

Elmendorf Aero Club Aircraft Test

SENECA II

For the following questions, you will need to refer to the Pilots Information Manual for the PA-34-200T.

USE ANSWER SHEET "AF FORM 1584C EXAM RECORD"

1. (True/False) The maximum time the pitot heat may be used on the ground is 3 minutes.
2. (True/False) If the combustion heater overheats in flight, allow a 2 minute cooling period prior to attempting to reset.
3. After liftoff, the initial climb speed is:
 - a. between V_{xse} and V_{yse} .
 - b. V_{mc} .
 - c. V_x or V_y depending on the type of takeoff.
4. During a normal take off, the point of gear retraction should occur:
 - a. As soon as possible after lift off.
 - b. When a positive rate of climb has been established and insufficient runway remains for landing.
 - c. Just prior to the first power reduction.
5. After level off at cruising altitude , adjust the mixture using the:
 - a. EGT gauge.
 - b. Fuel-flow indicators.
 - c. Power setting tables in the pilot's operating handbook.
6. The pre-landing (GUMPS) checklist should be completed:
 - a. Prior to entering the pattern.
 - b. On the downwind prior to turning base leg.
 - c. Any time before short final approach.
7. The V_{mc} demonstration required for the FAA flight check should not be conducted below:
 - a. 2500' MSL.
 - b. 3500' MSL.
 - c. 3500' AGL.
8. The most dangerous condition (i.e. susceptibility to inadvertent stall or spin) for airplane weight and balance in terms of total weight and CG location is:
 - a. over gross and CG forward of limits.
 - b. over gross and CG aft of limits.
 - c. under gross and CG aft of limits.

9. To open or close the cowl flaps:
- depress the lock and move the lever in the desired direction.
 - release the lock after initial movement of the lever and then continue moving the lever to the desired position.
 - first a, then b.
10. The maximum continuous power (at sea level) for the continental TSIO-360E engine is:
- 300 HP.
 - 200 HP.
 - 215 HP.
11. The electrical power for the Seneca II comes from:
- one 12 volt battery and two 65 amp alternators.
 - one 12 volt battery and two 65 volt generators.
 - two 12 volt batteries in-series and two 14 volt generators.
12. The Seneca II carries _____ Gal of usable fuel.
- 98 Gal
 - 123 Gal
 - 128 Gal
13. The landing gear extending speed is:
- 105 KIAS.
 - 129 KIAS.
 - 107 KIAS.
14. On takeoff, the landing gear should be retracted before an airspeed of:
- 105 KIAS.
 - 129 KIAS.
 - 107 KIAS.
15. "Maximum Zero Fuel Weight" (max wt *exclusive* of usable fuel) is:
- 4570 Lbs.
 - 4000 Lbs.
 - 4372 Lbs.
16. (True/False) The left engine is the "Critical Engine."
17. The cross feed drains are located:
- behind the copilot's seat on the forward side of the spar box.
 - next to the flap handle on the pilot's side.
 - neither a nor b.

18. The maximum RPM and Manifold settings used for takeoff power are:
- 2575 RPM / 39" MP.
 - 2500 RPM / 40" MP.
 - Not specified.
19. The "OVERBOOST" indicator lights on the annunciator panel will illuminate at approximately:
- 40" MP.
 - 39.8" MP.
 - 2600 RPM.
20. The cruise climb settings and speed are:
- 40" MP, 2450 RPM, 89 KIAS.
 - 39.8" MP, 2500 RPM, 89 KIAS.
 - 31.5" MP, 2450 RPM, 102 KIAS.
21. The maximum speeds allowed for flap settings are:
- 10° / 121 KIAS, 25° / 121 KIAS, 40° / 107 KIAS.
 - 10° / 138 KIAS, 25° / 121 KIAS, 40° / 107 KIAS.
 - 10° / 127 KIAS, 25° / 127 KIAS, 40° / 107 KIAS.
22. During an inflight engine shutdown, the propellers cannot be feathered below ___RPM.
- 800
 - 500
 - Not specified.
23. Feathering during normal engine shutdown is prevented by:
- centrifugal force.
 - feathering locks.
 - both a and b.
24. (True/False) If the landing gear is in transit, it is not advisable to move the gear selector in the opposite direction.
25. Emergency gear extension **MUST NOT** be attempted at airspeed in excess of ___Kts.
- 85
 - 90
 - 95
26. (True/False) The emergency descent speed is 129 KIAS with gear and flaps extended.
27. You place the gear selector in the "DOWN" position and the landing gear lights do not illuminate. This condition could be caused by:
- gear not down and locked or the Nav lights are on.
 - gear indicator bulbs burned out or the indicator system has malfunctioned.
 - both a and b.

