# Exam simulation

ATPL - Airline Transport Pilot license - Performance

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| STUDENT NAME: | DATE AND TIME: |
|---|---|

**01. 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

**02. A vibration indicator receives a signal from different sensors (accelerometers). It indicates the:**

a) Acceleration measured by the sensors, expressed in g

b) Vibration amplitude at a given frequency

c) Vibration period expressed in seconds

d) Vibration frequency expressed in Hz

**03. Which of the following statements is true?**

a) Flight in severe turbulence may lead to a stall and/or structural limitations being exceeded

b) Flap extension in severe turbulence at constant speed moves the centre of pressure aft, which increases the structural limitation margins

c) By increasing the flap setting in severe turbulence at constant speed the stall speed will be reduced and the risk for exceeding the structural limits will be decreased

d) Flap extension in severe turbulence at constant speed increases both the stall speed and the structural limitation margins

**04. When establishing the mass breakdown of an aeroplane, the empty mass is defined as the sum of the:**

a) Basic mass plus variable equipment mass

b) Empty mass dry plus variable equipment mass

c) Basic mass plus special equipment mass

d) Standard empty mass plus specific equipment mass plus trapped fluids plus unusable fuel mass

**05. The decrease in temperature, per 100 metres, in an unsaturated rising parcel of air is:**

a) 1°C

b) 0.5°C

c) 0.65°C

d) 2°C

**06. A sector distance is 450 NM long. The TAS is 460 kt. The wind component is 50 kt tailwind. What is the still air distance?**

a) 414 Nautical Air Miles (NAM)

b) 499 Nautical Air Miles (NAM)

c) 511 Nautical Air Miles (NAM)

d) 406 Nautical Air Miles (NAM)

**07. Tip vortices which are responsible for wake turbulence appear as soon as the following is established:**

a) Drag

b) Lift

c) Lift destruction

d) Spin up

**08. For the same pressure gradient at 60°N, 50°N and 40°N the speed of the geostrophic wind will be:**

a) Greatest at 60°N.

b) The same at all latitudes.

c) Least at 50°N.

d) Greatest at 40°N.

**09. On the readability scale what does 'readability 1' mean?**

a) Readable

b) Perfectly readable

c) Unreadable

d) Readable but with difficulty

**10. An inertial reference and navigation system is a "strapdown" system when:**

a) The gyroscopes and accelerometers are part of the unit's fixture to the aircraft structure.

b) Gyros and accelerometers need satellite information input to obtain a vertical reference.

c) Gyros and accelerometers are mounted on a stabilised platform in the aircraft.

d) Only the gyros, and not the accelerometers, are part of the unit's fixture to the aircraft structure.

**11. On hearing an urgency message a pilot shall:**

a) Acknowledge the message immediately

b) Impose radio silence on the frequency in use

c) Monitor the frequency to offer assistance if required

d) Change the frequency, because radio silence will be imposed on the frequency in use

**12. When flying at 6000 feet above ground level, the DME indicates 5 NM. What is the horizontal distance from the aircraft to overhead the DME?**

a) 4.9 NM

b) 4.3 NM

c) 4.6 NM

d) 5.2 NM

**13. What does the abbreviation 'FIR' mean?**

a) Flight information required.

b) Flight information region.

c) Flight information radar.

d) Flow information received.

**14. In which of the following areas is the highest frequency of thunderstorms encountered ?**

a) Polar

b) Subtropical

c) Tropical

d) Temperate

**15. An aircraft on an IFR flight in VMC experiences radio communication failure. The aircraft is assumed to:**

a) Return to the aerodrome of departure

b) Land at the alternate aerodrome

c) Land at the nearest suitable aerodrome

d) Land at the destination aerodrome

**16. While crossing a jet stream at right angles in Western Europe (3000 FT below its core) and OAT is decreasing, what would be the prevailing wind?**

a) Crosswind from the left

b) A tailwind.

c) A headwind.

d) Crosswind from the right

**17. The maximum quantity of fuel that can be loaded into an aircraft's tanks is given as 2200 l. If the fuel density (specific gravity) is given as 0.79 the mass of fuel which may be loaded is:**

a) 1738 kg

b) 1798 kg

c) 2098 kg

d) 2785 kg

**18. Air traffic control messages (clearances, instructions, etc.) belong to the category of:**

a) Flight regularity messages.

b) Class B messages.

c) Service messages.

d) Flight safety messages.

