Exam simulation

ATPL - Airline Transport Pilot license - Principles of Flight

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STUDENT NAME:	DATE AND TIME:

01. What is the correct way of transmitting 1001 as a QNH?

a) QNH one double 'O' one
b) QNH one zero zero one
c) QNH one double zero one
d) QNH one thousand and one

02. What does the abbreviation 'HX' mean?

a) Sunrise to sunset.
b) No specific working hours.
c) Continuous day and night service.
d) Sunset to sunrise.

03. Given: Waypoint 1. 60°S 030°W Waypoint 2. 60°S 020°W. What will be the approximate latitude shown on the display unit of an inertial navigation system at longitude 025°W?

a) 060°11'S
b) 060°06'S
c) 060°00'S
d) 059°49'S

04. What does the abbreviation 'RVR' mean?

a) Runway visibility report
b) Radar vectors requested
c) Recleared via route...
d) Runway visual range

05. The fan in a high by-pass ratio turbo-jet engine produces:

a) Half the thrust.
b) The lesser part of the thrust.
c) The greater part of the thrust.
d) None of the thrust.

06. Under current commercial air transport operating rules, the lowest minima to be used by an operator for circling with a category A aeroplane is a meteorological visibility of:

a) 2400 m
b) 1500 m
c) 3600 m
d) 1600 m

07. A radio communications, 'Distress' differs from 'Urgency' because in the first case:

a) The aeroplane has suffered damages which impair its fitness to fly.
b) The aeroplane will not be able to reach a suitable aerodrome.
c) There is a serious and imminent danger requiring immediate assistance.
d) The aeroplane or a passenger's safety require the flight immediately interrupted.

08. Refer to Performance Manual MEP1 Figure 3.1 Normal Procedure Given: OAT 24 °C; Pressure Altitude: 3000'; RWY 12L; Wind 080/12 KT; Take-off Mass: 3800 lbs. Other conditions as associated in the header of the graph. What is the take-off distance over a 50 ft obstacle?

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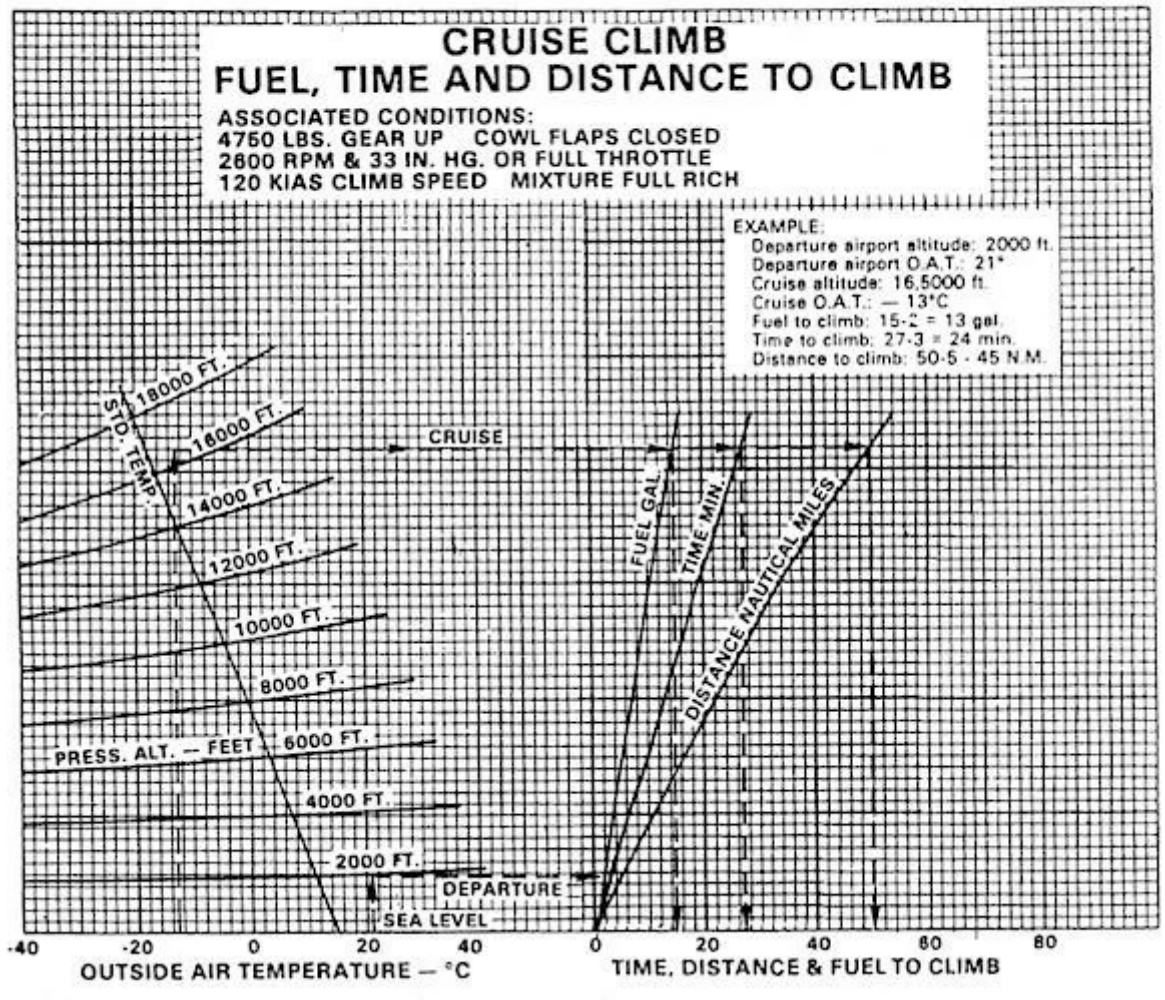
DATA SHEET
MEP1

