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| STUDENT NAME: | DATE AND TIME: |
|---|---|
| | |
| 01. You are flying at FL 200. Outside air temperature is -40°C, and th true altitude? | e pressure at sea level is 1033 hPa. What is the |
| a) 20660 feet | |
| b) 19340 feet | |
| c) 18260 feet | |
| d) 21740 feet | |
| | |
| | |
| 02. The operator shall include in the operations manual a Minimum I Authority of: | Equipment List which shall be approved by the |
| a) The country of the operator. | |
| b) It is not mandatory that such a book be approved by aviation authoritie | S. |
| c) The country where the aircraft was manufactured. | |
| d) The country where the aircraft is operated. | |
| | |
| | |
| 03. Calculate the centre of gravity in % MAC (mean aerodynamic chocentre of gravity: 12.53 mDistance datum - leading edge: 9.63 m Len | ord) with following data: Distance datum - gth of MAC: 8 m |
| a) 63.4 % MAC | |
| b) 36.3 % MAC | |
| c) 23.1 % MAC | |
| d) 47.0 % MAC | |
| | |
| | |
| 04. The landing reference speed VREF has, in accordance with CS 2 speed in landing configuration: | 5, the following margins above reference stall |

a) 23%b) 10%c) 20%d) 15%

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05. Which one of the following sets of conditions is the least likely to attract flocks of birds?

- a) An area liable to flooding
- b) Edible rubbish
- c) Short gang-mown grass
- d) Long grass

- a) Diffusion
- b) Physical exercise
- c) Inspiration
- d) Changes in atmospheric pressure

07. Given:SHA VOR/DME (N5243.3 W00853. 1) radial 120°/35 NM.What is the aircraft position?

- a) 45°
- b) 90°
- c) 0°
- d) 60°

08. At 0000 Local Mean Time of an observer:

- a) The mean sun is in transit with the observer's meridian.
- b) The apparent sun is in transit with the observer's anti-meridian.
- c) The apparent sun is in transit with the observer's meridian.
- d) The mean sun is in transit with the observer's anti-meridian.

09. In a piston engine if the ratio of air to fuel, by weight, is approximately 9:1, the mixture is said to be:

- a) Too Weak To Support Combustion
- b) Weak
- c) Normal
- d) Rich

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10. In case of accidental closing of an aircraft's left static pressure port (rain, birds), the altimeter:

- a) Overreads the altitude in case of a side-slip to the right and displays the correct information during symmetric flight.
- b) Overreads the altitude in case of a sideslip to the left and displays the correct information during symmetric flight.
- c) Underreads the altitude.
- d) Keeps on providing reliable reading in all situations

11. The torque of an aeroplane engine can be measured at the:

- a) Camshaft.
- b) Propeller blades.
- c) Gear box which is located between the engine and the propeller.
- d) Accessory Gear Box.

12. The azimuth transmitter of a Microwave Landing System (MLS) provides a fan-shaped horizontal approach zone which is usually:

- a) + or 40° of the runway centre-line
- b) + or 30° of the runway centre-line
- c) + or 60° of the runway centre-line
- d) + or 50° of the runway centre-line

13. On a Direct Mercator chart at latitude 15°S, a certain length represents a distance of 120 NM on the earth. The same length on the chart will represent on the earth, at latitude 10°N, a distance of:

- a) 117.7 NM
- b) 122.3 NM
- c) 118.2 NM
- d) 124.2 NM

14. Aircraft told to contact Stephenville Radar on 132.010. Response if unable to comply:

- a) Negative channel 132.010
- b) Negative frequency 132.008
- c) Negative 8 point 3 3
- d) Negative on 132.010

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15. Search and Rescue signals The ground - air visual code for: 'REQUIRE ASSISTANCE' is:

- a) X
- b) N
- c) V
- d) Y

16. Flight Information Service shall be provided to aircraft in order to avoid collision hazards when operating in airspace classes:

- a) F and G only
- b) A, B, C, D, E, F and G
- c) C, D, E, F, and G
- d) F only

17. 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

18. The term 'useful load' as applied to an aircraft includes

- a) Traffic load plus usable fuel.
- b) The revenue-earning portion of traffic load plus useable fuel.
- c) The revenue-earning portion of traffic load only.
- d) Traffic load only.