**19. Consider the following statements on "departure":**

a) As the latitude increases, the departure between two meridians decreases.

b) Departure is independent of difference of longitude.

c) Departure may be calculated using the equation: departure=Sin Lat. x sin Long.

d) As the difference of longitude increases, the departure is constant if the latitude is constant.

**20. Refer to CAP697 Section 4 - MRJT1 Page 2 Figure 4.1 / 4.2 and Page 41 Figure 4.5.3.2Given: Estimated take-off mass 57000 kg, Ground distance 150 NM, Temperature ISA -10°C, Cruise at 0.74 MachFind: Cruise altitude and expected true air speed**

a) 24000', 445 KT
b) 25000', 435 KT
c) 33900', 420 KT
d) 33500', 430 KT[see Annex]

**21. What is the Q-code for 'magnetic heading to the station (no wind)?**

a) QNE
b) QDR
c) QTE
d) QDM

**22. On a TCAS2 (Traffic Collision Avoidance System), a corrective 'resolution advisory' (RA) is a 'resolution advisory':**

a) Asking the pilot to modify effectively the vertical speed of his aircraft.
b) Asking the pilot to modify the speed of his aircraft.
c) Asking the pilot to modify the heading of his aircraft.
d) Which does not require any action from the pilot but on the contrary asks him not to modify his current vertical speed rate.

**23. Where, in relation to the runway, is the ILS localiser transmitting aerial normally situated?**

a) At the approach end of the runway about 300 m from touchdown on the centreline
b) At the non-approach end about 150 m to one side of the runway and 300 m along the extended centreline
c) On the non-approach end of the runway about 300 m from the runway on the extended centreline
d) At the approach end about 150 m to one side of the runway and 300 m from touchdown

**24. Increase of wing loading will:**

a) Increase CLmax
b) Decrease the minimum gliding angle
c) Decrease take off speeds
d) Increase the stall speeds

**25. Which is the correct sequence of speeds during take-off?**

a) VMCG, V1, VR, V2

b) V1, VR, V2, VMCA

c) V1, VR, VMCG, V2

d) V1, VMCG, VR, V2

**26. The still air distance in the climb is 189 Nautical Air Miles (NAM) and time 30 minutes. What ground distance would be covered in a 30 kt head wind?**

a) 203 NM

b) 174 NM

c) 193 NM

d) 188 NM

**27. The gauge indicating the quantity of fuel measured by a capacity gauging system can be graduated directly in weight units because the dielectric constant of fuel is:**

a) The same as that of air and varies inversely with density.

b) Twice that of air and varies inversely with density.

c) Twice that of air and varies directly with density.

d) The same as that of air and varies directly with density.

**28. The bow wave will first appear at:**

a) A Mach number just below M = 1

b) Mach 1

c) A Mach number just above M = 1

d) The critical Mach number

**29. On a swept wing aeroplane at low airspeed, the 'pitch up' phenomenon:**

a) Is caused by wingtip stall

b) Is caused by boundary layer fences mounted on the wings

c) Is caused by extension of trailing edge lift augmentation devices

d) Never occurs, since a swept wing is a 'remedy' to pitch up

**30. According to ICAO 8168, what is regarded as the maximum safe deviation below the glide path during ILS approach?**

a) Three quarter scale deflection.

b) One quarter scale deflection.

c) Full scale deflection.

d) Half scale deflection.

**31. Which take-off speed is affected by the presence or absence of stopway and / or clearway?**

a) V1

b) VMCA

c) VMCG

d) V2

**32. What does QDM mean?**

a) Magnetic bearing from the station

b) Magnetic heading to the station (no wind)

c) True bearing from the station

d) True heading to the station (no wind)

**33. The longitudinal separation minima based on time between aircraft at same cruising level where navigation aids permit frequent determination of position and speed and the preceding aircraft is maintaining a true airspeed of 40 kt or more faster than the succeeding aircraft, is:**

a) 5 minutes.

b) 3 minutes.

c) 10 minutes.

d) 6 minutes.

