ANSWER PAPER
INSTRUCTORS EYES ONLY.

DO NOT WRITE ON THIS ANSWER PAPER.

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

PAPER NUMBER :-THREE

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. What are the minimum requirements to permit cloud flying in gliders?

A. The occupants must wear a serviceable parachute and have been instructed in its use.
B. The pilot must have received instruction in the use of blind flying instruments.
C. Before entering cloud, the pilot must transmit his position and height (QNH) on 130.4 MHZ.
D. All the above.

QUESTION 2. What are the dimensions of an air traffic zone at an airfield where the longest runway is greater than 1850 metres?

A. 2000 feet and 5 miles in diameter centred on the mid point of the runway.
B. 2500 feet and 5 miles in diameter centred on the mid point of the runway.
C. 2000 feet and 4 miles in diameter centred on the mid point of the runway.
D. 2500 feet and 4 miles in diameter centred on the mid point of the runway.

QUESTION 3. You are approaching a strange airfield and received red flashes from the ground, what would your actions be?

A. Give way to other aircraft and continue circling.
B. Land immediately.
C. Do not land as the airfield is not available for landing.
D. Move clear of the landing area.

QUESTION 4. What must all glider pilots carry on flights over 5 nautical miles from their gliding site?

A. A current edition 1:500 000 chart.
B. A low level navigation chart.
C. A flight plan.
D. A serviceable parachute.

QUESTION 5. Whilst planning a cross country flight you notice a purple airway has been ‘notamed’ along your intended route during the period 1300 to 1500 Hrs. What should your actions be?

A. Continue as planned as it only applies to powered aircraft.
B. Change your route to remain clear of the airway during the notified period.
C. Continue as planned and cross the airway in VMC conditions at right angles.
D. Cross the airway as low as possible to avoid conflict with the royal aircraft.
E.

QUESTION 6. What are the VMC rules when flying in class D airspace?

A. 1500 ft horizontally, 1000 ft vertically, clear of cloud and in a flight visibility of more than 8 Km.
B. 1500m horizontally, 1000 ft vertically, clear of cloud and in a flight visibility of more than 8 Km.
C. 1000m horizontally, 1500 ft vertically, clear of cloud and in a flight visibility of more than 8 Km.
D. 1500m horizontally, 1000 ft vertically, clear of cloud and in a flight visibility of more than 5 Km.

QUESTION 7. When is there an exemption to the 1500 foot rule?

A. Never, the rule is rigid and must be adhered to at all times.
B. During normal take-off and landing and for life saving.
C. Only when excellent soaring conditions exist.
D. Only during a field landing.

QUESTION 8. What are the restrictions imposed on gliders flying within a MATZ. (Military Air Traffic Zone)?

A. None, the zone is there for military aircraft.
B. No entry while the MATZ is active.
C. None, so long as the ATZ is not penetrated.
D. None.

QUESTION 9. When two aircraft are approaching head on, each shall alter its course in which direction?

A. To the left.
B. Only the first to see the other need take avoiding action to the right.
C. Only one alters course to the right to save any confusion.
D. To the right.

QUESTION 10. When two aircraft are converging at approximately the same height, who has the right of way?

A. The aircraft which has the other on its right has right of way.
B. The aircraft on the left.
C. Neither. Both must take avoiding action.
D. The aircraft which has the other on its right shall give way.

QUESTION 11. When landing close behind other aircraft, and in particular power aircraft, what should be your actions?

A. Over fly them and land long.
B. Land clear to their left.
C. You can land on either side.
D. Land clear to their right.

QUESTION 12. What are the VMC rules when flying below 3000 ft AMSL at an airspeed of less than 140 Knots?

A. Clear of cloud, in sight of the ground and in a flight visibility of at least 1500m.
B. Clear of cloud, in sight of the ground and in a flight visibility of at least 1000m.
C. Clear of cloud, in sight of the ground and in a flight visibility of at least 5 Km.
D. Clear of cloud, in sight of the ground and in a flight visibility of at least 8 Km.