Figure 3. 1 CLIMB



a) 1950 ft
b) 1420 ft
c) 1600 ft
d) 1700 ft

09. Which of the following actions shall be taken in case of a controlled flight deviates from the track?

a) Inform the ATC unit immediately

b) If VMC, maintain this condition, waiting for the ATC instructions

c) Adjust the heading of aircraft to regain track as soon as practicable

d) Notify ATC of the new track immediately and comply with instructions

10. Which of the following frequencies is an international emergency frequency:

a) 6500 kHz

b) 122.500 MHz

c) 121.050 MHz

d) 121.500 MHz

11. The purpose of a battery control unit is generally to isolate the battery 1 - from the bus when the battery charge has been completed 2 - when there is a battery overheat condition 3 - in case of an internal short circuit 4 - in case of a fault on the ground power unit. The combination which regroups all of the correct statements is:

a) 1 - 2 - 3

b) 1

c) 1 - 2 - 3 - 4

d) 1 - 2

12. The sleep pattern is closely associated with:

a) Body temperature

b) Heart rate

c) Blood pressure

d) Adrenal gland output

13. What does the abbreviation 'SAR' mean?

a) Surveillance airport radar.

b) Standard arrival route.

c) Search and rescue.

d) Secondary altimeter responder.

14. The conditions which can cause knocking are:

a) High manifold pressure and high revolutions per minute.
b) High manifold pressure and low revolutions per minute.
c) Low manifold pressure and high fuel flow.
d) Low manifold pressure and high revolutions per minute.

15. A ground feature was observed on a relative bearing of 325° and five minutes later on a relative bearing of 280°. The aircraft heading was 165°(M), variation 25°W, drift 10° Right and GS 360 kt. When the relative bearing was 280°, the distance and true bearing of the aircraft from the feature was:

a) 40 NM and 060°
b) 30 NM and 240°
c) 30 NM and 060°
d) 40 NM and 240°

16. A public transport passengers aeroplane, with a seating configuration of more than 61 seats, must have in its passenger compartment(s), at least 3 hand fire-extinguishers including:

a) 1 halon fire-extinguisher or equivalent.
b) 3 halon fire-extinguishers or equivalent.
c) 2 halon fire-extinguishers or equivalent.
d) No halon fire-extinguisher.

