards best L/D then increases again.
C. Induced drag remains constant.
D. Induced drag reduces inversely as the square of the IAS.

QUESTION 3. What happens to zero lift drag as airspeed is increased from the stall towards Vne?

A. Zero lift drag increases approximately as the square of the IAS.
B. Zero lift drag reduces towards best L/D then increases again.
C. Zero lift drag remains constant.
D. Zero lift drag reduces inversely as the square of the IAS.

QUESTION 4. What happens to total drag as airspeed is increased from the stall towards Vne?

A. Total drag increases approximately as the square of the IAS.
B. Total drag reduces towards best L/D then increases again.
C. Total drag remains constant.
D. Total drag reduces inversely as the square of the IAS.

QUESTION 5. If the 1 ‘g’ stalling speed is 34 knots, what will be the stalling speed in a steep turn with the accelerometer reading 4 ‘g’?

A. 34 knots.
B. 51 knots.
C. 57 knots.
D. 68 knots.

QUESTION 6. Which of the following is the most correct with regards to the amount of lift being produced by a wing as the angle of attack is increased from 0 degrees?

A. It increases w.r.t. increasing angle of attack.
B. It increases w.r.t. increasing angle of attack, then remains constant.
C. It increases until the stalling angle, then reduces rapidly towards zero.
D. It remains the same until the stalling angle, then reduces rapidly towards zero.

QUESTION 7. What is the purpose of the gliders tailplane?

A. To provide a stable platform for the elevator to be mounted upon.
B. To provide directional stability.
C. To provide lateral stability.
D. To provide longitudinal stability.

QUESTION 8. What is the purpose of the gliders fin?

A. To provide a stable platform for the rudder to be mounted upon.
B. To provide directional stability.
C. To provide lateral stability.
D. To provide longitudinal stability.

QUESTION 9. What is the purpose of a gliders dihedral?

A. To help reduce aileron drag.
B. To help increase directional stability.
C. To help increase lateral stability.
D. To help increase longitudinal stability.

QUESTION 10. What happens to the amounts of lift and drag being produced by the left wing when the control column is moved to the left?

A. Less lift and less drag.
B. Less lift and more drag.
C. More lift and less drag.
D. More lift and more drag.

RADIO TELEPHONY.

QUESTION 1. What are the requirements for a radio transmitting set installed in a retrieve car?

A. Need not be licenced if operated on the BGA frequencies only.
B. Need not be licenced so long as it complies with CAA regulations.
C. Must be licenced with the Civil Aviation Authority.
D. Must be licenced with the Ministry of Transport.

QUESTION 2. Which of the following is correct for a gliders initial transmission to a ground station? (Glider call sign = Alpha Charlie Zulu. Ground station = Bicester)

A. Alpha Charlie Zulu to Bicester base.
B. Bicester base this is Alpha Charlie Zulu.
C. Bicester this is Charlie Zulu.
D. Alpha Charlie Zulu calling Bicester.

QUESTION 3. Before entering cloud, the pilot of a glider should make a general announcement of his height and position. Which frequency should he use?

A. 130.125 MHZ or 130.4 MHZ which ever is available.
B. 121.5 MHZ .
C. 129.9 MHZ .
D. 130.4 MHZ.

QUESTION 4. Which of the following frequencies is shared with other users?

A. 129.975 MHZ .
B. 130.125 MHZ .
C. 129.9 MHZ .
D. 130.1 MHZ .

QUESTION 5. Which of the following frequencies is solely for gliding use?

A. 129.9 MHZ .
B. 130.125 MHZ .
C. 121.5 MHZ .
D. 131.4 MHZ .

QUESTION 6. A glider radio must meet certain standards. Which of the following is a true statement?

A. A glider radio must be of a design registered with the BGA.
B. A glider radio must be of a design registered with the CAA.
C. A glider radio must meet only electrical safety standards.
D. A glider radio must comply with CAA specifications.

QUESTION 7. Which of the following is a ground to ground frequency only?

A. 129.975 MHZ.
B. 130.125 MHZ.
C. 129.9 MHZ.
D. 130.4 MHZ.

QUESTION 8. Competition gliding relies heavily on the use of radio. What are the frequencies allocated to competitions?

A. Primary 130.1 MHZ and secondary 130.125 MHZ.
B. Primary 130.1 MHZ and secondary 129.9 MHZ.
C. Primary 130.125 MHZ and secondary 130.4 MHZ.
D. Primary 130.4 MHZ and secondary 129.975 MHZ.

QUESTION 9. Which frequency is allocated for the purpose of lead and follow training?