QUESTION 13. What are the knock-on effects of a glider pilots driving licence being revoked on medical grounds?

A. The pilot should inform his CFI within 30 days, who will make the appropriate decision.
B. The pilot should only fly solo. No passenger carrying allowed.
C. The pilot becomes unfit to fly gliders solo.
D. There are no problems and the pilot may continue as normal.

QUESTION 14. If a solo glider pilot does not hold a CAA or equivalent medical or a current driving licence, what are the 'declaration of health' requirements?

A. Before first flying solo and on 50th, 60th and 65th birthdays.
B. Before first flying solo and every 10 years there after.
C. Before first flying solo and every 5 years there after.
D. Before first flying solo.

QUESTION 15. All BGA gliders must carry their approved identification markings. What are the requirements?

A. Displayed on the under side of the starboard wing.
B. Displayed on the fin and rudder and on the under side of the port wing.
C. Displayed on either side of the fin and rudder. As large as practicable.
D. Displayed in the cockpit as a reminder when using the radio.

QUESTION 16. Nose of tug to tail of glider, what is the maximum length of a tug / glider combination?

A. 150 yards in total.
B. 150 metres in total.
C. 100 yards in total.
D. 100 metres in total.

QUESTION 17. What is the minimum number of aerotows required by the tug pilot and glider pilot combined before launching may take place?

A. 20.
B. 10.
C. 6.
D. There is no minimum requirement as both are trained for their respective roles.

QUESTION 18. What is the minimum equipment required in a glider used for aerobatic flying?

A. A five point harness and serviceable parachute.
B. An approved pitot tube extension to enable inverted flight.
C. An artificial horizon.
D. A serviceable G meter.

QUESTION 19. What is the minimum age required before flying a glider solo in the United Kingdom?

A. 16 years.
B. 14 years.
C. 17 years.
D. 15 years.

QUESTION 20. The captain of any aircraft must satisfy himself that the intended flight can be made safely. In order to achieve this, it is an operational requirement that all gliding clubs provide what facilities?

A. Navigational information concerning temporary hazards and permanent changes.
B. A telephone link to the nearest ATC unit to inform them of the days operation.
C. Meteorological forecasts for the use of club members.
D. Briefings for all cross country flights.

AIRMANSHIP

QUESTION 1. Who is responsible for stopping a launch should anything be going wrong?

A. The launch Marshall.
B. The duty instructor.
C. Anybody.
D. The pilot.

QUESTION 2. Whilst in a straight glide you notice another glider on your right at about the same height. His bearing relative to you is remaining constant and the separation is reducing. What actions should you take?

A. None, as you have right of way.
B. Take avoiding action as the other glider has right of way.
C. Wait to see what develops but be prepared to take avoiding action.
D. Increase speed to try and out glide the other glider.

QUESTION 3. A pilot is faced with a field landing into a slightly down sloping field. What is most likely to happen?

A. A shallower approach than intended will be flown.
B. A normal approach will be flown, as intended.
C. A steeper approach than normal will be flown.
D. An under shoot will be flown.

QUESTION 4. You are flying mutually with a more experienced pilot who you consider has chosen an incorrect course of action which may endanger the glider. What should your actions be?

A. Accept this course of action as the other pilot is P1.
B. Question the action of the pilot, only if you think the handling pilot will listen.
C. Take control from the handling pilot and rectify the situation.
D. Always express any doubts that you may have.

QUESTION 5. On a cross country flight in August you are faced with an out landing. Assuming no obstructions and fields of adequate size, which of the following would be the correct choice?

A. A field with cows in one corner.
B. A field of standing corn.
C. A field with sheep in one corner.

D. A stubble field that has a border ploughed around it.

QUESTION 6. In which direction should all turns be made when hill soaring?

A. Away from the hill.
B. Left.
C. Right.
D. Same as the glider in front.

QUESTION 7. You are about to land out. Which of the following is the best of a bad situation when the only suitable field has a slope in it, and the wind is up the slope?

A. Land down hill, into wind.
B. Land across the slope, and cross wind.
C. Land up hill, down wind.
D. Land diagonally down slope to give the longest ground run with an into wind component.