17. When a course is plotted at minimum time track, one passes from the air isochrone to the corresponding ground isochrone by applying to the air isochrone a vector which is equal to:

a) Wind at K.
b) Wind at K'.
c) Mean wind up to the next ground isochrone.
d) Mean wind from the preceding ground isochrone.

18. Following an act of unlawful interference on board an aircraft, the commander should submit a report to:

a) Both the local authority and the Authority of the State of the operator
b) The Authority of the State within which the aircraft is operating at the time of the unlawful interference
c) The Authority of the State of the operator only
d) The local authority only

19. The radar controller is transmitting: 'Confirm squawk'. What does he mean?

a) The controller wants to know which code is set on the transponder.
b) The controller requests the registration of the aircraft.
c) The controller wants you to transmit your bearing.
d) The controller wants you to repeat your last transmission once again.

20. What does the word 'wilco' mean?

a) I read you five
b) I have received all of your last transmission
c) As communication is difficult, I will call you later
d) I understand your message and will comply with it

21. A load placed forward of the datum

a) Has a negative arm and therefore generates a negative mass and moment
b) Has a positive arm and therefore generates a positive mass and moment
c) Has a negative arm and therefore generates a negative moment
d) Has a positive arm and therefore generates a positive moment

22. Modern low altitude radio altimeters emit waves in the following frequency band:

a) VLF (Very Low Frequency).
b) HF (High Frequency).
c) UHF (Ultra High Frequency).
d) SHF (Super High Frequency).

23. When transmitting runway visual range (RVR) for runway 16 ATC should use the following phrase:

a) RVR runway 16 touchdown... metres, mid-point... metres, stop end... metres
b) RVR runway 16... metres diagonal... metres diagonal... metres
c) RVR at the beginning of runway 16 is... metres
d) The values of the transmissometer are:... metres and... metres

24. What is the effect of a headwind component, compared to still air, on the maximum range speed (IAS) and the speed for maximum climb angle respectively?

a) Maximum range speed decreases and maximum climb angle speed increases

b) Maximum range speed decreases and maximum climb angle speed decreases

c) Maximum range speed increases and maximum climb angle speed stays constant

d) Maximum range speed increases and maximum climb angle speed increases

25. How does a receiver of the NAVSTAR/GPS satellite navigation system determine the elevation and azimuth data of a satellite relative to the location of the antenna?

a) The data is stored in the receiver together with the Pseudo Random Noise (PRN) code

b) It calculates it by using Almanac data transmitted by the satellites

c) The data is determined by the satellite and transmitted together with the navigation message

d) The data is based on the direction to the satellite determined at the location of the antenna

26. The resultant of the first integration from the north/south accelerometer of an inertial navigation system (INS) in the NAV MODE is:

a) groundspeed

b) velocity along the local meridian

c) latitude

d) change latitude

27. The approach climb requirement has been established so that the aeroplane will achieve:

a) Manoeuvrability in the event of landing with one engine inoperative.

b) Minimum climb gradient in the event of a go-around with one engine inoperative.

c) Obstacle clearance in the approach area.

d) Manoeuvrability during approach with full flaps and gear down, all engines operating.

28. The time is now 1123. Radar Control requests your estimate for next reporting point, which is AAL VOR/DME. You look at your operational flight plan and estimate 12 minutes (36 NM) to go to the reporting point. Your transmission is:

a) Estimate AAL at three-five

b) Estimate AAL VOR/DME in one-two minutes

c) Have one-two minutes to go to AAL

d) Estimate AAL at eleven-thirty-five

29. What does the word 'disregard' mean?

a) Consider that transmission as not sent

b) Wait and I will call you

c) Annul the previously transmitted clearance

d) An error has been made in this transmission

30. An aircraft is flying on a heading of 270°(M). The VOR OBS is also set to 270° with the full left deflection and FROM flag displayed. In which sector is the aircraft from the VOR ground station?