**34. The speed V2 is:**

a) The lowest airspeed required to retract flaps without stall problems

b) That speed at which the PIC should decide to continue or not the take-off in the case of an engine failure

c) The lowest safety airspeed at which the aeroplane is under control with aerodynamic surfaces in the case of an engine failure

d) The take-off safety speed

**35. The 'climb gradient' is defined as the ratio of:**

a) The increase of altitude to horizontal air distance expressed as a percentage

b) Rate of climb to true airspeed

c) True airspeed to rate of climb

d) The increase of altitude to distance over ground expressed as a percentage

**36. The dangerous goods transport document, if required, shall be drawn up by:**

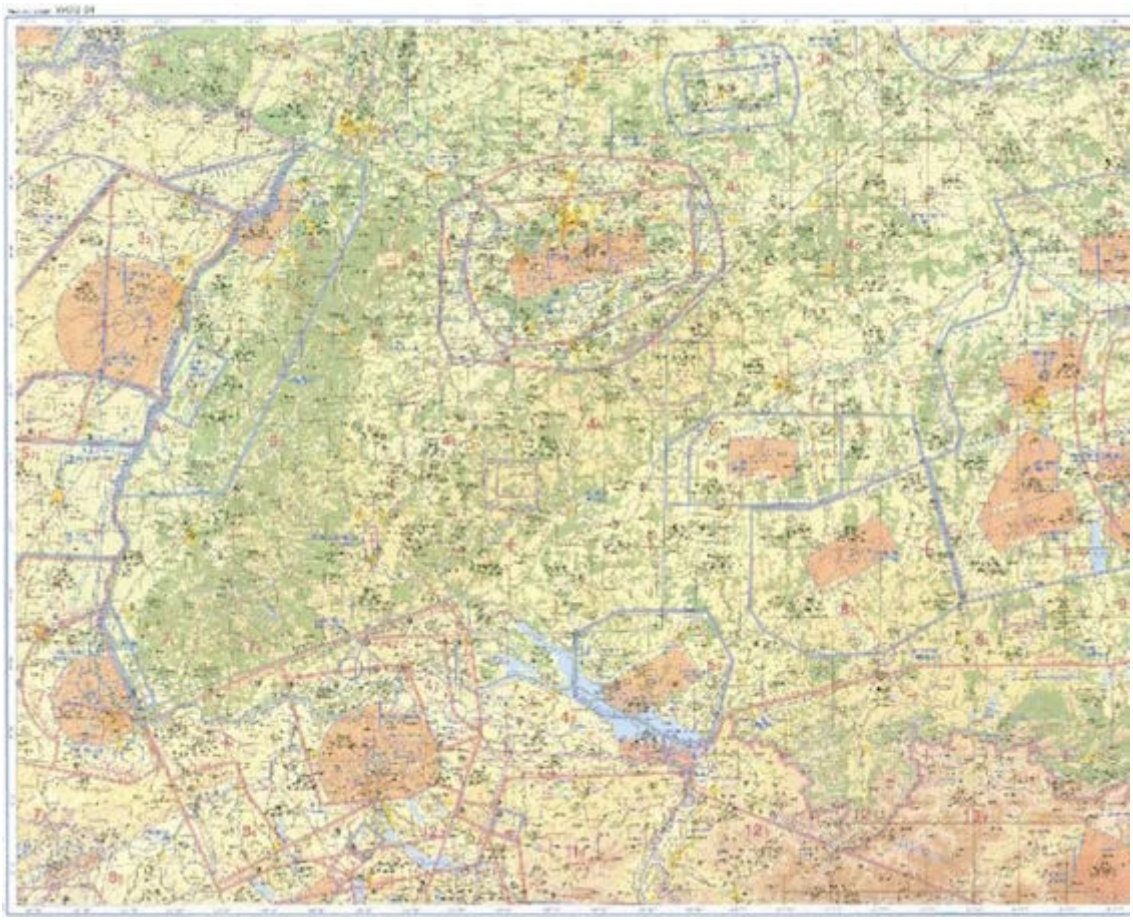
a) The shipper.

b) The handling agent.

c) The captain.

d) The operator.