QUESTION 8. You are on aerotow when you notice the rudder of the tug waggling from side to side. What should your actions be?

A. Check air brakes are closed and jettison tail chute if it has deployed.
B. Check air brakes are closed.
C. Release immediately.
D. Fly out to the left and rock your wings in reply.

QUESTION 9. You are faced with a field landing. You know the 4000' wind is 240 degrees, 20 kts. What is the surface wind most likely to be?

A. 240 degrees, 10 kts.
B. Greater than 240 degrees, less than 20 kts.
C. Less than 240 degrees, 20 kts.
D. Less than 240 degrees, less than 20 kts.

QUESTION 10. Which of the following is most correct when entering a turn?

A. Lookout first then turn.
B. Lookout, look over the nose, then turn.
C. Ensure it is clear in the direction of the turn, then turn.
D. Start the turn, then lookout in the same direction.

METEOROLOGY.

QUESTION 1. In May, a deep trough if forecast to pass through the local area during the day. What would be the most likely associated weather?

A. Excellent soaring, particularly after the trough has passed.
B. Poor soaring due to slowly deteriorating weather.
C. Particularly violent weather at the passage of the trough, including strong winds, heavy rain and Cb activity.
D. Better soaring during the passage of the trough, but otherwise a poor day.

QUESTION 2. In August, a weak ridge is forecast across the country the day after a cold front has passed through. What would be the most likely weather?

A. Poor soaring as the ridge will reduce the instability from the cold front.
B. Good soaring. As a ridge allows the instability behind the cold front to take maximum effect.
C. Poor soaring due to over convection.
D. Average soaring due to the lowering inversion.

QUESTION 3. What is the area, like a saddle on a mountain ridge, bounded by two high pressure systems and two low pressure systems called?

A. An occlusion.
B. A trough.
C. A ridge.
D. A Col.

QUESTION 4. What is the main cause of a temperature inversion?

A. Descending air, warming due to compression and resting on the cooler airmass beneath.
B. Pollution in the lower atmosphere reflecting the suns energy.
C. Uneven heating of the atmosphere due to instability.
D. Uneven heating of the atmosphere due to stability.

QUESTION 5. You are flying from a site in the UK where the ridge faces south west. An anti cyclone is forecast to track through the area over the next few days. Where would the centre of the anti cyclone need to be for the ridge to work best?

A. Due south.
B. North east.
C. South west.

D. North west.

QUESTION 6. What will be the effect on an altimeter, when flying from a high pressure region to a low pressure region?

A. There will be no effect.
B. The altimeter will under read the true height, if left on the original pressure setting.
C. The altimeter will over read the true height, if left on the original pressure setting.
D. The effect cannot be determined unless the pressure setting is corrected.

QUESTION 7. A sea breeze front has been forecast to penetrate inland beyond one of your chosen turning points. Assuming this takes place before you get there, what would be the expected weather conditions as you approach the TP?

A. Improving soaring conditions until the TP has been rounded.
B. Deteriorating through the front, but much better round the TP.
C. Improved at the front, but weak soaring, if any, around the TP.
D. There will be little change to soaring conditions as most fronts of this type are weak.

QUESTION 8. What is the approximate rate of change of temperature with height in a dry air mass?

A. 3 degrees Celsius loss per 1000 feet height gain.
B. 2 degrees Celsius loss per 1000 feet height gain.
C. 1.5 degrees Celsius loss per 1000 feet height gain.
D. 1 degree Celsius loss per 1000 feet height gain.

QUESTION 9. When an air mass rises it cools at a given rate. Cooler air cannot hold as much water vapour as warmer air and therefor eventually becomes saturated. What is this point called, and what happens there?

A. The saturated lapse point, and cloud vertical development starts here.
B. The dew point, and cloud vertical development stops here.
C. The saturated lapse point, and cloud vertical development stops here.
D. The dew point, and cloud vertical development starts here.

QUESTION 10. What is the approximate rate of change of temperature with height in a saturated air mass?

