GRAY AEROS
AVIATION SERVICES

Checkride Preparation Study Guide
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Date of Exam: _____
STUDENT INFORMATION
Student Name _____
Pilot Certificate Number _____
FLIGHT INSTRUCTOR INFORMATION
Instructor _____
Instructor Certificate Number _____

INTRODUCTION

Student Actions: (If used as Pre Solo Written)
As specified in CFR 14 Part 61.87, you (the student pilot) must demonstrate satisfactory aeronautical knowledge on a knowledge test that meets the requirements of this paragraph: Applicable sections of parts 61 and 91 of this chapter Airspace rules / procedures for the airport where the solo is performed Flight characteristics and operational limitations for the make and model of aircraft to be flown.

Instructor Actions: (If used as Pre Solo Written)
As specified in CFR 14 Part 61.87, you (the authorized instructor) must:
Administer the test At the conclusion of the test, review all incorrect answers with the student before authorizing that student to conduct a solo flight. Perform the proper Logbook and Student Pilot Certificate endorsements Keep exam for three (3) years and make copy for school records The Flight Instructor and Student Pilot upon comprehensive review will decide the best date, time, and weather condition to allow the Student to perform safe solo flight.
Advisory Circular 61-101, Pre Solo Written Test, indicates that student pilots should have adequate knowledge to operate safely during solo flight in your local training environment.
If the surrounding area includes controlled airspace, such as Class B, C, D, or E airspace, you will be asked to answer appropriate questions on operations in these areas. There are supply-type (fill in the blank) and selection-type (multiple choice) questions to allow the instructor a way to evaluate the student's knowledge and application of Aeronautical Knowledge.

Checkride Preparation Study Guide
This exam contains general questions, aircraft questions, and airport and airspace questions. Normally, the general and aircraft questions apply to all students; however, some of the airport and airspace questions may not be applicable. T**his test is meant to be a comprehensive review of Private and Light Sport Pilot level knowledge, however, not all scenarios or areas of knowledge are covered.**

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GENERAL QUESTIONS

PLEASE MAKE SURE TO REFERENCE THE FAR NUMBER OR BOOK & PAGE NUMBER

1. What **airman** documents and endorsements are student pilots required to have for solo Flights?

2. Which Class Medical Certificate is a Student Pilot required to have? Private Pilot? How long is the Medical Certificate valid for?

3. List the privileges and limitations placed on Student Pilots and Private Pilots as per FAR part 61:

4. What makes you eligible for a Student or Private Pilot License?

5. What are your limitations as a Student Pilot regarding carrying of passengers or cargo and flying for compensation or hire? How about for a Private Pilot?

6. Who has the final authority and responsibility for the operation of the aircraft when You are flying solo?

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7. What **aircraft** certificates and documents must be on board for any flight?

8. Discuss what preflight action concerning the airport and aircraft performance is specified in the regulations for a local flight.

9. Who is responsible for determining the airworthiness condition of the aircraft?

10. What airspeed restrictions are in effect below 10,000ft MSL? What other airspeed limitations exist while operating in the National Airspace System (NAS)?

11. When taxiing with a quartering tailwind, what is the appropriate aileron position?
    a. Ailerons neutral
    b. Aileron down on the side from which the wind is blowing
    c. Aileron up on the side from which the wind is blowing

    How does this action assist with directional control?

12. When practicing stalls, you should:
    a. perform clearing turns.
    b. start at an altitude that will allow for completion no lower than 1500' AGL.
    c. recover immediately.
    d. all of the above

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13. Are Student Pilots permitted to use LAHSO?

14. What are the visibility and cloud clearance requirements for VFR flight in:
    a. Class E airspace below 10,000ft MSL?
    b. Class E airspace above 10,000ft MSL?
    c. Class G airspace Day?
    d. Class G airspace Night?
    e. Class B airspace?
    f. Class C airspace?
    g. Class D airspace?

15. If an altimeter setting is not available before flight, the altimeter should be set to:

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16. What do each of the following light signals mean On the Ground and In Flight:
    i. Steady Green
    ii. Flashing Green
    iii. Steady Red
    iv. Flashing Red
    v. Alternating Red and Green
    vi. Flashing White

17. No person may operate an aircraft so close to another aircraft as to create a(n):

18. What is STANDARD Atmospheric Pressure? Standard Temperature?

19. You may not fly as pilot of a civil aircraft within____ hours after consumption of any alcoholic beverage, or while you have_____ % by weight or more alcohol in your blood.

