

2012



INSTRUMENT RATING TEST

OPEN BOOK EXAM

Prepared for:

1 Canadian Air Division Instrument Check Pilot



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As 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 200, Terminal Instrument Approach Procedures; Vol 1, 3, 4
- GPH 205, Canada Flight Supplement
- GPH 206/207, Enroute Charts; LO 6
- US FAR AIM (Aeronautical Information Manual)
- GPH 270
- US NACO or DOD Terminal Procedures Publication
- US FIH (Flight Information Handbook)

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 58 short answer and multiple choice questions.
3. Answer questions as per the current issue of the above publications and per your aircraft type and instrument rating.
4. There are no marks allotted or passing standard set. Each incorrect response will be corrected to 100% in your presence.
5. 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, GPH 200 and GPH 204A.

SN _____ RANK _____ NAME _____

UNIT _____ DATE _____

EXAMINER _____

B-GA-100, National Defence Flying Orders

1. Where do the B-GA-100 orders **not** apply to CF aircraft?

2. Define the term **aircraft commander**: _____

3. You are operating in a host country where our rules are inconsistent with theirs. Are exceptions to the B-GA-100 allowed, and if so, what stipulations apply?

Yes/No

4. State the minimum fuel requirements for IFR flights in Southern Domestic Airspace requiring a designated alternate aerodrome for your aircraft type. (Apply amplifying orders in addition to B-GA-100)

5. With respect to low flying authorization, when do B-GA-100 rules **not** apply?

6. What speed limitations apply to CF aircraft operated outside of military controlled airspace?

a. Controlled aerodromes: _____

b. below 10,000 ft: _____

7. When may a CF aircraft land or take-off within a Provincial or Federal Park?

8. Fixed-wing and rotary-wing aircraft shall not be flown below 1 000 feet and 500 feet respectively AGL or water except under certain circumstances. What are they?

a. _____

b. _____

c. _____

d. _____

9. When are fixed-wing aircraft authorized to take off from an unlighted aerodrome?

10. When are pilots **not** required to accept an ATC clearance?

11. During taxi operations, a specific ATC clearance is only required when crossing active runways.

True or False.

12. You are planning for a portion of your proposed flight to be conducted under VFR Over the Top (VFR OTT) conditions, what weather minima specific to VFR OTT apply to your destination (no TAF available).

Ceiling: _____

Visibility: _____

Valid period: _____

13. In the event of radio failure, the pilot shall, if practicable, indicate the failure to the appropriate ATC unit and obtain authorization for any movements from the ATC unit by means of visual signals. What would these signals mean to you?

To Aircraft in Flight:

a. steady red light _____

b. series of red flashes _____

To Aircraft on the Ground:

c. series of red flashes _____

d. flashing white light _____

14. During a VFR flight when your en-route weather is based on a valid GFA, what guidance applies to short term, local or rapidly changing phenomena causing weather conditions to temporarily be reduced to conditions below VFR minima?

a. _____

b. _____

15. Aircraft conducting IFR flight outside designated airways and air routes **Outside Designated Mountainous Regions** shall maintain at least _____ feet above all obstacles within _____ of the track of the aircraft.

16. Aerodrome weather forecasts, based on a valid TAF, must factor in the terms BECMG, TEMPO, or PROB when considering weather forecast for a destination and determining the requirement for an alternate or the suitability of an aerodrome as an alternate. Where conditions are forecasted to deteriorate, the forecasted BECMG condition shall be considered to be applicable as of the **start/end** (circle one) of the

BECMG time period. For an alternate, the PROB period shall not be below _____ for the usable runway at the alternate aerodrome.

17. For your type aircraft and operations, what are the destination aerodrome weather limits which do not require an alternate?

18. What criteria must be met for a RNAV (GNSS-only) approach to qualify as an alternate?

- a. _____
 - b. _____
 - c. _____
 - d. _____
-

19. Flying duties are forbidden for at least the 24-hour period following the administration of a local or regional anaesthetic, e.g. an anaesthetic used for minor lacerations or dental procedures.

True or False.

20. A crew member scheduled for flying duties shall not consume any alcoholic beverages for at least the period of _____ hours immediately prior to flight, and in no case, less than _____ hours before reporting for duty.

21. During taxi for take-off a passenger in the aircraft notices some snow adhering to the under-wing external fuel tank of the aircraft. Concerned, the passenger informs the Load Master of the situation. The Load Master tells the passenger not to be worried

because the pilots know about the snow and it will likely blow off during take-off roll. Is it legal for the aircraft to takeoff? Explain.