A. 3 degrees Celsius loss per 1000 feet height gain.
B. 2 degrees Celsius loss per 1000 feet height gain.
C. 1.5 degrees Celsius loss per 1000 feet height gain.

D. 1 degree Celsius loss per 1000 feet height gain.

NAVIGATION part 1.

QUESTION 1. Which ground features are most useful for navigation?

A. Church spires and radio masts.
B. Villages and ponds.
C. Motorways and large towns.
D. Hills and crossroads.

QUESTION 2. Which of the following criteria apply to gliders crossing an airway VMC?

A. The glider must remain clear of cloud during the crossing.
B. A constant speed must be maintained during the crossing.
C. A constant heading must be maintained during the crossing.
D. The flight visibility must be 5 Km or greater before crossing.

QUESTION 3. Which of the following is correct for maintaining VMC in class D airspace?

A. The glider must remain clear of cloud and in sight of the surface.
B. The glider must remain 1500 metres horizontally and 1000 ft vertically away from cloud in a flight visibility of 8 Km or greater.
C. The flight visibility must be 5 Km or greater.
D. The glider must remain clear of cloud only.

QUESTION 4. What does the annotation D124/2 refer to when next to an area bounded by a solid red line on the 1:500 000 scale aeronautical chart?

A. It is a permanent danger area up to 2000 ft.
B. The area is prohibited to all types of aviators below 12 400 ft.
C. It is a danger area activated by NOTAM.
D. It is an area you should pass through expeditiously.

QUESTION 5. What does the annotation P106/2.5 refer to when next to a shaded area on the 1:500 000 scale aeronautical chart?

A. Gliders are prohibited from landing in this area.
B. All aircraft are prohibited from entering this area below a height of 2500 ft.
C. All aircraft are prohibited from entering this area below an altitude of 2500 ft.
D. Gliders are prohibited from thermaling in this area.

QUESTION 6. What does the annotation R14/2.5 refer to when next to an area bounded by a solid red line on a 1:500 000 scale aeronautical chart?

A. Entry is restricted to this area below 2500 ft AMSL.
B. Entry is restricted to this area below 2500 ft AGL.
C. This is an area of high intensity radio transmissions and may be ignored for the purposes of gliding.
D. This is a royal residence and there for must be avoided.

QUESTION 7. What does the annotation *D130/1 refer to when next to an area bounded by a solid red line on a 1:500 000 scale aeronautical chart.

A. The area is prohibited to all types of aviator below 1000 ft.
B. Entry is prohibited to this area during the period of the activity.
C. It is a danger area activated by NOTAM.
D. It is an area you should pass through expeditiously.

QUESTION 8. What is the relevance of a purple airway to gliding?

A. There is no relevance to gliders.
B. The airway is for information only on royal flights.
C. The airway marks prohibited airspace during a royal flight.
D. The airway marks restricted airspace dairying a royal flight.

QUESTION 9. What do isogonal lines indicate on aeronautical charts?

A. They are a line joining places of equal temperature.
B. They are a line joining places of equal magnetic variation.
C. They are a line joining places of equal pressure.
D. They are a line joining places of equal altitude.

QUESTION 10. How can the magnetic variation be determined for any given point?

A. Look it up in the UK Air Pilot.
B. Check in Laws and Rules for glider pilots.
C. Check the latest edition of TNW's.
D. Check on a 1:500 000 scale aeronautical chart where the magnetic variation is shown at 1 degree intervals.

PRINCIPLES OF FLIGHT.

QUESTION 1. How does a change of weight affect the stalling speed of a glider?

A. The stall speed only changes if the weight alters the C of G position.
B. There is no change to the 1‘g’ stalling speed.
C. The stall speed increases with increasing weight.
D. The stall speed increases with reducing weight.

QUESTION 2. Vne is calculated by taking the maximum design dive speed (Vd), and multiplying it by 0.9. Is it therefor safe to exceed Vne, and if so, why?