19. To avoid wake turbulence, when departing behind a larger aircraft, the pilot should manoeuvre:

- a) Below and downwind from the larger aircraft
- b) Above and downwind from the larger aircraft
- c) Below and upwind from the larger aircraft
- d) Above and upwind from the larger aircraft

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20. Which of the following factors determines the maximum flight altitude in the 'Buffet Onset Boundary' graph?

- a) Service ceiling
- b) Theoretical ceiling
- c) Economy
- d) Aerodynamics

21. A pneumatic de-icing system should be operated:

- a) When Entering Areas With Icing Conditions.
- b) When there are approximately 5 cm of ice on the leading edges.
- c) When there is approximately 1,5 cm of ice on the leading edges.
- d) Only At Take-off And During Approach.

| 22. Under normal conditions (CS 2 5) the cabin pressure altitude is not allowed to exceed |
|---|
|---|

- a) 4000 Ft
- b) 8000 ft
- c) 10000 ft
- d) 6000 Ft

23. A revenue flight is to be made by a jet transport. The following are the aeroplane's structural limits:-Maximum Ramp Mass: 69 900 kg-Maximum Take Off Mass: 69 300 kg-Maximum Landing Mass: 58 900 kg-Maximum Zero Fuel Mass: 52 740 kgTake Off and Landing mass are not performance limited. Dry Operating Mass: 34 930 kgTrip Fuel: 11 500 kg Taxi Fuel: 250 kgContingency & final reserve fuel: 1 450 kg Alternate Fuel: 1 350 kgThe maximum traffic load that can be carried is:

- a) 21 070 kg
- b) 21 170 kg
- c) 20 420 kg
- d) 17 810 kg

24. Assuming ISA conditions, which statement with respect to the climb is correct?

- a) At constant Mach number the IAS increases
- b) At constant IAS the TAS decreases
- c) At constant TAS the Mach number decreases
- d) At constant IAS the Mach number increases

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25. The message to an aeronautical ground station 'please call a taxi-cab for us. We will arrive at 1045' is:

- a) A flight regularity message.
- b) A flight safety messages.
- c) An unauthorized message.
- d) An urgency message.

26. Dependent parallel approaches may be conducted to parallel runways provided that: the missed approach track for one approach diverges by:

- a) At least 45° (degrees) from the missed approach track of the adjacent approach
- b) At least 25° (degrees) from the missed approach track of the adjacent approach
- c) At least 30° (degrees) from the missed approach track of the adjacent approach
- d) At least 15° (degrees) from the missed approach track of the adjacent approach

27. Action plans (SOP's) in a cockpit must:

- a) Be tailored to the individual pilot's needs in order to facilitate the normal operation of the aircraft
- b) Be shared by the members of the crew and updated at each modification in order to maintain maximum synergy
- c) Only follow the manufacturers proposals and not reflect individual operators cockpit philosophies
- d) Only be tailored to the type of aircraft, regardless of current MCC procedures

28. An example of conflict between status and role is:

- a) A Manager interviewing an experienced Captain of an aircraft.
- b) A senior Captain acting as co-pilot to a junior Captain of an aircraft.
- c) An ATC Controller interviewing an inexperienced Captain.
- d) A security officer temporarily standing in for a member of the cabin crew.

29. Erratic indications may be experienced when flying towards a basic VOR/DME-based Area Navigation System 'Phantom Station':

- a) When in the cone of silence overhead the Phantom Station
- b) Because, under adverse conditions (relative bearing to the Phantom Station other than 180°/360°) it takes the computer more time to calculate the necessary information
- c) When the Phantom Station is out of range
- d) Coastal refraction.

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30. A microburst phenomenon can arise in the

- a) Updraught of a cumulonimbus at the mature stage.
- b) Downdraught of a cumulonimbus at the formation stage.
- c) Downdraught of a cumulonimbus at the mature stage.
- d) Updraught of a cumulonimbus at the growth stage.

31. What is the the worst hazard, if any, that could be associated with the type of feature at 38°N 015°E?

- a) Reduced visibility
- b) Severe attenuation in the HF R/T band
- c) There is no hazard
- d) Engine flame out and windscreen damage[see Annex]

32. 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.