22. All aircraft crew members _____, approved protective clothing suitable for the in-flight weather conditions and the climatic conditions in the event of a forced landing.

23. Define the term CAVOK.

1 Canadian Air Division Orders, Vol 2, Flying Orders

24. When a flying unit is tasked by higher headquarters for a specific mission, who is responsible for flight authorization of that mission?

25. State the fuel requirements for remote destinations.

26. Tripped circuit breakers are an indication of abnormal operation of the associated electrical system. How many times may they be reset?

27. (Fixed Wing) In the absence of AOI direction to the contrary, landing and take-off wind computations shall be based on wind components factored as follows:

a. headwind - _____

b. tailwind - _____

(Rotary Wing) A rotary wing aircraft may depart IFR from a field location provided the reported, or estimated ceiling is at least _____ feet AGL, and the ground visibility is at least _____ sm.

28. Define crew duty day.

29. Take-off requirements, as per B-GA-100-001 stipulate that take-offs are not permitted unless the reported ceiling and visibility/RVR are _____

_____. Helicopters can also take advantage of their slow speed to use the reported visibility equal to _____

For Category I/Restricted (CAT I/R) take-off minima, the minimum take-off actual Weather shall not be less than:

a ceiling _____ the lowest usable HAA/HAT; and

a visibility _____ greater than the lowest usable published visibility for a usable landing runway or landing surface at the departure location.

30. Your CF crew and aircraft are certified and equipped with both conventional Nav Aids, and RNAV (GNSS) certified for IFR Enroute and Terminal procedures under TSO C129. When nearing your destination you discover that the only approach available to you is a non-precision VOR/DME approach (**not** GNSS overlay procedure) to 300 feet HAT minimums. ATIS is reporting 500 foot ceiling with 1 sm visibility in fog, winds

calm, runway wet and DME U/S. Your data base (current) contains the VOR/DME approach in question with valid system RAIM check. IAW 1 Cdn Air Div orders, are you authorized to complete the VOR approach to VOR/DME minima using auto-flight coupled to the GNSS overlay from your data base? If so, under what conditions?

Yes/No (circle one)

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

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

32. RAIM (Receiver Autonomous Integrity Monitoring) and Fault Detection Exclusion in current IFR certified avionics are considered Aircraft-based Augmentation systems (ABAS). RAIM uses extra satellites in view to compare solutions and detect problems. It usually takes _____ satellites to compute a navigation solution and _____ for RAIM to function.

33. Spatial disorientation can be problematic at night. With respect to haze and fog, what are the hazardous illusions produced and how are they caused?

34. Automatic Dependant Surveillance Broadcast (ADS-B) uses conventional GNSS technology and a relatively simple broadcast communications link as its conditions or target altitude and update intervals do not depend on the rotational speed and reliability of mechanical antennas. With ADS-B both pilots and controllers will see radar-like displays with accurate traffic data. List three possible benefits to this technology.

a. _____

b. _____

c. _____

GPH 204A – Flight Planning and Procedures

35. In cases where there is no operating ATC unit or FSS, and you want to close out a flight itinerary, what are the timing expectations for an arrival report?

36. When flying IFR and upon descending through 12,500 feet MSL you elect to notify ATC and “cancel IFR”. What is the resulting status of your IFR flight plan?

37. Prior to accepting a LAHSO ATC clearance, what conditions must first be met? Name at least three, plus any notes.

a. _____

b. _____

c. _____

Note(s): _____

38. What are the communication procedures to be used when departing an uncontrolled aerodrome with an ATF?

a. Prior to entering manoeuvring area: _____

b. Departure:

39. You are planning to depart **Marathon, ON (CYSP)** on rwy 34. Assuming that you are able to meet the climb gradient specified in the departure, you would cross the departure end of the runway at or above _____ ft AGL. Initial rate of climb at 120 kt groundspeed should be at least _____ FPM, then change to _____ FPM at _____ ft AGL/MSL (circle one). Initial heading/track (circle one) is _____ degrees. You can turn to proceed on course when above _____ feet MSL.

40. You are unable to conduct the **ASHCROFT ONE** RNAV departure out of **CYKA** (Kamloops BC). How will you depart IFR, and what ceiling/visibility do you require prior to departure (No takeoff alternate available)?