A. Yes, there should be no risk up to Vd.
B. Yes, but this is normally only done during test flights.
C. Yes, but only to 0.95 Vd as this is as fast as the test pilot proves the glider.
D. No, Vne means Velocity never exceed.

QUESTION 3. What happens to the centre of gravity and glider stability if the cockpit load is reduced?

A. C of G moves rearwards and longitudinal stability reduces.
B. C of G moves rearwards and longitudinal stability increases.
C. C of G moves forwards and longitudinal stability reduces.
D. C of G moves forwards and longitudinal stability increases.

QUESTION 4. Three forces act on a glider in flight. Which force, or part of a force, causes a glider to turn?

A. Unequal amounts of lift from the wings only results in the turn.
B. Part of total lift acting in the direction of the turn is the cause.
C. Unequal amounts of lift combined with induced drag result in the turn.
D. Part of total lift combined with induced drag result in the turn.

QUESTION 5. A glider with a glide angle of 30:1 is at 3000 feet. Assuming still air and allowing 800 feet for a circuit, how far can the glider travel before commencing a circuit to land?

A. 12.5 nautical miles.
B. 11 nautical miles.
C. 10.85 nautical miles.
D. 9 nautical miles.

QUESTION 6. What is the primary purpose of flaps?

A. To give the required lift at a reduced airspeed.
B. To make take off and landing easier by improving forward visibility.
C. To reduce the stalling speed.
D. To increase drag.

QUESTION 7. What will be the effect on a gliders induced drag if water ballast is added to the wings?

A. There will be no change.
B. It will reduce, as the glider has to fly faster to achieve the same glide angle.
C. It will reduce, as the glider may now fly at a reduced AoA.
D. It will increase due to the greater lift required to equal the increase in weight.

QUESTION 8. What is the main advantage of adding water ballast to the tail of a glider?

A. To increase the over all weight.
B. The centre of gravity may be adjusted to place the trimmed elevator in the position for minimum drag.
C. Allow the glider to achieve the same glide angle at a higher speed.
D. To reduce longitudinal stability and therefor increase performance.

QUESTION 9. What is the main advantage of adding water ballast to the wings of a glider?

A. Lateral stability is increased.
B. Due to increased weight, the glider has to fly faster to achieve the same performance.
C. The gliders performance is increased.
D. The glider may now alter its performance by jettisoning the ballast.

QUESTION 10. What happens to lift and drag when flaps are moved from a cruise setting to a thermalling setting?

A. Lift reduces and drag reduces.
B. Lift reduces and drag increases.
C. Lift increases and drag reduces.
D. Lift increases and drag increases.

RADIO TELEPHONY.

QUESTION 1. 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 2. 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 3. 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 4. 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 5. 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.

QUESTION 6. Which of the following call signs does not comply with the ICAO phonetic

alphabet?

A. Bravo..... Delta.....Foxtrot.
B. Echo.....Golf.....Papa.
C. Oscar.....Quebec.....Sugar.
D. Romeo.....Tango.....Victor.

QUESTION 7. Which of the following frequencies will help with navigational assistance in the event that you become lost?

A. 130.1 MHZ.
B. 129.975 MHZ.
C. 134.3 MHZ.
D. 121.5 MHZ.

QUESTION 8. What should your actions be on hearing a distress or urgency transmission intended for a ground station?

A. Maintain radio silence.
B. Maintain radio silence, but note all the details in case you should have to relay the message.
C. Leave the frequency immediately.
D. Continue with normal transmissions.

QUESTION 9. Which of the following call signs complies with the ICAO phonetic alphabet?

A. Alpha.....Charlie.....Hotel.
B. Indigo.....Kilo.....Juliet.
C. Foxtrot.....Mark.....November.
D. Delta.....Noddy.....Uniform.

QUESTION 10. You are unfortunate enough to require urgent medical assistance after a field landing accident. Your radio has remained serviceable. Which frequency should be used to make your Mayday call?

A. That of the nearest airfield.
B. 119.0 MHZ.
C. 121.5 MHZ.
D. 129.9 MHZ.

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.

INSTRUCTORS EYES ONLY

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