

2010

UAV INSTRUMENT RATING TEST

OPEN BOOK EXAM

Prepared for:

1 Canadian Air Division Instrument Check Pilot

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This is an OPEN BOOK examination; the candidate will require the following publications:

- B-GA-100, Books 1 and 2, National Defence (Canadian Forces) Flying Orders
- 1 Canadian Air Division Orders, Vol 2, Flying Orders
- A-OA-148-001/AG-000, Manual of Instrument Flying
- GPH 204A, Flight Planning and Procedures
- GPH 205, Canada Flight Supplement
- GPH 206/207, Enroute Charts
- GPH 200 Terminal Instrument Approach Procedures

INSTRUCTIONS

1. Write your SN, Rank, Name, Unit and Date in the space provided.
2. Check this examination to ensure it is complete and legible. There are 54 questions.
3. The examination consists of short answer and multiple-choice questions.
4. Answer questions as per the current issue of the above publications.
5. There are no marks allotted or passing standards set. Each incorrect response will be corrected to 100% in your presence.
6. Following this examination, you will be required to complete a closed book examination based on information contained in the B-GA-100, 1 Cdn Air Div Orders Vol 2, and GPH 204A.

SN _____ RANK _____ NAME _____

UNIT _____ DATE _____

EXAMINER _____

B-GA-100, National Defence Flying Orders

1. Temporary exceptions to B-GA-100 CF Flying Orders are authorized to conform to NATO or host country requirements with respect to operations outside Canada as long as:

- A. The UAV crew considers the exceptions valid.
- B. Approval from appropriate authorities is received for all exemptions or waivers that involve the laws or regulations of that country.
- C. The Unit/Sqn CO authorizes the exceptions in writing..
- D. There is an immediate operational requirement to do so.

2. State the minimum fuel requirements for IFR flights requiring a designated alternate aerodrome your aircraft type.

3. Your aircraft has departed Alaska for the return trip to home base. Unless other arrangements are made, the first stop in Canada must be:

- A. At a CF base.
- B. At a Registered Airport
- C. At a designated airport of entry (AOE)
- D. Anywhere you can get the machine refuelled.

4. ATC is a service provided to maintain a safe and expeditious flow of air traffic. This service is mainly accomplished by means of clearances and instructions issued to aircraft pilots by ATC agencies. Should an emergency or safety consideration make compliance impracticable, the pilot shall do one of the following:

5. Prior to departure, the aircraft commander will _____ on the _____ document by initials or suitable electronic means indicating that he fully understands the assigned duties, details and requirements of the flight.

- A. authenticate, code
- B. authorize, acknowledging
- C. acknowledge, authorizing
- D. sign, maintenance

/2

6. Prior to entering a control zone under VFR, the pilot shall call the appropriate air traffic control unit with what information? Are there any specific considerations for your aircraft type?

7. The authorizing officer for a flight may be the Commanding Officer (CO), or:

- A. There is no "or".
- B. A Flight Commander.
- C. The NCO i/c Flight Operations
- D. An officer designated by the CO in writing.

/1

8. Aerodrome weather forecasts, based on a valid TAF, must factor in the terms BECMG, TEMPO, or PROB when considering weather forecasts for a destination and determining the requirement for an alternate, or the suitability of an aerodrome as an alternate. What forecast minima conditions must be met for the terms TEMPO and PROB when considering destination and alternate?

9. The lowest ceiling and visibility for an alternate aerodrome with a single published non-precision approach procedure serving the landing runway is:

10. Aircraft conducting IFR flights outside _____ within Designated Mountainous Regions, shall maintain at least _____ or _____ feet above all obstacles within ____ NM of the track of the aircraft, depending on the area.

11. You are ground checking the altimeters prior to flight, and discover that with the correct altimeter setting set, and a ramp elevation of 1,860 ft MSL, the primary altimeter reads 1,910ft, and the secondary altimeter reads 1,880 feet. Which altimeter(s) is/are unserviceable? Why?

