

**EGLIN AERO CLUB BEEHCRAFT SIERRA
OPEN BOOK EXAM**

1. The Sierra engine is a fuel injected_____.
 - a. Continental IO-360
 - b. Continental IO-470-A1B6
 - c. Lycoming IO-360-A1B6
 - d. Lycoming IO-200-A1B6

2. The engine's rated horsepower is____HP at _____RPM.
 - a. 200/2600
 - b. 230/2700
 - c. 200/2700
 - d. 180/2600

3. The minimum fuel grade required is_____octane.
 - a. 80/87
 - b. 91/96
 - c. 100/100LL
 - d. 115/145

4. Total usable fuel is_____gallons.
 - a. 52
 - b. 57.2
 - c. 58
 - d. 37.4

5. The maximum operating speed for gear retraction is_____KIAS.
 - a. 113
 - b. 155
 - c. 165
 - d. 125

6. The maximum "Full Flap Operating Speed" is____KIAS and is indicated by the high end of the white Arc on the airspeed indicator.
 - a. 83
 - b. 87
 - c. 96
 - d. 100

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7. The maximum gear lowering speed is _____ KIAS.
 - a. 113
 - b. 135
 - c. 125
 - d. 117

8. The normal operating tachometer range (green arc) is _____ RPM.
 - a. 1000-1200
 - b. 1000-2700
 - c. 2350-2700
 - d. 2100-2350

9. The maximum takeoff weight is _____ pounds.
 - a. 2300
 - b. 2750
 - c. 2800
 - d. 2850

10. The maximum baggage compartment load is _____ pounds.
 - a. 150
 - b. 270
 - c. 120
 - d. 300

11. Emergency landing approach speed is _____ KIAS.
 - a. 69
 - b. 85
 - c. 74
 - d. 135

12. The Best Rate of Climb speed is _____ KIAS at sea level and decreases with altitude and lighter gross weights.
 - a. 85
 - b. 72
 - c. 74
 - d. 65

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13. The Best Angle of Climb speed is _____ KIAS at maximum gross weight.
- a. 85
 - b. 71
 - c. 74
 - d. 65
14. The recommended airspeed for cruise climb is _____ KIAS.
- a. 85
 - b. 76
 - c. 96
 - d. 91
15. The difference between starting a hot engine and a cold engine is:
- a. Throttle is in full open position for hot start.
 - b. Throttle is in full open position for cold start.
 - c. Mixture is in full rich for hot start.
 - d. Mixture is in idle cut-off for hot start.
16. Magneto checks are conducted at 2000 RPM; the maximum drop for each magneto is ___RPM and the maximum differential between each magneto is ___RPM.
- a. 100/50
 - b. 125/75
 - c. 100/25
 - d. 100/75
17. The stall speed at 2500 pounds, gear and flaps full down, power idle, and 30° of bank is _____ KIAS.
- a. 55
 - b. 57
 - c. 72
 - d. 62
18. The maximum demonstrated crosswind component is _____ knots.
- a. 15
 - b. 20
 - c. 17
 - d. 12

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19. For takeoff and landing; the fuel selector valve should be set to the_____.
- a. left tank only
 - b. right tank only
 - c. both position
 - d. fuller tank
20. On a cross country flight climbing to 7000 feet, standard day, takeoff weight 2750. What is the time, fuel and distance to level off?
- a. 8/12/14
 - b. 11/15/18
 - c. 9/13/16
 - d. 15/24/35
21. Fuel consumption at 2500RPM and 23.1 inches Hg, 7° Celsius, and 5000 feet pressure altitude is_____GPH.
- a. 10.0
 - b. 13.4
 - c. 10.2
 - d. 11.0
22. Determine the total landing distance to clear a 50 foot obstacle:
- | | |
|-------------------|------------------|
| Weight | 2750 lbs. |
| Temp | 90° Fahrenheit |
| Pressure Altitude | Sea Level |
| Runway | 19, Hard Surface |
| Wind | 230/15 knots |
- a. 750
 - b. 1400
 - c. 1300
 - d. 2000

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23. Determine if the following Sierra is within CG and Gross Weight limits:

	Weight (lbs)	Moment(in-lbs/100)
Basic Empty Weight	1796.9	1998.4
Pilot and Pax (Fwd Pos)	440.0	_____
Rear Seat Pax	0	_____
Fuel (57.2 Gals)	_____	_____
Baggage Area	100.0	_____
Start/Taxi/Takeoff (1 gallon)	_____	_____
Takeoff Total	_____	_____

Takeoff weight is _____ pounds and the moment is _____ (in-lbs/100)

- a. 2331, 2616
 - b. 2674, 2953
 - c. 2674, 3016
 - d. 2686, 3030
24. With the landing gear retracted, if the throttle is retarded below approximately _____, a warning horn will sound continuously.
- a. 1500 RPM
 - b. 12" Manifold Pressure
 - c. 1000 RPM
 - d. 15" Manifold Pressure
25. The Sierra fuel system has _____.
- a. One engine driven fuel pump, one electric boost pump for each tank.
 - b. Two electric boost pumps.
 - c. No means of visually measuring fuel to permit partial filling.
 - d. One engine driven fuel pump and one electric boost pump.