33. The purpose of the decision point procedure is:

- a) To reduce the landing weight and thus reduce the structural stress on the aircraft.
- b) To increase the safety of the flight.
- c) To reduce the minimum required fuel and therefore be able to increase the traffic load.
- d) To increase the amount of extra fuel.

34. In which of the following regions does polar maritime air originate?

- a) East of Greenland
- b) Black Sea
- c) Baltic Sea
- d) Region of British Isles

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35. Cognitive evaluation which leads to stress is based on:

- a) The evaluation of the capabilities of the individual and the time available
- b) The evaluation of the situation and the state of fatigue of the individual
- c) The capabilities of the individual and the solutions provided by the environment
- d) The evaluation of the situation and the evaluation of capabilities to cope with it

36. In case of an engine failure recognized below V1:

- a) The take-off must be rejected
- b) The take-off is to be continued unless V1 is less than the balanced V1
- c) The take-off should only be rejected if a stopway is available
- d) The take-off may be continued if a clearway is available

37. What does the abbreviation 'H24' mean?

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

38. If obliged to jettison part of the fuel in flight, it would be better to do so:

- a) Under FL50.
- b) In a straight line and at a relatively high flight level.
- c) During final phase of approach.
- d) In a holding stack, after control clearance.

39. Which is the maximum distance at which you might expect solid VHF contact over flat terrain at flight level 50:

- a) About 8 NM
- b) About 15 NM
- c) About 85 NM
- d) About 150 NM

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40. The Ground Proximity Warning System (GPWS) generates the following sound signal or signals when the

| aircraft is sinking after | r a take-off o | or a go-ar | ound: | | | | |
|---------------------------|----------------|------------|-------|--|--|--|--|
| | | | | | | | |

- a) DON'T SINK always followed by WHOOP WHOOP PULL UP
- b) WHOOP WHOOP PULL UP repetitive only
- c) DON'T SINK followed by WHOOP WHOOP PULL UP if the sink rate overshoots a second level
- d) DON'T SINK repetitive only

| 41. Two identical turbojet aeroplane (whose specific fuel consumptions are considered to be equal) are at holdin |
|--|
| speed at the same altitude. The mass of the first aircraft is 130000 kg and its hourly fuel consumption is 4300 kg/l |
| The mass of the second aircraft is 115000 kg and its hourly fuel consumption is: |

- a) 4044 kg / h
- b) 3365 kg/h
- c) 3804 kg/h
- d) 3578 kg/h

42. An aircraft is flying at MACH 0.84 at FL 330. The static air temperature is -48°C and the headwind component 52 Kt. At 1338 UTC the controller requests the pilot to cross the meridian of 030W at 1500 UTC. Given the distance to go is 570 NM, the reduced MACH No. should be:

- a) 0.76
- b) 0.78
- c) Given the distance to go is 570 NM, the reduced MACH No. should be: 0.76 0.78 0.72
- d) 0.80

43. An aircraft flying above FL 410 in North Atlantic (NAT) Airspace is unable to continue flight in accordance with its air traffic control clearance, but is able to maintain its assigned level, and due to a total loss of communications capability, cannot obtain a revised clearance from ATC. The aircraft should leave its assigned route or track by turning 90° (90 degrees) to the right of left whenever this is possible, and turn to acquire and maintain in either direction track laterally separated by 30 NM from its assigned route and:

- a) Climb 1 000 ft or descent 500 ft
- b) Climb or descent 500 ft
- c) The aircraft should leave its assigned route or track by turning 90° (90 degrees) to the right of left whenever this is possible, and turn to acquire and maintain in either direction track laterally separated by 30 NM from its assigned route and: climb 1 000 ft or descent 500 ft climb or descent 500 ft climb 500 ft or descend 1 000 ft
- d) Climb or descend 1 000 ft

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44. In which occasions does the rhumb line track and the great circle track coincide on the surface of the Earth?

| a) 6R - 251kt | | | |
|---------------|--|--|--|
| b) 6L - 256kt | | | |

45. The longitudinal separation minima based on DME, and each aircraft 'on track' uses DME stations, is:

- a) 10 NM provided that the leading aircraft maintains a true airspeed of 20 kt or more faster than the succeeding aircraft.
- b) 10 NM provided that the leading aircraft maintains a true airspeed of 10 kt or more faster than the succeeding aircraft.
- c) 20 NM provided that the leading aircraft maintains a true airspeed of 10 kt or more faster than the succeeding aircraft.
- d) 10 NM provided that the leading aircraft maintains a true airspeed of 40 kt or more faster than the succeeding aircraft.