12. You plan to depart an airfield where the lowest minima available are for the NDB (GNSS) approach depicted below. The minimum weather for takeoff (no takeoff alternate) would be:

CATEGORY	A	B	C	D
NDB	1820	(468)		1
CIRCLING	1860	(506) 1 ½	1860 (506) 2	1960 (606) 2

Ceiling: _____ Visibility: _____

13. For an RNAV (GNSS-only) approach to qualify as an alternate, the following criteria must be met:

14. When taxiing with the assistance of a marshaller, responsibility for safety of the aircraft rests with:

- A. the marshaller.
- B. the AVO.
- C. the AVO and marshaller equally.
- D. the Apron Controller.

15. Your planned track will take your UAV over a small uncontrolled aerodrome with an elevation of 2,020 ft MSL, and a published circuit altitude of 3,100 ft MSL. The minimum altitude for overflight of this aerodrome would be:

- A. 3,020 ft MSL
- B. 4,020 ft MSL
- C. 2,520 ft MSL
- D. 4,100 ft MSL

16. Your UAV is 4 miles final approach to the active runway, and you become aware of a single engine fighter type aircraft with engine problems turning downwind on a forced landing profile. He is still well above you, though. You:

- A. Have the right of way because you are at a lower altitude and landing , so continue your approach to land and taxi clear of the runway when able.
- B. Yield right of way to the other aircraft because he is compelled to land.
- C. Yield right of way to since within 5NM of the aerodrome, the aircraft with the greater approach/landing speed takes precedence.
- D. Pass a good bailout vector to the other aircraft because your aircraft is on automatic approach.

17. Flying duties are forbidden for at least _____ following the administration of a local or regional anaesthetic, e.g. an anaesthetic used for minor lacerations or dental procedures.

18. What amount of contamination adhering on CF aircraft critical surfaces is permissible for take off?

19. The CFIR written examinations on Air Regulations and Procedures and Meteorology must be completed successfully before the instrument flight test is attempted. The written examinations may be completed within the _____ period prior to the expiry date of an instrument rating.

20. UAV flights outside Military Class F airspace shall be conducted in accordance with _____ or due regard when and where applicable.

/1

1 Canadian Air Division Orders, Vol 2, Flying Orders

21. The 1 Canadian Air Division (1 Cdn Air Div) Flying Orders supplement those in B-GA-100-001/AA-000, Flying Orders. To whom do these flying orders apply?

22. The minimum fuel requirement for a Tier 2 UAV operating VMC in segregated military Class F airspace is sufficient fuel to fly: _____

23. An AVO flying Tier 1 or 2 UAVs can accumulate a maximum of _____ hours in a consecutive 30 day period deployed.

24. You are using RNAV to determine your distance from a DME station. You would report your distance from that station by stating:

- A. WRAITH 51, 20 South of Greenwood TACAN
- B. WRAITH 51, 20 DME South of Greenwood TACAN
- C. WRAITH 51, 20 Miles South of Greenwood TACAN

25. Unless otherwise restricted by Aircraft Operating Instructions (AOIs), aircraft other than rotary-wing aircraft and aircraft equipped with skis or intermediate flotation tires shall not take-off from runways covered by more than _____ of slush, wet snow or water.

