ALBERTA COLLEGE
OF AERONAUTICS

DA-20

Check On Type Exam

Pilot Information:

Pilot's Name:_____

Signature:_____

Date Completed:_____

Corrected to 100% by:

Flight Instructor _____

Signature:_____

Date Corrected:_____

Revised: 07/09/2025

GENERAL & AIRCRAFTS SYSTEMS

1. **What type of engine is used in DA20?**

2. **How much horsepower is generated at max RPM? What is max RPM?**

3. **What is the type and diameter of the propeller?** (see MT propeller supplement)

4. **What is the propeller ground clearance?**

5. **Fuel:**

   a. What are the approved fuel grades?

   b. Maximum fuel load?

   c. How much fuel is usable?

6. **Weight and Balance:**

   a. Fill out the Basic Empty Weight (BEW) and Useful Load for each airplane:

Airplane:	C-GBIT	C-GIXO	C-FORE	C-GDDP
BEW:				
Useful Load:				

   b. What is the Maximum Certified Takeoff Weight (MCTOW) for the DA-20s?

7. **Complete the following W&B scenario:**

Aircraft: C-GBIT

Pilot and Pax: 2 standard males

Fuel: Full

Baggage: Maximum

a. Total weight:

b. C of G:

c. What flight maneuvers are permissible at this weight?

8. What is the Centre of Gravity Range?

a. Forward

b. Rear

c. Reference datum

d. Maximum G load (all configurations)

i. Positive

ii. Negative

9. Airframe information:

a. What is the fuselage material?

b. Wing?

c. Spar?

10. Comm / Nav Equipment:

a. What COM/NAV equipment is available

b. Where is the VOR antenna located?

c. Where are the VHF radio antennas located?

11. Oil Capacity:

a. What are the minimum and maximum oil levels?

i. Minimum:

ii. Maximum:

b. What are the approved oil grades?

12. Where is the main air intake located?

13. Where is the alternate air intake located?

14. Describe the following flight control mechanisms

a. Rudder

b. Elevator

c. Ailerons

15. Electrical System

a. What is the battery voltage?

b. What is the generator strength?

c. How many minutes of emergency back-up power is available for the stand-by instrument?

NORMAL OPERATIONS & LIMITATIONS

1. **Structural Temperature Indicator:**
    a. Where is it located?

    b. Explain the indications and how to note maximum temperature is exceeded:

2. **Braking System:**
    a. If the co-pilot experiences a brake failure, what happens to the pilot's braking ability?

3. **Mixture Control:**
    a. Describe how to lean the mixture during cruise for best performance:

    b. List Maneuvers/Operations requiring the mixture set full rich?

4. **Electric Fuel Pump:**
    a. What is the purpose of the electric fuel pump?

    b. When should the aux fuel pump be switched ON during normal operations?

5. **Fuel Prime:**
    a. When should the fuel prime be switched ON during normal operations

6. Pre Flight Inspection:

a. Where are the fuel drains located?

b. Where are the fuel samples drained from (engine)?

c. Where is the pitot tube located?

d. Where is the rescue hammer located?

7. Engine Operations:

a. Max T/O power duration:

b. Normal operating oil pressure range:

8. During cold start, do not increase RPM past 1000 until oil temperature has reached:

9. Describe the normal T/O procedure, including climb speeds and flap settings:

10. Describe the normal landing procedure, including speeds, power and flap settings:

11. What is the maximum demonstrated crosswind?

12. Flaps

a. What are the three flap positions and degrees of extension?

b. What is V_{FE}?

i. Flaps Takeoff:

ii. Flaps Landing:

V-SPEEDS

1. **List the following V-speeds:**

V_R	
V_X Flaps T/O	
V_X Flaps CRZ	
V_A	
V_S	
V_{SO}	
V_{NE}	
V_Y Flaps T/O	
V_Y Flaps CRZ	

AIRCRAFT PERFORMANCE

1. **Calculate the fuel consumption and TAS under following conditions:**

Pressure Alt 8000ft

2600 RPM

Temp -15°C

a. Fuel:

b. TAS:

Pressure Alt 5000ft

2500 RPM

Temp -15°C

a. Fuel

b. TAS

Pressure Alt 3000ft

65% Power

Temp 19°C

a. Fuel

b. TAS

2. **Stall Speeds**

a. Determine the stall speed at 45^{O} angle of bank in CAS:

b. Determine the stall speed with flaps set cruise in IAS:

3. **Determine the maximum fuel and endurance under the following conditions:**

Pilot and Passenger - 350 lbs

Baggage - 40 lbs

P.A. 9500ft - -4^{O}C

Power - 2600 RPM

4. Utilizing the Crosswind Chart, Determine the wind components under the following conditions:

220/15G26kts

Runway - 27

a. Headwind Component:

b. Crosswind Component:

c. Can we take off?

040/18G25kts

Runway - 33

a. Headwind Component:

b. Crosswind Component:

c. Can we take off?

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5. Calculate the take off distance under the following conditions:

Temp - +30°C

PA - 4500ft

Aircraft weight - 1620lbs

Runway - 33

Wind - 300/08kts

Obstacle - 50ft

Temp - -25°C

PA - 4500ft

Aircraft weight - 1640lbs

Runway - 15

Wind - 040/08kts

No obstacles

EMERGENCY PROCEDURES

1. **List the following emergencies <u>Immediate Actions</u> and any published <u>airspeeds:</u>**
   a. Engine Failure after take-off (Flaps T/O)

   b. Engine Failure at Altitude (include best glide speed)

2. **List the following emergency airspeeds:**
   a. Landing/Engine Out - Flaps Cruise

   b. Landing/Engine Out - Flaps Landing

   c. Maneuvering Speed

3. **Describe the following emergency procedures:**
   a. Engine Failure During Take off Run?

   b. Engine Failure after take off

c. Securing engine before power off landings

d. Rough engine / Cause Check

e. Engine restart (prop wind milling, in air restart – include airspeed)

f. Engine fire on ground (start up)

g. Engine fire during flight

h. Electrical fire in flight

i. Generator failure

j. Trim system failure – Runaway trim motor

k. Spin recovery