**37. Refer to the Jeppesen General Student Pilot Route Manual - VFR Chart ED-4An aeroplane is flying VFR and approaching position TANGO VORTAC (48°37'N, 009°16'E) at FL 055 and magnetic course 090°, distance from VORTAC TANGO 20 NM.What is the frequency of the TANGO VORTAC.**



a) 112.50 MHz

b) 109.20 MHz

c) 112.50 MHz 109.20 MHz 422 kHz

d) 118.80 MHz

**38. The minimum radar separation to be provided to aircraft established on the localizer course shall be:**

a) 3.0 NM between aircraft on adjacent localizer course.

b) 3.0 NM between aircraft on the same localizer course.

c) 5.0 NM between aircraft on the same localizer course.

d) 2.0 NM between aircraft on the same localizer course.

**39. For a non pressurised aircraft, all occupants of flight deck seats on flight deck duty shall be supplied with supplemental oxygen during:**

a) The entire flight time at pressure altitudes above 13 000 ft and for any period exceeding 30 minutes at pressure altitudes above 10 000 ft but not exceeding 13 000 ft

b) The entire flight time at pressure altitudes above 13 500 ft

c) The entire flight time after 30 minutes at pressure altitudes greater than 10 000 ft but not exceeding 13 000 ft

d) The entire flight time at pressure altitudes above 10 000 ft

**40. In the ATC flight plan Item 15, a cruising speed of 470 knots will be entered as:**

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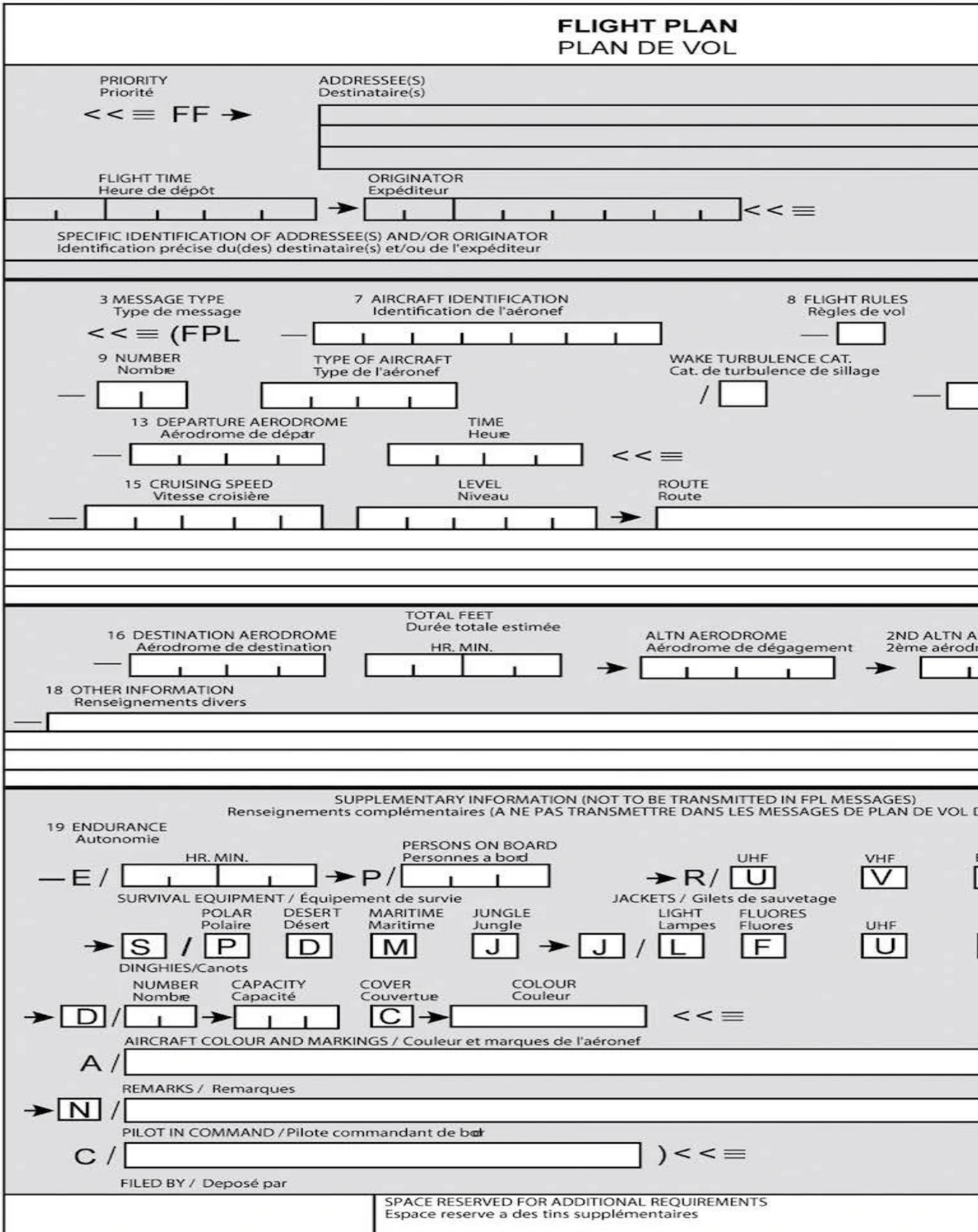

