

Beale Aero Club

Aircraft Written Test

C-177RG

(Required passing score: 80%)

THIS TEST IS NOT COMPLETE WITHOUT BOLDFACE/OPS LIMITS

1. The total fuel capacity of the Cardinal is _____ gallons, with _____ gallons usable.
 - a. 60, 60
 - b. 22, 22
 - c. 61, 60

2. To facilitate fueling to reduced fuel loads, a _____ gallons marker is provided inside each tank filler neck in the form of _____.
 - a. 22, a tab
 - b. 22, a series of small holes
 - c. 22, an aircraft fuel dip stick

3. The fuel reservoir drain lever should be checked closed in flight if
 - a. Gasoline fumes are noticed
 - b. Power loss symptoms are noticed
 - c. Both of the above

4. A warning horn will sound intermittently whenever the throttle is reduced below approximately _____ inches manifold pressure (master switch on) if the gear is not down and locked.
 - a. 14
 - b. 13
 - c. 12

5. The preferred flap setting for a normal takeoff is 10 degrees.
 - a. True
 - b. False

6. During in route climbs, air speed is normally at _____ to _____ MPH, _____ inches manifold pressure, _____ RPM and _____ GPH fuel flow.
 - a. 100 to 120 MPH, 27 inches, 2700 RPM and 19 GPH
 - b. 100 to 120 MPH, 25 inches, 2500 RPM and 13 GPH
 - c. 100 to 120 MPH, 24 inches, 2400 RPM and 12 GPH

7. Slips are not recommended when full flaps are being used.
 - a. True
 - b. False

8. During cold weather operations, there might not be an apparent indication on the oil temperature gauge prior to takeoff. You therefore should not take off (unless)
 - a. until you have a positive temperature indication
 - b. no further checks are required and you can takeoff immediately as this is normal operation in cold weather
 - c. after a suitable warm-up period (2 to 5 mins at 1000 RPM) if the engine accelerates smoothly and the oil pressure remains normal and steady, you can takeoff

9. Continuous operations between ___ and ___ RPM with less than _____ inches manifold pressure should be avoided.
 - a. 1400, 1750, 10
 - b. 1500, 1800, 12
 - c. 1400, 1750, 12

10. To extend the flaps beyond 10 degrees you should slow the aircraft to ___ MPH or less
 - a. 130
 - b. 110
 - c. 100

11. When the gear is up or not down and locked (Master Switch on) which of the following is true.
 - a. An intermittent horn sounds below 14 inches manifold pressure
 - b. A steady warning horn sounds below 14 inches manifold pressure
 - c. An intermittent warning horn sounds below 12 inches manifold pressure

12. The auxiliary fuel pump may be used for vapor suppression in hot weather, however, caution should be used because turning on the auxiliary fuel pump with a normally operating engine pump will result in a major enrichment of the mixture.
 - a. True
 - b. False

13. The auxiliary fuel pump is normally off during takeoff, however, it may be used on takeoff if there is evidence of fuel vapor as indicated by
 - a. fluctuating fuel flow indicator needle
 - b. rough engine operation
 - c. both A and B

14. If forced to use the alternate static source valve, the following should be accomplished.

- a. Cabin heat should be turned off
- b. Cabin ventilators should be opened
- c. Cabin vent windows should be closed

15. For flights of more than 3 hours and for normal/local flights of less than 3 hours the oil dipstick readings should be a minimum of _____ and _____ quarts respectively.

- a. 8, 6
- b. 7, 7
- c. 7, 8

16. Performance Problem - Takeoff Distance Calculation

Given: Field Elevation - 2500'

Temperature - 21 degrees C

Gross Weight - 2800 lbs

Headwind - 10 knots

Runway - Dry Grass

Find: Ground roll and Total distance to clear 50' obstacle

- a. 775/1460
- b. 837/1577
- c. 981/1735

17. Weight and Balance Problem

	<u>Weight</u>	<u>Moment</u>
Given: Empty Weight -	1765.2	183.1
Full Oil -	17.0	.8
Full Fuel(60 gals) -	360.0	40.5
Pilot/Front Passenger -	340.0	32.0
Rear Passenger -	200.0	27.0
Baggage Area A -	47.8	7.2
Baggage Area B -	70.0	12.5
	2800.0	303.1

Find: Weight, Total Moment, is Aircraft within Center of Gravity Limits

- a. 2800 lbs / 294 / No
- b. 2800 lbs / 303.1 / Yes
- c. 2800 lbs / 305.5 / Yes

18. Best economy leaning is peak EGT minus 25 degrees F (enriched).

- a. True
- b. False

19. When checking magnetos, a smooth drop off past normal (150 RPM) usually means which of the following
 - a. too lean a mixture
 - b. too rich a mixture
 - c. either A or B

20. If manual lowering of the gear is required and the gear down green light illuminates, which of the following should *not* be done.
 - a. Make a normal full flap approach to landing
 - b. Stow manual gear down pump handle
 - c. Push the landing gear circuit breaker in

21. After takeoff and 30 minutes of flight, the ammeter should be indicating less than _____ needle width(s) of charging current.
 - a. 2
 - b. 1
 - c. 1/2

22. Low oil pressure accompanied by normal oil temperature could mean which of the following
 - a. Oil pressure relief valve is malfunctioning
 - b. Low electrical system voltage
 - c. Both A & B

23. If you had to perform an emergency gear extension, but you did not get a *positive* gear locked indication you maintain landing gear down pressure with the _____.
 - a. Circuit breaker
 - b. Manual hand pump
 - c. Landing gear lever in the down position

24. The first step in the emergency Manual Gear Extension sequence is to
 - a. Slow the airspeed below Va
 - b. Lower the flaps
 - c. Pull the landing gear circuit breaker

25. A HIGH VOLTAGE warning light is an indication that the _____ has shut down.
 - a. Battery
 - b. Master Switch
 - c. Alternator

PROCEED TO CLOSED BOOK EXAM