28. When one engine is inoperative and the fuel selector for the operating engine is on "X-FEED" the selector for the inoperative engine *MUST* be in:
- On.
 - Off.
 - X-FEED.
29. To function test the auxiliary fuel pump system lights:
- turn on the primer switches.
 - press to test the lights.
 - push to test the annunciator lights.
30. A pressure pump (VAC SYS) malfunction would be indicated by:
- annunciator panel light
 - warning indicators mounted on the pressure gauge
 - either a or b
31. The Pitot-static system drains are located:
- on the side panel next to the pilot's seat.
 - Next to the pitot heat switch.
 - Under the pilot side instrument panel.
32. The Manifold Pressure drains are located:
- on the side panel next to the pilot's seat.
 - below the Manifold Pressure gauges.
 - next to the Pitot-static drains.
33. The radio master switch has three positions, OFF, NORMAL and AUXILIARY. The AUX position provides:
- secondary power for all radios.
 - power to the aux radio.
 - power to the GPS radios.
34. (True/False) The warning lights on the annunciator panel include Gyro Pressure, Manifold Pressure, Oil Pressure, and Alternator.
35. The combustion heater uses fuel from the left fuel tank at a rate of approx:
- 1 GPH.
 - 1.5 GPH.
 - .5 GPH.
36. (True/False) The stall warning indicator is activated by two lift detectors (stall warning vanes) on the leading edge of the left wing. The inboard detector is activated between Zero to 10° of flaps and the outboard detector is activated between 25° and 40° of flaps.

37. The proper cool down time for the aircraft heater after exiting the runway is:

- a. 1 Minute.
- b. 2 Minutes.
- c. 3.5 Minutes.

38. (True/False) Landing gear extension or retraction normally takes 10 seconds.

39. (True/False) In the event of total hydraulic failure, the gear will automatically free fall to the down and locked position.

40. In the event of emergency gear extension, the gear is held in the down and locked position by:

- a. gear downlock hooks.
- b. aerodynamic loads and spring assist.
- c. gravity and hydraulic pressure.

A 2 hour flight is planned to King Salmon, using the following data:

	WEIGHT	ARM	MOMENT
BEW	3080	86.04	265010
Pilot & Passenger	400	85.5	34200
Center Seats	380	119.1	45258
Rear Seats	150	157.6	23640
Forward baggage	40	22.5	900
Aft Baggage	100	178.7	17870
Fuel: 70 gal	420	93.6	39312
TOTAL	4570	91.07	402550

41. (True/False) The aircraft is within weight and balance.

42. If you answered False, the reason it is not within weight and balance is:

- a. it is over max landing weight in case you lose an engine after takeoff.
- b. it exceeds "zero fuel" weight.
- c. n/a since it is within weight and balance.

43-50. To answer questions 42 through 49, use the appropriate charts with the following conditions from EDF to AKN (King Salmon):

	EDF	AKN
Temperature	30°F	40°F
P.A.	S.L.	S.L.
Takeoff weight	4570	
Rwy conditions:	Dry	Dry
Wind	5 kts T/W	5 kts H/W
Distance – 290 NM		
Altitude – 10,000 Ft; OAT 10° F		
Power – 75%		
Ground speed – 150 Kts		

- 43. Accelerate and stop distance (Standard) _____ ft.
- 44. Take off ground roll (Normal) _____ ft.
- 45. Take off distance (Normal) _____ ft.
- 46. Time, fuel and distance to climb T _____ F _____ D _____
- 47. True airspeed @ altitude _____ Kts.
- 48. Landing Weight _____ lbs.
- 49. Landing distance (normal, standard wheels) _____ ft.
- 50. Landing ground roll _____ ft.