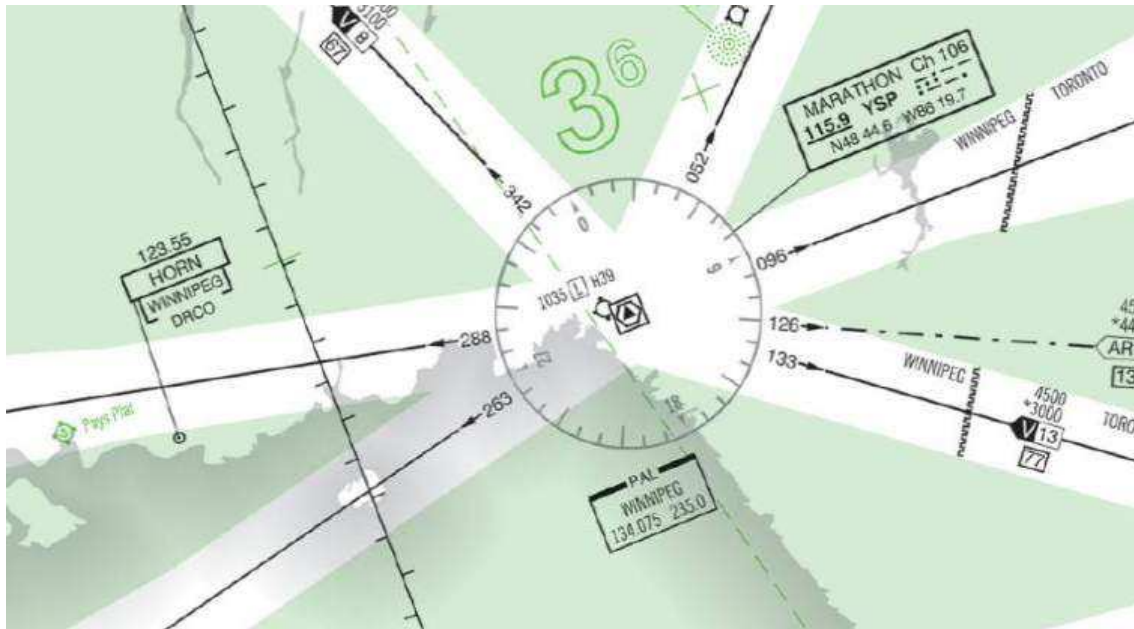
26. You intend to fly an NDB (GNSS) overlay approach using GNSS, and see that the GNSS will give you advisory vertical guidance. Can you use this vertical guidance, and if so, are there any restrictions to its use?

27. Take-off requirements, as per B-GA-100-001/AA-000, Flying Orders stipulate that take-offs are not permitted unless the reported ceiling and visibility/RVR are equal to or above the lowest usable HAA/HAT and visibility for a usable published approach to a usable landing runway at the departure aerodrome. For Category I take-off minima, the minimum take-off actual wx shall not be less than:

A-OA-148-001/AG-000, Manual of Instrument Flying

28. Under what weather conditions will a Nav Canada operated VASIS be turned off? Why?

29. Some VORs can be used to relay voice transmissions. You are low level on the Victor airway west of Marathon. Can you get voice info from the YSP facility? Should you wish to communicate with Winnipeg ATC which frequencies would be best to utilize?



30. What is the meaning of the symbol *No PT* on charts?

31. Define "Required Visual Reference" and give 3 examples.

32. The normal useful range of a glide path transmitter on an ILS facility is:
- A. 3 NM
 - B. 5 NM
 - C. 10 NM
 - D. 25 NM
- /1
33. When conducting an approach to a runway equipped with a two-bar VASIS system, you are on glidepath when:
- A. The upwind bars are white, and the downwind bars are red (white over red).
 - B. Both sets of bars are white (white over white).
 - C. Both sets of bars are red (red over red).
 - D. The upwind bars are red, and the downwind bars are white (red over white).
- /1
34. You have suffered a brief power interruption which has kicked off the autopilot and stabilization system, and rendered the primary attitude indicator inoperative. As you spool up your crosscheck using the standby instruments, you note that the airspeed is increasing, altitude is decreasing, and you are in a rate $\frac{1}{2}$ turn to the left. You realize that you are in a _____ unusual attitude. To recover, you would _____.
- _____ . /2

GPH 204A – Flight Planning and Procedures

35. Low level airways are controlled airspace based at _____ and extending up to, but not including _____.
- A. 2,200 ft AGL, 18,000 ft ASL
 - B. 700 ft AGL, 18,000 ft ASL
 - C. 2,200 ft ASL, 18,000 ft ASL
 - D. 2,200 ft AGL, 12,500 ft ASL

36. Class _____ airspace is all low level controlled airspace which above 12,500 ft ASL or the _____, whichever is higher, up to but not including 18,000 ft ASL. _____ and associated terminal control areas may also be assigned this classification.

- A. C, MEA, Control Zones
- B. D, MOCA, Control Extensions
- C. B, MEA, Control Zones
- D. B, MOCA, Control Extensions

37. Information on all Canadian CYA/CYD/CYR airspace may be found where? Where is it contained and how often does it get published?

38. For noise abatement procedures, are pilots obligated to accept the landing or takeoff runway indicated by the tower controller? Explain.