20. What are the general requirements pertaining to the use of safety belts and shoulder Harnesses?

21. When is a go-around appropriate?

22. What is the minimum fuel reserve for day VFR flight?

23. Who has the right-of-way when two aircraft are on final approach to land at the same time?

24. Discuss the right-of-way rules regarding overtaking another aircraft, approaching head-on and another aircraft converging from the side.

25. What should you do if you are flying a head-on collision course with another aircraft?

26. If another single-engine aircraft is converging from the right, who has the right-of-way?

27. Except when necessary for takeoffs and landings, what are the minimum safe altitudes when flying over CONGESTED and OTHER THAN CONGESTED areas?

28. When operating in controlled airspace, who is responsible for collision avoidance?
    a. In uncontrolled airspace?

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29. VFR Day required instruments and equipment? VFR Night required instruments and equipment?

30. What is a Temporary Flight Restriction (TFR)?

31. What is a Notice to Airmen (NOTAM)?

32. What is the designated Emergency Radio frequency?

33. Define these various Squawk Codes:
    a. 7700:
    b. 7600:
    c. 7500:

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AERODYNAMICS

34. What is the definition of Angle of Attack (AoA)?

35. Describe the various types of drag:

36. What are the THREE axis of rotation of a fixed-wing aircraft?

37. Describe the control surface used and the axis of which each motion revolves around;
    a. Pitch
    b. Roll
    c. Yaw

38. Define Maneuvering Speed (Va):

39. Describe how Angle of Bank affects Loading on an aircraft:

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40. Describe the FAA definition of Icing Conditions. Is your aircraft approved for flight into known icing? How does icing affect the aerodynamics of flight?

41. Define and describe, using aerodynamic terms, what a Stall is:

42. What is the proper Stall Recovery procedure?

43. What is a Spin, and aerodynamically, what causes an aircraft to enter a Spin?

44. Define and describe, using aerodynamic terms, Ground Effect:

45. Describe this Lift Formula and how we, as operators, have control over the variables:

$$L = C_L \times \tfrac{1}{2}\rho v^2 s$$

46. Describe how the Ailerons cause an aircraft to Roll:

47. How is Lift being manipulated on the Elevator during a climb?

48. What are Wingtip Vortices?

49. Define Wake Turbulence.

    a. When is Wake Turbulence greatest?

    b. What are the proper techniques for avoiding Wake Turbulence on Takeoff and Landing?

50. Define:
    a. Static Stability:

    b. Dynamic Stability:

    c. Longitudinal Stability:

    d. Lateral Stability:

    e. Directional Stability:

51. Describe the Left Turning Tendencies of Single Engine Fixed Wing Aircraft:

52. Describe the relationship between Ground Speed and Rate and Radius of Turns:

53. What is meant by the term Boundary Layer?

54. Describe these terms:
    a. Laminar Boundary Flow:

    b. Turbulent Boundary Flow:

    c. Boundary Layer Separation:

AIRCRAFT QUESTIONS

PLEASE MAKE SURE TO REFERENCE THE FAR NUMBER OR BOOK & PAGE NUMBER

55. What are the dimensions of your aircraft?

56. What category is your aircraft certified under? Normal, Utility, Both?

57. Describe the engine type:

58. How is the engine cooled?

59. What is the Normal Operating engine RPM range?

60. What are the maximum and minimum limitations for:
    a. Oil Pressure:
    b. Oil Temperature:

61. The maximum oil capacity of your aircraft in quarts, and the minimum oil capacity to begin a flight in quarts?

62. What grade or grades of fuel can be safely used in your aircraft?
    a. What are the colors of the recommended fuels?
    b. What happens to the color of the fuel if two grades are mixed?

63. The maximum crosswind component specified by your POH for takeoffs and landings in the training aircraft is____knots.
    a. What is your personal maximum crosswind limit?

64. What is the maximum weight for:
    a. Ramp
    b. Takeoff
    c. Landing
    d. PIlot/Co-PIlot Seat
    e. Passengers
    f. Baggage Compartment

65. Fill in the V-speed **definitions and the speeds** for your training airplane.
    a. DEFINITION SPEED
        i. VSO
        ii. VS1
        iii. VX
        iv. Vy
        v. VFE
        vi. VA
        vii. VNO
        viii. VNE

66. On the Airspeed Indicator, there are ***White***, ***Green***, ***Yellow*** arcs and a ***Red*** Line. What do these represent?