USAF AERO CLUB KNOWLEDGE EXAM RECORD

Name: _____ Date Taken: _____

Type Exam: Standardization Instrument Make & Model PA-34 Recurrency
 Pre-Solo Solo Cross Country Other: _____

Raw Score (%): _____ Date Corrected to 100%: _____

I certify all items were thoroughly debriefed and all questions answered

Pilot's Signature					Instructor's Signature								
	T	F	(A)	(B)	(C)	(D)		T	F	(A)	(B)	(C)	(D)
1.	(A)	(B)	(C)	(D)				26.	(A)	(B)	(C)	(D)	
2.	(A)	(B)	(C)	(D)				27.	(A)	(B)	(C)	(D)	
3.	(A)	(B)	(C)	(D)				28.	(A)	(B)	(C)	(D)	
4.	(A)	(B)	(C)	(D)				29.	(A)	(B)	(C)	(D)	
5.	(A)	(B)	(C)	(D)				30.	(A)	(B)	(C)	(D)	
6.	(A)	(B)	(C)	(D)				31.	(A)	(B)	(C)	(D)	
7.	(A)	(B)	(C)	(D)				32.	(A)	(B)	(C)	(D)	
8.	(A)	(B)	(C)	(D)				33.	(A)	(B)	(C)	(D)	
9.	(A)	(B)	(C)	(D)				34.	(A)	(B)	(C)	(D)	
10.	(A)	(B)	(C)	(D)				35.	(A)	(B)	(C)	(D)	
11.	(A)	(B)	(C)	(D)				36.	(A)	(B)	(C)	(D)	
12.	(A)	(B)	(C)	(D)				37.	(A)	(B)	(C)	(D)	
13.	(A)	(B)	(C)	(D)				38.	(A)	(B)	(C)	(D)	
14.	(A)	(B)	(C)	(D)				39.	(A)	(B)	(C)	(D)	
15.	(A)	(B)	(C)	(D)				40.	(A)	(B)	(C)	(D)	
16.	(A)	(B)	(C)	(D)				41.	(A)	(B)	(C)	(D)	
17.	(A)	(B)	(C)	(D)				42.	(A)	(B)	(C)	(D)	
18.	(A)	(B)	(C)	(D)				43.	(A)	(B)	(C)	(D)	
19.	(A)	(B)	(C)	(D)				44.	(A)	(B)	(C)	(D)	
20.	(A)	(B)	(C)	(D)				45.	(A)	(B)	(C)	(D)	
21.	(A)	(B)	(C)	(D)				46.	(A)	(B)	(C)	(D)	
22.	(A)	(B)	(C)	(D)				47.	(A)	(B)	(C)	(D)	
23.	(A)	(B)	(C)	(D)				48.	(A)	(B)	(C)	(D)	
24.	(A)	(B)	(C)	(D)				49.	(A)	(B)	(C)	(D)	
25.	(A)	(B)	(C)	(D)				50.	(A)	(B)	(C)	(D)	

SENECA II CLOSED BOOK EXAM

1. Immediately following an engine failure (or any abnormal situation), the pilot's primary concern is to:
 - a. identify the inoperative engine
 - b. feather the propeller
 - c. maintain aircraft control
2. What procedures should you follow if you lose an engine on short final?
 - a. Full power and feather props.
 - b. Continue landing, power as required, gear down.
 - c. Go around.
3. List the steps for engine fire on ground. (engine not started)
 - a. **MIXTURE** – _____
 - b. **THROTTLE** - _____
 - c. **STARTER** – _____
4. List the steps for engine failure during climb (<66 KIAS).
 - a. **RUDDER** – _____
 - b. **THROTTLES** – _____
 - c. **PITCH** – _____
 - d. **THROTTLE** _____
 - e. **PROP (inop eng)** – _____
5. List from memory the procedures following an engine failure during flight. (> 66 KIAS)
 - a. **RUDDER** – _____
 - b. **INOPERATIVE ENGINE** - _____
 - c. **OPERATING ENGINE** – _____
 - a. **FUEL FLOW** - _____
6. List the emergency descent procedures.
 - a. **THROTTLE** – _____
 - b. **PROPELLERS** – _____
 - c. **MIXTURE** – _____
 - d. **LANDING GEAR** – _____
 - e. **AIRSPEED** – _____

NAME: _____

A/C: PA-34

DATE: _____