a) NW

b) NE

c) SE

d) SW

31. Given: Magnetic heading 311° Drift angle 10° left, Relative bearing of NDB 270°. What is the magnetic bearing of the NDB measured from the aircraft?

a) 211°

b) 208°

c) 180°

d) 221°

32. What is the approximate speed of a 90 km/h wind, expressed in knots?

a) 50 kt

b) 70 kt

c) 60 kt

d) 55 kt

33. Engine bleed air used for air conditioning and pressurization in turbo-jet aeroplanes is usually taken from the:

a) Turbine section.

b) Fan section.

c) By-pass ducting.

d) Compressor section.

34. A stage in an axial compressor:

a) Has a compression ratio in the order of 2.1
b) Is made of row of stator blades followed by a rotor disc
c) Is made of a rotor disc followed by a row of stator blades
d) Has a compression ratio in the order of 0.8

35. In case of a SSR transponder failure occurring after departure of an IFR flight, the pilot shall:

a) Inform the current ATC unit immediately
b) Continue the flight in VMC
c) Squawk 7600
d) Land at the nearest suitable aerodrome for repair

36. A radio altimeter employing a continuous wave signal would have:

a) A directional aerial for transmission and an omni-directional aerial for reception
b) An omni-directional aerial for transmission and directional aerial for reception
c) A directional aerial for both transmission and reception
d) A directional aerial for transmission and another one for reception

37. Spoiler deflection causes:

a) An increase in drag and decrease in lift
b) Decrease in lift and drag
c) An increase in lift only
d) An increase in lift and drag

38. The poles on the surface of The Earth may be defined as:

a) The points on the surface of The Earth where all meridians intersects at right angles.
b) The points from where the distance to the equator is equal.
c) The position where The Earth's axis of rotation cuts the surface of the Earth.
d) The point at which the vertical lines runs through the centre of The Earth.

39. The term 'Maximum Zero Fuel Mass' consist of:

a) The maximum permissible mass of an aeroplane with no usable fuel.

b) The maximum mass for some aeroplanes including the fuel load and the traffic load

c) The maximum mass authorized for a certain aeroplane not including the fuel load and operational items

d) The maximum mass authorized for a certain aeroplane not including traffic load and fuel load.

40. Given: Distance from departure to destination: 180 NM Endurance: 2 h TAS: 120 kt Ground Speed Out: 135 kt Ground Speed Home: 105 kt. What is the distance and time of the PSR from the departure point?

a) Distance: 79 NM Time: 45 min

b) Distance: 118 NM Time: 53 min

c) Distance: 62 NM Time: 28 min

d) Distance: 59 NM Time: 30 min

41. Given: Zp = pressure altitude Zd = density altitudeTAS can be obtained from the following data:

a) EAS and Zp.

b) EAS and Zd.

c) CAS and Zp.

d) CAS and Zd.

42. A MLS without DME-P provides:

a) An ILS-like approach

b) A staged approach but not with a curved path

c) A category 3 approach

d) An approach with a curved path but not staged

43. In producing chart projections, the following projection surfaces may be used:

a) Plane, sphere, cone.

b) Plane, cylinder, cone.

c) Parabola, cone, plane, cylinder.

d) Cylinder, sphere, plane.

44. If, in the event of a failure, there is no significant out-of-trim condition or deviation of flight path or attitude but the landing is not completed automatically, such an automatic landing system is considered as:

a) Fail-operational.
b) Fail-safe.
c) Fail-passive.
d) Fail-redundant.

45. When air has passed through a shock wave the local speed of sound is:

a) Not affected
b) Decreased
c) Increased
d) Decreased and beyond a certain Mach number start increasing again

46. An aeroplane has a stall speed of 78 KCAS at its gross weight of 6850 lbs. What is the stall speed when the weight is 5000 lbs?

a) 78 KCAS
b) 91 KCAS
c) 57 KCAS
d) 67 KCAS

47. The pitch up effect of an aeroplane with swept wing in a stall is due to the

a) Wing tip stalling first
b) Wing root stalling first
c) Forward movement of the centre of gravity
d) Aft movement of the centre of gravity

48. What is the likely track for a hurricane in the Caribbean area?

a) West in the earlier stages and later turning north east.
b) West in the earlier stages and later turning south east.
c) West deep into the US
d) East then south.