**FLIGHT PLAN**
PLAN DE VOL

PRIORITY
Priorité
<< ≡ FF →

ADDRESSEE(S)
Destinataire(s)

FLIGHT TIME
Heure de dépôt

ORIGINATOR
Expéditeur
<< ≡

SPECIFIC IDENTIFICATION OF ADDRESSEE(S) AND/OR ORIGINATOR
Identification précise du(des) destinataire(s) et/ou de l'expéditeur

3 MESSAGE TYPE
Type de message
<< ≡ (FPL —

7 AIRCRAFT IDENTIFICATION
Identification de l'aéronef

8 FLIGHT RULES
Règles de vol

9 NUMBER
Nombre

TYPE OF AIRCRAFT
Type de l'aéronef

WAKE TURBULENCE CAT.
Cat. de turbulence de sillage
/

13 DEPARTURE AERODROME
Aérodrome de départ

TIME
Heure
<< ≡

15 CRUISING SPEED
Vitesse croisière

LEVEL
Niveau

ROUTE
Route →

16 DESTINATION AERODROME
Aérodrome de destination

TOTAL FEET
Durée totale estimée
HR. MIN.

ALTN AERODROME
Aérodrome de dégagement →

2ND ALTN A
2ème aérodr →

18 OTHER INFORMATION
Renseignements divers

SUPPLEMENTARY INFORMATION (NOT TO BE TRANSMITTED IN FPL MESSAGES)
Renseignements complémentaires (A NE PAS TRANSMETTRE DANS LES MESSAGES DE PLAN DE VOL D

19 ENDURANCE
Autonomie
—E/ HR. MIN. →P/ PERSONS ON BOARD
Personnes a bord →R/ [U] UHF [V] VHF

SURVIVAL EQUIPMENT / Équipement de survie
JACKETS / Gilets de sauvetage

→ [S] / [P] POLAR Polaire [D] DESERT Désert [M] MARITIME Maritime [J] JUNGLE Jungle → [J] / [L] LIGHT Lampes [F] FLUORES Fluores [U] UHF

DINGHIES/Canots

→ [D] / NUMBER Nombre → CAPACITY Capacité [C] COVER Couvertue → COLOUR Couleur <<≡

AIRCRAFT COLOUR AND MARKINGS / Couleur et marques de l'aéronef
A /

REMARKS / Remarques
→ [N] /

PILOT IN COMMAND / Pilote commandant de bord
C / )<<≡

FILED BY / Deposé par

SPACE RESERVED FOR ADDITIONAL REQUIREMENTS
Espace reserve a des tins supplémentaires

a) N0470
b) N470
c) 0470K
d) KN470

**41. An aeroplane which has a maximum certificated take-off mass over 5700 kg, shall be equipped with a cockpit voice recorder capable of retaining information recorded during at least the last:**

a) 30 minutes or 2 hours of its operation, depending upon the date of the first issue of its individual Certificate of Airworthiness.
b) 25 hours of its operation.
c) 20 hours of its operation.
d) 30 minutes or 1 hour of its operation, depending upon the date of the first issue of its individual Certificate of Airworthiness.