46. An aircraft, following a 215° true track at variation 3°W, must fly over a 10 600 ft obstacle with a minimum obstacle clearance of 1 500 ft. Knowing the QNH received from an airport close by, which is almost at sea-level, is 1035 and the temperature is ISA -15°C, the minimum flight level will be:

| -١ | 4 | 4 | ^ |
|----|-----|---|-----|
| aı | - 1 | 4 | () |

c) 8R - 259ktd) 6R - 259kt

b) 150

c) 130

d) 120

47. Creep of turbine blades is caused by:

- a) Prolonged Idling At Low Rpm.
- b) High blade temperature whilst under centrifugal loading.
- c) Static imbalance of the blades.
- d) Bending Stresses Set Up By Gas Pressure.

48. A higher pressure altitude at ISA temperature:

- a) Increases the climb limited take-off mass
- b) Decreases the take-off distance
- c) Has no influence on the allowed take-off mass
- d) Decreases the field length limited take-off mass

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49. In relation to an aircraft, the term ' Basic Empty Mass' includes the mass of the aircraft structure complete with

| its powerplants, systems, furnishings and other items of equipment considered to be an integral part of the |
|---|
| particular aircraft configuration. Its value is |
| |

- a) Found in the latest version of the weighing schedule as corrected to allow for modifications.
- b) Printed in the loading manual and includes unusable fuel.
- c) Found in the flight manual and is inclusive of unusable fuel plus fluids contained in closed systems.
- d) Inclusive of an allowance for crew, crew baggage and other operating items. It is entered in the loading manifest.

| 50. What type of fronts are most likely to be present during the winter in Central Europe when temperatures clos |
|--|
| to the ground are below 0°C, and freezing rain starts to fall? |

- a) High level cold fronts.
- b) Cold occlusions.
- c) Cold fronts.
- d) Warm fronts, warm occlusions.

51. In which frequency band does an ILS glide slope transmit?

- a) SHF
- b) VHF
- c) EHF
- d) UHF

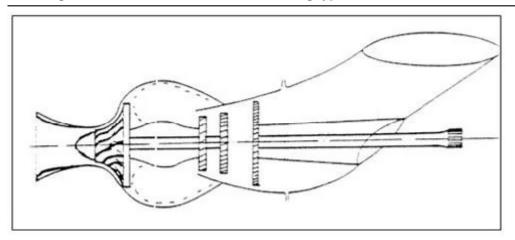
52. In a layer of air the decrease in temperature per 100 metres increase in height is more than 1°C. This layer can be described as being

- a) Conditionally unstable
- b) Absolutely stable
- c) This layer can be described as being conditionally unstable absolutely stable conditionally stable
- d) Absolutely unstable

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53. The gas turbine illustrated is of the following type:



- a) Free Turbine And Axial Compressor
- b) Single shaft turbine and centrifugal compressor
- c) Free turbine and centrifugal compressor
- d) Single Shaft Turbine And Axial Compressor

54. In the MAPPING MODE the airborne weather radar utilises a:

- a) Pencil beam to a maximum range of 60 NM
- b) Fan shaped beam effective up to a range of 150 NM
- c) Pencil beam effective from zero to 150 NM
- d) Range from cloud, wavelength / frequency used

55. What jet streams are likely to be crossed during a flight from Stockholm to Rio de Janeiro (23°S) at FL 350 in July ?

- a) A polar front jet stream followed by one or two subtropical jet streams.
- b) One subtropical jet stream.
- c) A polar front jet stream followed by a subtropical jet stream and later, a second polar front jet stream.
- d) A subtropical jet stream followed by a polar front jet stream.

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56. Given:Distance from departure to destination: 210 NM Endurance: 3,5 hTrue Track: 310 W/V: 270/30TAS: 120 kt What is the distance of the PSR from the departure point?

| ۵) | 200 | NIN/ |
|----|-----|-------|
| a | 200 | INIVI |

- b) 10 NM
- c) 100 NM
- d) 125 NM

57. The optimum cruise altitude increases

- a) If the temperature (OAT) is increased.
- b) If the tailwind component is decreased.
- c) If the aeroplane mass is decreased.
- d) If the aeroplane mass is increased.