49. Minimum time route is a route calculated for:

a) A given flight from departure to destination

b) Aircraft flying in NAT HLA (North Atlantic High Level Airspace)

c) A period of 24 hours

d) A period of 12 hours

50. The distress communication and silence conditions shall be terminated by transmitting a message. Which words shall this message include?

a) Distress traffic ended

b) Disregard distress communication, OUT

c) MAYDAY traffic ended

d) Emergency communication finished

51. Which of these statements regarding most gust lock systems is correct?

a) When the gust lock is on there is protection to prevent take-off.

b) A gust lock is only fitted on the elevator and the rudder.

c) On reversible flight controls, there is no need for a gust lock.

d) A gust lock can be used in flight to reduce the effect of turbulence.

52. Altimeter setting procedures - Transition Level. The vertical position of an aircraft at or above the transition level with altimeter setting 1013.2 hPa has to be reported:

a) As Height.

b) As Flight Level.

c) According to pilot's choice.

d) As Altitude.

53. The safety precautions to be taken whenever using oxygen are 1. refrain from smoking, avoid sparks. 2. Avoid operation of radio communication equipment. 3. Operate oxygen system valves slowly. 4. Avoid greasy matter. The combination regrouping all the correct statements is:

a) 1, 3, 4.

b) 1, 2, 4.

c) 2, 3, 4.

d) 1, 2, 3.

54. The planned flight is over a distance of 440 NM. Based on the wind charts at altitude the following components are found: FL50: -30kt, FL100: -50kt, FL180: -70kt. The Operations Manual in appendix details the aircraft's performances. Which of the following flight levels (FL) gives the best range performance:

Flight Level	40	80	120	160	200
TAS (knots)	190	198	204	212	220
Hourly fuel flow (l/hr)	210	202	182	170	156

a) FL 100
b) FL 180
c) Either FL 050 or FL 100
d) FL 050

55. An increase in atmospheric pressure has, among other things, the following consequences on take-off performance:

a) An increases take-off distance and degraded initial climb performance
b) An increased take-off distance and improved initial climb performance
c) A reduced take-off distance and improved initial climb performance
d) A reduced take-off distance and degraded initial climb performance

56. The rate and depth of breathing is primarily controlled by:

a) The amount of carbon dioxide in the blood
b) The total atmospheric pressure
c) The amount of nitrogen in the blood
d) The amount of carbon monoxide in the blood

57. The two types of fatigue are:

a) Chronic short-term and acute
b) Heavy and light
c) Oppressive and negative
d) Short-term and oppressive

58. The lift coefficient (CL) of an aeroplane in steady horizontal flight is 0.4. An increase in angle of attack of 1 degree will increase CL by 0.09. A vertical up gust instantly changes the angle of attack by 5 degrees. The load factor will be:

a) 1.09

b) 2.0

c) 2.13

d) 3.18

59. What is the name of the northerly, cold and strong wind, that sometimes blows over a certain part of Europe (France)?

a) Foehn.

b) Bora.

c) Mistral.

d) Typhoon.

60. On a symmetrical aerofoil, the pitching moment for which CL = 0 is:

a) Equal to the moment coefficient for stabilized angle of attack

b) Zero

c) Negative (pitch-down)

d) Positive (pitch-up)

61. An airway 10 NM wide is to be defined by two VORs each having a resultant bearing accuracy of plus or minus 5.5°. In order to ensure accurate track guidance within the airway limits the maximum distance apart for the transmitter is approximately:

a) 50 NM

b) 105 NM

c) 210 NM

d) 165 NM

62. The direction of the Earth's rotation on its axis is such that:

a) An observer on the surface of the Earth always will face West when observing sunrise.

b) Any point on the surface of the Earth will move eastward.

c) Observe from the point above the North pole, the rotation is counterclockwise.

d) Any point on the surface of the Earth will move westward.