67. What is the best glide speed for your training airplane?

68. What flap settings should be used in your airplane for the following operations?
    a. Normal Takeoff:
    b. Normal Landing:
    c. Short Field Takeoff:
    d. Short Field Landing:
    e. Soft Field Takeoff:
    f. Soft Field Landing:

69. What procedure do you follow if on start-up the engine catches fire?

70. What is the EMERGENCY procedure for Engine Failure Before Takeoff?

71. What is the EMERGENCY procedure for Engine Failure Immediately After Takeoff?

72. What is the EMERGENCY procedure for Engine Failure During Flight?

73. What is the EMERGENCY procedure for Electrical Fire In Flight?

74. Describe the Fuel system of your aircraft:

75. What is the purpose of the Magneto Check during the Run-Up Checklist?

76. In your aircraft, what annunciator is present to show an Alternator failure?

77. What is the EMERGENCY procedure for Loss of Electrical Power in Flight?

78. What type of wing flaps does your aircraft have?

79. What is the takeoff and landing distance over a 50-foot obstacle for your aircraft; assume maximum certificated takeoff weight, 80°F, winds calm, and an altimeter setting of 29.52.

80. What is your Time, Fuel, and Distance to Climb, assuming Maximum T/O weight, T/O Pressure Altitude (PA) 1000 ft, climbing to Pressure Altitude (PA) of 5000 ft, Outside Air Temperature (OAT) 15C, normal climb speed.

AIRPORT AND LOCAL AIRSPACE QUESTIONS

Instructions: The following questions pertain to Tampa Bay and surrounding local areas.

81. What is the traffic pattern altitude (MSL) at: (Or your local airport)
    a. KSPG
    b. KCLW
    c. KTPF
    d. FD77

82. How do you enter and exit the traffic pattern at your airport?
    a. What radio communications are required?

83. What radio calls are required in the traffic pattern at an uncontrolled airport?

84. What is the standard direction of turns in the traffic pattern?
    a. Give an example of a visual display indicating a nonstandard traffic pattern.

85. What is CTAF?
    a. Explain CTAF procedures at your training airport(s) (if applicable).

86. When do you begin listening to uncontrolled airport CTAF?

87. Identify the following frequencies:
    a. KSPG Tower
    b. KPIE Ground
    c. KSRQ ATIS
    d. KCHN AWOS

88. What is the frequency for the PIE VORTAC?

89. What does the 122.2 on top of the PIE VORTAC chart symbol indicate?

90. You're practicing landings and takeoffs at KZPH using runway 19. When on downwind, where are you in relation to the airport? Downwind runway 05?

91. How can you determine if a runway is closed?

92. If you receive ATC instructions that you feel may compromise safety or will cause you to violate a FAR, what should you do?

93. In addition to equipment requirements and a student pilot certificate, what other requirement(s), if any, must be met before a student pilot is authorized to fly solo within Class B airspace?

94. Explain the general transponder equipment and use requirement(s) when operating within or near Class B airspace.

95. You have called ATC prior to entering Class C airspace, and the controller responds with your call sign and tells you to,"Standby." Are you now allowed to enter this airspace without any further instructions? Explain:

96. What if the controller responds with “aircraft calling from the east, standby”, can you enter class C airspace?

97. What are the typical dimensions of Class C airspace and what requirement(s) must be met prior to entry?

a. Explain the minimum visibility and ceiling requirements for VFR flight in Class C Airspace:

98. What is the Ceiling of MacDill AFB (KMCF) Class D airspace?

99. If you're on the ground at KTPF (Peter O'Knight), what class and altitude are the overlying airspace layers?

100. Define the Maximum Elevation Figure (MEF) on a VFR Sectional Chart:

101. What is the MEF in the quadrangle with the KLAL (Lakeland Linder Rgnl) airport?

102. What is Special VFR? Can a student pilot request SVFR?

103. If you are flying solo to the practice area, to another airport, or on a cross country and you return to find the airport is closed, what should you do?

104. How is a VFR Checkpoint depicted on the VFR Sectional?

105. Concerning Obstruction symbology on the VFR Sectional; What is the difference between altitudes in Parentheses and altitudes not in Parentheses?

106. What are the various Special Use Airspace (SUA) depicted on the VFR Sectional?

WEIGHT AND BALANCE

107. What is the datum point definition and actual location for your training aircraft?

108. What are the definitions of:
   a. Moment
   b. Arm
   c. CG

109. What is the Empty Weight, CG, and Moment of your aircraft? And, what is the date of the most recent Weight and Balance Data Sheet?

110. What are the Station Arms for your aircraft:
   a. Pilot/Co-Pilot
   b. Passengers
   c. Baggage/Cargo
   d. Fuel

111. What is the useful load of your aircraft?

112. What flight and Stall recovery characteristics could you expect with a more ***Aft*** CG?

113. What flight and Stall recovery characteristics could you expect with a more ***Forward*** CG?

114. What makes up the empty weight of the airplane?

115. What could cause the CG to shift during flight?

116. How does a heavier aircraft affect takeoff and landing distance?