58. Which statement applies to hypoxia?

- a) You may become immune to hypoxia when exposed repeatedly to hypoxia
- b) Carbon monoxide increases the tolerance of the brain to oxygen deficiency
- c) It is possible to predict when, how and where hypoxia reaction starts to set in
- d) Sensitivity and reaction to hypoxia varies from person to person

59. If Paris reports a wind of 16020KT on the METAR, what wind velocity would you expect to encounter at a height of 2000 feet above the ground?

- a) 14020KT
- b) 16030KT
- c) 17015KT
- d) 19040KT

60. When an aircraft is no longer in distress, it shall transmit a message cancelling the distress condition. Which words shall this message include?

- a) ... MAYDAY, resuming normal operations
- b) ... MAYDAY cancelled
- c) ... cancel distress
- d) ... distress condition terminated

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61. What are the propagation characteristics of VHF:

- a) Practically straight-line similar to light waves
- b) Similar to short waves with practically no atmospheric disturbance
- c) The waves travel along the surface of the earth and penetrate into valleys in a way that topographical obstacles have no influence
- d) The waves are reflected at the ionosphere at the height of about 100 km and reach the earth surface in the form of sky-waves

62. When flying in straight and level flight at FL 290 for some considerable time a small leak develops in the cabin which causes a slow depressurisation, this can be seen on the cabin rate of climb indicator which will indicate:

- a) A rate of climb
- b) A rate of descent dependent upon the cabin differential pressure
- c) Zero
- d) A rate of descent of approximately 300 fpm

63. Hoar frost is most likely to form when

- a) Flying inside convective clouds.
- b) Flying inside stratiform clouds.
- c) Taking off from an airfield with a significant ground inversion (sky clear).
- d) Flying in supercooled drizzle.

64. The trailing edge flaps when extended:

- a) Degrade the best angle of glide
- b) Significantly lower the drag
- c) Significantly increase the angle of attack for maximum lift
- d) Increase the zero lift angle of attack

65. An Omni-bearing selector (OBS) shows full deflection to the left when within range of a serviceable VOR. What angular deviation are you from the selected radial?

- a) Less than 10°
- b) 10° or more
- c) 2.5 or more
- d) 1.5° or more

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66. Given:Dry operating mass (DOM)= 33510 kg Traffic Load= 7600 kgTrip fuel (TF)= 2040 kg Final reserve fuel= 983 kg Alternate fuel= 1100 kgContingency fuel= 5% of trip fuelWhich of the listed estimated masses is correct?

| a١ | Estimated | take-off | mass- | 45233 | kα |
|----|--------------|----------|---------|-------|-----|
| a, | i Esiiiiaieu | lake-on | 111a55= | 40200 | NU. |

- b) Estimated landing mass at destination= 43193 kg.
- c) Estimated landing mass at destination= 43295 kg.
- d) Estimated take-off mass= 43295 kg.

| 67 | \A/la:ala:a.4l | | d:-4 | بميد مام اماييد 4 | | 4 1: - 1 // 1 | | flat taunain a | 4 41: | 1 400 |
|----|----------------|------------|------------|-------------------|---------------|---------------|--------------|----------------|----------------|-------|
| 6/ | . Which is tr | ne maximum | distance a | it which vol | ı miaht expec | t solid VHF C | contact over | tiat terrain a | it tliaht leve | 1 100 |

- a) About 120 NM
- b) About 12 NM
- c) About 30 NM
- d) About 300 NM

68. Which word or phrase shall be used to indicate a separation between portions of a message?

- a) I say again
- b) Stop
- c) Over
- d) Break

69. A small supercooled cloud droplet that collides with an airfoil will most likely

- a) Freeze immediately and create clear ice.
- b) Freeze immediately and create rime ice.
- c) Travel back over the wing, creating clear ice.
- d) Travel back over the wing, creating rime ice.

70. A DME is located at MSL.An aircraft passing vertically above the station at flight level FL 360 will obtain a DME range of approximately:

- a) 11 NM
- b) 7 NM
- c) 8 NM
- d) Altostratus

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

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