A. 129.975 MHZ.
B. 130.1 MHZ.
C. 130.4 MHZ.
D. 130.125 MHZ.

QUESTION 10. What is the main use of the frequency 129.975 MHZ?

A. Control purposes with in 10 NM radius and up to 3000' at approved sites only.
B. Control purposes with in 10 NM radius and up to 3000'.
C. Control purposes at approved sites only.
D. Control purposes with no restrictions and at all sites.

NAVIGATION part 2.Assume through out that magnetic variation is 5 degrees west.
You require a pen, ruler, protractor and a copy of the ICAO 1:500 000 scale aeronautical chart ***SOUTHERN ENGLAND AND WALES.***

1. The task is an out and return from Lasham. Draw a line on your map from Lasham (N 51-11.33'. W 001-01.81') to Didcot power station (N 51-37.27'. W 001-15.57').

QUESTION 1. What is the out bound true track and the return magnetic track?

A. 342 T and 167 M.
B. 342 T and 162 M.
C. 347 T and 167 M.
D. 347 T and 162 M.

QUESTION 2. Just south of Didcot is an area marked P106/2.5. What rules apply to a glider when flying in the vicinity of this area?

A. I may fly overhead at greater than FL 2.5.
B. I may fly overhead at greater than 2500 ft above mean sea level.
C. I may fly overhead at greater than 2500 ft above ground level.
D. I am prohibited from overflying the area.

QUESTION 3. What is the approximate distance of each leg?

A. 32 nautical miles or 50 kilometres.
B. 32 nautical miles or 40 kilometres.
C. 27 nautical miles or 40 kilometres.
D. 27 nautical miles or 50 kilometres.

QUESTION 4. How high above the ground is the tallest part of Didcot power station?

A. 654 ft.
B. 832 ft.
C. 178 ft.
D. 1486 ft.

QUESTION 5. How will the M4 be of assistance as a navigational aid?

A. It will help with assessing progress along track.
B. It will help with drift assessment.
C. It will confirm that the right direction is being followed.
D. It will be of limited use as a navigational feature.

QUESTION 6. Approximately half way along the first leg the chart shows an area annotated LTMA 4500' ALT +. What indication would you expect on your altimeter, assuming it was set to zero before take off, at the base of the airspace?

A. 5120 ft.
B. 4500 ft.
C. 3880 ft.
D. 3500 ft.

QUESTION 7. With the altimeter set to 618 ft before take off, how high can you climb before commencing the task?

A. 6118 ft.
B. FL 55.
C. 4882 ft.
D. 5500 ft.

QUESTION 8. Assuming the altimeter is set to the Lasham QNH, what is the lowest indicated height allowed when crossing R101/2.4?

A. 2400 ft.
B. 1780 ft.
C. 3000 ft.
D. 240 ft.

QUESTION 9. What will be the duration of the task if the average speed is 50 Kph?

A. 1 hour 30 minutes.
B. 2 hours.
C. 2 hours 30 minutes.
D. 3 hours.

QUESTION 10. If the glide ratio is 1:30, and assuming there is nil wind, what height will be needed for the 4 Nm final glide when crossing the M3 at Basingstoke to arrive at 800 ft?

A. 1350 ft above Lasham.
B. 1450 ft above Lasham.
C. 1600 ft above Lasham.
D. 1800 ft above Lasham.

NAVIGATION part 2.Assume through out that magnetic variation is 5 degrees west.
You require a pen, ruler, protractor and a copy of the ICAO 1:500 000 scale aeronautical chart ***NORTHERN ENGLAND AND NORTHERN IRELAND.***

1. The task is an out and return from Camphill. Draw a line on your map from Camphill (N 53-18.29'. W 001-43.66') to Rufforth (N 53-46.57'. W 001-11.20').

QUESTION 1. What is the out bound true track and the return magnetic track?

A. 034 T and 219 M.
B. 039 T and 219 M.
C. 034 T and 214 M.
D. 039 T and 214 M.

QUESTION 2. Just south of Rufforth is an area marked MATZ. What rules apply to a glider when flying in the vicinity of this area?

A. I may fly overhead at greater than FL 3.0.
B. I may fly within the MATZ but must not penetrate the ATZ.
C. I may fly overhead at greater than 3000 ft above ground level.
D. I am prohibited from flying within the area.

QUESTION 3. What is the approximate distance of each leg?

A. 32 nautical miles or 50 kilometres.
B. 34.3 nautical miles or 65.5 kilometres.
C. 34 nautical miles or 60 kilometres.
D. 34.3 nautical miles or 63.5 kilometres.

QUESTION 4. How high above the ground is the tallest part of the mast between Castleford and Knottingley?