**42. In order to indicate an emergency situation, the aircraft Secondary Surveillance Radar (SSR) transponder should be set to:**

a) 7600
b) 7700
c) 7000
d) FLAG/OFF, the aircraft is within the cone of silence.

**43. An aircraft flying at FL 45 (OAT 6°C) obtains a reading of 1860 ft on its radio altimeter (ground elevation 3090 ft). What is the value of the QNH, to the nearest hPa, at that point?**

a) 1030
b) 1042
c) 1013
d) 996

**44. Fastair 345 is instructed to contact Stephenville RADAR on channel 132.010 MHz. How would Fastair 345 advise RADAR that it is not 8.33 KHz equipped?**

a) Negative eight point three three

b) Negative on 132.008

c) Negative channel 132.0083

d) Negative frequency 132.010

**45. For the purpose of completing the Mass and Balance documentation, the Operating Mass is considered to be Dry Operating Mass plus**

a) Ramp (Block) Fuel Mass.

b) Trip Fuel Mass.

c) Take-off Fuel Mass.

d) Ramp Fuel Mass less the fuel for APU and run-up.

**46. Which cloud type may indicate the presence of severe turbulence?**

a) Stratocumulus

b) Cirrocumulus

c) Altocumulus lenticularis

d) Nimbostratus

**47. A three-phase electrical tachometer consists of:**

a) A three-phase generator, a synchronous motor and a magnetic tachometer.

b) Three speed probes and a phonic wheel.

c) A speed probe and a phonic wheel.

d) Three associated dynamos.

**48. What does the word 'check' mean?**

a) Confirm your last transmission

b) Read back my last instruction

c) Examine a system or procedure

d) I understand your message

**49. Given:Pressure Altitude 29000 FT, OAT -55°C.Calculate the Density Altitude?**

a) 33500 FT

b) 31000 FT

c) Calculate the Density Altitude? 33500 FT 31000 FT 26000 FT

d) 27500 FT

**50. The time is 9:20**

a) M. What is the correct way of transmitting this time if there is no possibility of confusion about the hour? Twenty.

b) Two zero this hour.

c) Two zero.

d) Nine twenty M.

**51. Between which components, with reference to the SHELL Concept, covers pilot misinterpretation of the old three-point altimeter?**

a) Liveware - Environment

b) Liveware - Software

c) Liveware - Liveware

d) Liveware - Hardware

**52. When should an aircraft in the heavy-wake-turbulence category include the word 'Heavy' immediately after its call sign e.g. Fastair 345 heavy?**

a) Never

b) In the initial call to the aerodrome control tower and the approach control unit

c) In all calls to the aerodrome tower and the approach control unit

d) In all calls

**53. Which combination of design features is known to be responsible for deep stall?**

a) Swept back wings and wing mounted engines

b) Straight wings and a T-tail

c) Straight wings and aft fuselage mounted engines

d) Swept back wings and a T-tail

**54. Given: FL 330 long range cruiseOAT -63°Cgross mass 50 500 kg. Find: true airspeed (TAS)**

a) 433 kt

b) 420 kt

c) 418 kt

d) 431 kt[see Annex]

**55. An RMI slaved to a remote indicating compass has gone unserviceable and is locked on to a reading of 090°. The tail of the VOR pointer shows 135°. The available information from the VOR is:**

a) Radial 135°, relative bearing unknown

b) Radial 315°, relative bearing unknown

c) Radial unknown, relative bearing 045°

d) Local thunderstorm activity

**56. A "close traffic advisory" is displayed on the display device of the TCAS II (Traffic Collision Avoidance System) by:**

a) A blue or white empty lozenge.

b) A yellow full circle.

c) A red full square.

d) A blue or white full lozenge.