Departure Procedure _____

Ceiling _____ Visibility _____

41. When temperatures are extremely cold, true altitudes will be significantly lower than indicated altitudes. Although pilots may fly IFR at the published MEA/MOCA, in the winter, when air temperatures are much lower than ISA, they should operate at altitudes of at least _____ above the MEA/MOCA.

42. What should the pilot communicate to ATC on initial contact, or when changing from one ATC frequency to another?

_____ and, when applicable,

43. In conditions of extreme cold weather (-30° Celsius or less), pilots _____ add the values derived from the Temperature Correction Chart to all published procedure altitudes, _____,

_____, _____, and

to ensure adequate obstacle clearance.

44. You have been cleared to fly the RNAV STAR **ROGSA ONE ARR** into **CYQB**, expecting the **RNAV (GNSS) RWY 30** approach. You have just passed **ROGSA**, level at 9,000 ft MSL when you are cleared to **“Descend to 4,000”**. You:

- a. Descend to 4,000 as an ATC clearance takes precedence over charted altitudes.
- b. Descend to 4,000 ensuring that you are at or above 5,000 until past **DUMVA**.
- c. Descend to 4,000 ensuring that you are at or below 5,000 by **DUMVA**.

45. You have received your IFR approach clearance into an uncontrolled aerodrome, and have switched to the designated MF frequency. What information must be transmitted as you conduct the approach procedure?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

46. Unless the clearance issued by ATC contains instructions to the contrary, all turns after initial entry into the holding pattern shall be made to the _____.

GPH 200 Instrument Procedures

47. What meaning does a Navigation Facility identified in **bold** print on the plan view of an approach procedure have?

48. Are NOTAMs for a procedure in the “Canada Air Pilot” applicable to the same procedure in the GPH 200?

YES/NO

GPH 205 Canada Flight Supplement

49. You have been tasked to pick up a passenger at CYRL.

a. What is the common name of the aerodrome?

b. What is the minimum allowable RVR/visibility for runway/taxiway operations on runway 26?

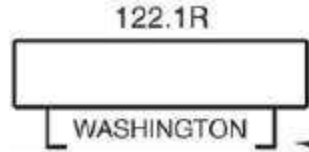
c. The departure aerodrome is served by K-type ARCAL lighting. How would you activate it?

d. Can you get DND contract fuel at this aerodrome? If so, from whom?

GPH 206/207 En route Charts

50. **YMS** is a(n) _____ radio navigation facility. It is also an RNAV flyover/flyby (circle one) waypoint, and a compulsory/non-compulsory (circle one) reporting point on the V300 airway.

51. What does a thin line box represent in the Chart Legend?



GPH 270 and US FAR/AIM

52. During taxi operations in the US, a specific ATC clearance is only required when crossing active runways.

True or False.

53. You are flying VFR in the US and prior to entering Class B airspace near NYC you are told “*Canadian Forces 21 standby.*”

a. Are you cleared to enter the airspace? _____

b. Given the same reply prior to entering Class C airspace, does your answer change? If so, why?

54. If a pilot is told to hold as published in the US, where can a picture/description of this hold be found?

55. When you are cleared for an approach in the US while on vectors, you can descend to the Minimum Sector Altitude or Emergency (100nm) Safe Altitude without specific clearance from ATC.

True or False

56. What is the meaning of this symbol and where do you find out the applicable information using DOD or NACO Terminal Procedures (approach) book. ?



57. You are flying in the US and do not have any Canadian Flips available. Where will you find the cold weather conversion chart using US flight products?

- a. US IFR Supplement
- b. US Approach plates after the index (Both High and Low approach books)
- c. Flight Information Handbook, Section D
- d. GPH 270, Chap. 5

DICP Website <http://winnipeg.mil.ca/cms/en/A3/A3-SAFP/A3-AR/DICP.aspx>

58. Your unit has been tasked to respond to a disaster in the central highlands of Jamaica. As part of the response you have been asked to fly a unit aircraft to Jamaica to help in the disaster relief and specifically Norman Manley Int'l (MKJP). As luck would have it the weather requires you to file IFR (fuel reserves are not a concern).

- a. As a Host Nation, is Jamaica a non-Accredited/Accredited/Special Accredited Nation (circle one)? (Check website frequently for updates.)
- b. Does Norman Manley Int'l have DoD approaches available for use and if yes, which ones?

- c. Are there any Jeppesen Instrument Approach Procedures authorized for use by CF aircrew at MKJP and if yes which ones?