A. 654 ft.
B. 684 ft.
C. 710 ft.
D 624 ft.

QUESTION 5. How will the M1 be of assistance as a navigational aid?

A. It will help with assessing progress along track.
B. It will help with drift assessment.
C. It will confirm that the right direction is being followed.
D. It will be of limited use as a navigational feature.

QUESTION 6. Approximately half way along the first leg the chart shows an area annotated CTA 3000' - FL85. What indication would you expect on your altimeter, assuming it was set to zero before take off, at the base of the airspace?

A. 1350 ft.
B. 2730 ft.
C. 1650 ft.
D. 3000 ft.

QUESTION 7. With the altimeter set to 1013.2 millibars before take off, how high can you climb before commencing the task?

A. 6350 ft.
B. 5150 ft.
C. 5500 ft.
D. 6500 ft.

QUESTION 8. Assuming the altimeter is set to the Camphill QNH, what is the lowest indicated height allowed if crossing the Church Fenton ATZ?

A. 2029 ft.
B. 2000 ft.
C. 3000 ft.
D. 679 ft.

QUESTION 9. What will be the duration of the task if the average speed is 50 Kph?

A. 1 hour 16 minutes.
B. 2 hours 32 minutes.
C. 2 hours.
D. 2 hours 52 minutes.

QUESTION 10. If the glide ratio is 1:30, and assuming there is nil wind, what height will be needed for the 16.5 Nm final glide when crossing the M1 at Barnsley to arrive at 800 ft?

A. 3344 ft above Camphill.
B. 3200 ft above Camphill.
C. 4000 ft above Camphill.
D. 4144 ft above Camphill.

NAVIGATION part 2.Assume through out that magnetic variation is 6 degrees west.
You require a pen, ruler, protractor and a copy of the ICAO 1:500 000 scale aeronautical chart ***SCOTLAND, ORKNEY AND SHETLAND.***

1. The task is an out and return from Portmoak. Draw a line on your map from Portmoak (N 56-11.33'. W 003-19.23') to Aboyne (N 57-04.53'. W 002-50.48').

QUESTION 1. What is the out bound true track and the return magnetic track?

A. 016 T and 202 M.
B. 016 T and 196 M.
C. 022 T and 202 M.
D. 022 T and 196 M.

QUESTION 2. Just south of Dundee is an area marked MATZ. What rules apply to a glider when flying in the vicinity of this area?

A. I may fly overhead at greater than FL 3.0.
B. I may fly within the MATZ but must not penetrate the ATZ.
C. I may fly overhead at greater than 3000 ft above ground level.
D. I am prohibited from flying within the area.

QUESTION 3. What is the approximate distance of each leg?

A. 50.4 nautical miles or 95 kilometres.
B. 56.5 nautical miles or 100 kilometres.
C. 60.2 nautical miles or 110 kilometres.
D. 55.6 nautical miles or 103 kilometres.

QUESTION 4. How high above the ground is the tallest part of the mast approximately 5 nm due north of Dundee?

A. 784 ft.
B. 1811 ft.
C. 1493 ft.
D 1116 ft.

QUESTION 5. How will the river Tay be of assistance as a navigational aid?

A. It will help with assessing progress along track.
B. It will help with drift assessment.
C. It will confirm that the right direction is being followed.
D. It will be of limited use as a navigational feature.

QUESTION 6. At the end of the first leg the chart shows an area annotated Aberdeen CTA 3000' to FL115. What indication would you expect on your altimeter, assuming it was set to zero before take off, at the base of the airspace?

A. 2460 ft.
B. 3360 ft.
C. 2640 ft.
D. 3000 ft.

QUESTION 7. With the altimeter set to 1013.2 millibars before take off, how high can you climb before commencing the task?

A. 6350 ft.
B. 5150 ft.
C. 5500 ft.
D. 6500 ft.

QUESTION 8. Assuming the altimeter is set to the Portmoak QNH, what is the lowest indicated height allowed if crossing the Perth ATZ?

A. 2397 ft.
B. 2000 ft.
C. 3000 ft.
D. 1612 ft.

QUESTION 9. What will be the duration of the task if the average speed is 50 Kph?

A. 2 hour 4 minutes.
B. 4 hours 7 minutes.
C. 4 hours.
D. 4 hours 20 minutes.

QUESTION 10. If the glide ratio is 1:30, and assuming there is nil wind, what height will be needed for the 14 Nm final glide when passing abeam Errol to arrive at 800 ft?

A. 2840 ft above Portmoak.
B. 3844 ft above Portmoak.
C. 4000 ft above Portmoak.
D. 3640 ft above Portmoak.

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