**57. Whenever ATIS is provided, the broadcast information shall be updated**

a) At least every half an hour independently of any significant change

b) Immediately a significant change occurs

c) As prescribed by the state

d) As prescribed by the meteorological office

**58. In Zurich during a summer day the following weather observations were taken: 160450Z 23015KT 3000 +RA SCT008 SCT020 OVC030 13/12 Q1010 NOSIG = 160650Z 25008KT 6000 SCT040 BKN090 18/14 Q1010 RERA NOSIG = 160850Z 25006KT 8000 SCT040 SCT100 19/15 Q1009 NOSIG =161050Z 24008KT 9999 SCT040 SCT100 21/15 Q1008 NOSIG =161250Z 23012KT CAVOK 23/16 Q1005 NOSIG =161450Z 23016KT 9999 SCT040 BKN090 24/17 Q1003 BECMG 25020G40KT TS =161650Z 24018G35KT 3000 +TSRA SCT006 BKN015CB 18/16 Q1002 NOSIG =161850Z 28012KT 9999 SCT030 SCT100 13/11 Q1005 NOSIG =What do you conclude based on these observations?**

a) A warm front passed the station early in the morning and a cold front during late afternoon

b) Storm clouds due to warm air came close to and grazed the station

c) A trough line passed the station early in the morning and a warm front during late afternoon

d) A cold front passed the station early in the morning and a warm front during late afternoon

**59. In accordance with JAR-OPS 1.430 (Aerodrome Operating Minima), the lowest minima to be used by an operator in a category B aeroplane for circling are:**

a) MDH=600 ft and visibility=2400 m

b) MDH=400 ft and visibility=1500 m

c) MDH=700 ft and visibility=2600 m

d) MDH=500 ft and visibility=1600 m

**60. 'Pilot's vertigo'**

a) Is the condition of dizziness and/or tumbling sensation caused by contradictory impulses to the central nervous system (CNS)

b) Announces the beginning of airsickness

c) Is the sensation of climbing caused by a strong linear acceleration

d) Is the sensation to keep a rotation after completing a turn

**61. A line connecting the leading edge and trailing edge midway between the upper and lower surface of an aerofoil.This definition is applicable for:**

a) The camber line

b) The upper camber line

c) The mean aerodynamic chord line

d) The chord line

**62. An unstable air mass will normally be characterised by**

a) Stratiform cloud

b) Cumuliform cloud and good visibility except in precipitation

c) Poor visibility due to haze at the lower levels

d) Continuous light rain from medium level layer cloud

**63. 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

**64. What is the maximum theoretical range that an aircraft at FL150 can receive signals from a VOR situated 609' above MSL?**

a) 220 NM

b) 147 NM

c) 184 NM

d) 156 NM

**65. According to Rasmussen's model, errors are of the following type(s) in skill-based behaviour:**

a) Handling errors

b) Knowledge errors

c) Creative errors

d) Routine errors

**66. A leak in the pitot total pressure line of a non-pressurized aircraft to an airspeed indicator would cause it to:**

a) Over-read.
b) Indication will drop to zero.
c) Under-read.
d) Freeze on the value it indicated at the time of failure.

**67. What does the abbreviation 'SSR' mean:**

a) Search and surveillance radar
b) Surface strength of runway
c) Secondary surveillance radar
d) Standard snow report

**68. A polar track is a track part of which is included in an area where the horizontal component of the earth magnetic field is less than:**

a) 6 micro-tesla
b) 10 micro-tesla
c) 38 micro tesla
d) 17 micro-tesla

**69. The principle of FAIL SAFE design of an aircraft is based on the:**

a) Replacement Of Parts After A Given Number Of Cycles Or Hours Of Use.
b) Redundancy of the structure or equipment.
c) Capability to withstand a certain amount of weakening of the structure without catastrophic failure.
d) Monitoring Of Critical Parameters And The Replacement Of Parts If A Limit Value Is Exceeded.

**70. During a transoceanic and polar flight, the chart precession is a rotation in degrees, for a moving aircraft, of the gyro North with respect to the:**

a) True North for a given chart
b) Grid North for any chart
c) True North for any chart
d) Grid North for a given chart

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# Response Scheme

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

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

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# Response form

Use this form to mark your answers

| | | | |
|---|---|---|---|
| 01: | 02: | 03: | 04: |
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