63. An observer is situated on the parallel of 23.5°S. Which statement about the passage of the apparent Sun in relation to this position is correct?

a) It passes through zenith once a year around December 22nd.

b) It passes through zenith twice a year around June 21st and December 22nd.

c) It passes through zenith twice a year around March 21st and September 23rd.

d) It passes through the zenith once a year around March 21st.

64. You are flying from A (30°S 20°E) to B (30°S 30°W). What is the approximate final GC track?

a) 280° (T)

b) 270° (T)

c) 300° (T)

d) 250° (T)

65. Which of the following statements is correct? The blood-pressure which is measured during flight medical checks is the pressure

a) In the artery of the upper arm (representing the pressure at heart level)

b) In the veins of the upper arm

c) In the muscles of the upper arm

d) In all the blood-vessels of the body (representing the pressure in the whole body)

66. The upper antenna of the TCAS II is:

a) Omni-directional because it is merged with the transponder antenna.

b) Directional because it is merged with the transponder antenna.

c) Directional to improve the surveillance of intruders.

d) Omni-directional to improve the surveillance of intruders.

67. What does the phrase 'Read back' mean:

a) Repeat all, or the specified part, of this message back to me exactly as received

b) Check and confirm with originator

c) Did you correctly receive this message?

d) Let me know that you have received and understood this message

68. Arrival and Approach segments, General. What are the names of all separate segments that can be part of an instrument approach procedure?

a) Initial, intermediate, final.

b) Arrival, holding, initial, intermediate, final, missed approach.

c) Arrival, initial, intermediate, final, missed approach.

d) Descend, holding arrival, initial, intermediate, final, missed approach.

69. When transmitting time, which time system shall be used?

a) Local time (LT) AM and PM

b) Local time (LT), 24-hour clock

c) No specific system, as only the minutes are normally required

d) Coordinated Universal Time (UTC)

70. Which of the following statements about stall speed is correct?

a) Use of a T-tail will decrease the stall speed

b) Increasing the angle of sweep of the wing will decrease the stall speed

c) Increasing the anhedral of the wing will decrease the stall speed

d) Decreasing the angle of sweep of the wing will decrease the stall speed

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Response Scheme

Compare your answers with the following diagram and mark your score!

01: **B**	02: **B**	03: **B**	04: **D**
05: **C**	06: **B**	07: **C**	08: **D**
09: **C**	10: **D**	11: **A**	12: **A**
13: **C**	14: **B**	15: **B**	16: **C**
17: **D**	18: **A**	19: **A**	20: **D**
21: **C**	22: **D**	23: **A**	24: **C**
25: **B**	26: **B**	27: **B**	28: **A**
29: **A**	30: **A**	31: **D**	32: **A**
33: **D**	34: **C**	35: **A**	36: **D**
37: **A**	38: **C**	39: **A**	40: **B**
41: **B**	42: **A**	43: **B**	44: **C**
45: **C**	46: **D**	47: **A**	48: **A**
49: **A**	50: **A**	51: **A**	52: **B**
53: **A**	54: **B**	55: **C**	56: **A**
57: **A**	58: **C**	59: **C**	60: **B**
61: **B**	62: **C**	63: **A**	64: **A**
65: **A**	66: **C**	67: **A**	68: **C**
69: **D**	70: **D**		

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Response form

Use this form to mark your answers

01:	02:	03:	04:
05:	06:	07:	08:
09:	10:	11:	12:
13:	14:	15:	16:
17:	18:	19:	20:
21:	22:	23:	24:
25:	26:	27:	28:
29:	30:	31:	32:
33:	34:	35:	36:
37:	38:	39:	40:
41:	42:	43:	44:
45:	46:	47:	48:
49:	50:	51:	52:
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57:	58:	59:	60:
61:	62:	63:	64:
65:	66:	67:	68:
69:	70:		