39. IFR flight plans should be filed as early as practicable, preferably _____ or more for domestic flights, and at least _____ prior to the proposed departure time for international flights.

- A. 1 hr, 2 hr
- B. 30 min, 1 hr
- C. 30 min, 90 min
- D. 1 hr, 90 min

40. Any approach in the GPS database may be flown as an overlay approach.

True/False

41. If a specific clearance has not been received to cross a runway while taxiing, the AVO shall _____ and request authorization to cross the runway.

42. Where holding position markings are not visible or have not been established, aircraft shall hold a minimum of _____ ft from the edge of the runway in use.

43. Must a pilot read back the complete IFR clearance if departing from a controlled airport, a SID is part of the clearance and cleared as filed?

44. You are about to start the last leg of your long journey home and your clearance from this Northern Ontario airport reads "Cleared to destination, SID 2 departure, squawk 5146". You are about to depart when tower advises that there is an amendment to your clearance and requests that for traffic, you climb on a heading of 280 instead of the SID heading of 312.

a. Does this cancel the rest of the SID?

YES/NO

b. Does ATC take responsibility for obstacle and terrain clearance on this revised heading?

YES/NO

45. When checking the weather for your destination, you see that it has been snowing there. Where could you get a Runway Surface Condition (RSC) report for that aerodrome?

A. Aerodrome NOTAM file

B. Tower/FSS

C. ATIS

D. All of the above

46. When conducting a timed hold, _____ timings shall be adjusted to compensate for the wind in order to attain an _____ timing of _____ minute(s) at 15,000 ft ASL.

A. inbound, outbound, 1

B. outbound, inbound, 1 ½

C. inbound, outbound, 1 ½

D. outbound, inbound, 1

GPH 205 Canada Flight Supplement

47. You are conducting a flight into Prince Rupert, BC with an ETA of 1230Z.

a. Who should you contact for airport advisory and on what frequency?

b. Who should you contact for weather information and on what frequency for the next leg of your flight to Comox?

48. What is the preferred low level IFR routing from London, ON to Toronto/City Centre and what is the significance of the bracketed number?

49. What are the co-ordinates for the VIXUN reporting point?

GPH 200 Instrument Procedures

50. In the minima box, what does the following represent?

1000 (547) 1¼

- a. The MDA is 1000 ft AGL, 547 ft ASL and the advisory visibility is 1¼ SM.
- b. The MDA is 1000 ft ASL and the advisory visibility is 1¼ NM.
- c. These numbers represent the required ceiling and visibility to attempt the approach.
- d. The MDA is 1000 ft ASL, 547 ft AGL and the advisory visibility is 1¼ SM.

GPH 200 Chart Legend

51. If you were flying an approach at an indicated airspeed of 125 KTS, your category of aircraft would be?

- a. CAT "A"
- b. CAT "B"
- c. CAT "C"
- d. CAT "D"
- e. CAT "E"

52. Using Annex A, you are 20 NM Southeast of the XS NDB. Your clearance is : "XXXX17" is cleared to the Prince George airport for the NDB A approach. How would you transition to the approach?

- a. Descend to 6100 ft direct the XS beacon. Upon crossing the beacon, enter the proc-turn race-track pattern and descend to 5400 ft.
- b. Descend to 8000 ft direct the XS beacon. Upon crossing the beacon, enter the race-track pattern and shuttle to 5400 ft and complete the proc-turn.
- c. Maintain 8000 ft proceed direct the YXS VOR descend to 5400 ft via the transition to the XS beacon. Then continue descent to 5400 ft on the proc-turn.
- d. Descend to 8000 ft proceed direct the "XS" beacon. Enter the proc-turn and descend to 3500 ft.

GPH 206/207 En route Charts

53. You are flying from Dryden to Thunder Bay on the LF/MF G1 airway. What is your track out of Dryden and what is your track into Thunder Bay?

- a. 127 degrees magnetic, 123 degrees magnetic;
- b. 127 degrees True, 123 degrees True;
- c. 123 degrees magnetic, 127 degrees magnetic; or
- d. 123 degrees True, 127 degrees True

54. What is the significance of the pointed end of the box around G1 in the previous question?
