

1-The operating mass of an aircraft is:

- A) The empty mass plus the take-off fuel mass
- B) The dry operating mass plus the take-off fuel mass**
- C) The empty mass plus the trip fuel mass
- D) The empty mass plus crew, crew baggage and catering

2-Dry Operating Mass is the mass of the aeroplane less:

- A) usable fuel
- B) traffic load, potable water and lavatory chemicals
- C) usable fuel and traffic load**
- D) usable fuel, potable water and lavatory chemicals

3-The Zero Fuel Mass and the Dry Operating Mass:

- A) are the same value
- B) differ by the value of the traffic load mass**
- C) differ by the mass of usable fuel
- D) differ by the sum of the mass of usable fuel plus traffic load mass

4-The Basic Empty Mass is the mass of the aeroplane ...

- A) plus non-standard items such as lubricating oil, fire extinguishers, emergency oxygen equipment etc
- B) minus non-standard items such as lubricating oil, fire extinguishers, emergency oxygen equipment etc
- C) plus standard items such as unusable fluids, fire extinguishers, emergency oxygen equipment, supplementary electronics etc**
- D) minus non-standard items such as unusable fluids, fire extinguishers, emergency oxygen and supplementary electronic equipment etc

5-The Regulated Take-off Mass:

- A) the maximum structural take-off mass subject to any last minute mass changes
- B) is the lower of maximum structural take-off mass and the performance limited take-off mass**
- C) the maximum performance limited take-off mass subject to any last minute mass changes
- D) is the higher of the maximum structural zero fuel mass and the performance limited takeoff mass

6-Traffic load is the:

- A) Dry Operating Mass minus the disposable load
- B) Take-off Mass minus Zero Fuel Mass
- C) Dry Operating Mass minus the variable load
- D) Zero Fuel Mass minus Dry Operating Mass**

7-Define the useful load.

- A) Dry operating mass plus usable fuel load
- B) Traffic load plus dry operating mass
- C) That part of the traffic load which generates revenue
- D) Traffic load plus usable fuel mass**

8-The term 'Maximum Zero Fuel Mass' consist of:

- A) The maximum permissible mass of an aeroplane with no usable fuel**
- B) The maximum mass authorized for a certain aeroplane not including the fuel load and operational items
- C) The maximum mass for some aeroplanes including the fuel load and the traffic load
- D) The maximum mass authorized for a certain aeroplane not including traffic load and fuel load

9-For a repetitive flight plan (RPL) to be used, flights must take place on a regular basis on at least:

- A) 30 occasions
- B) 20 occasions
- C) 50 occasions
- D) 10 occasions**

10-If the destination airport has no ICAO indicator, in box 16 of your ATS flight plan, you write:

- A) ////
- B) ZZZZ**
- C) AAAA
- D) XXXX

11-Prior to an IFR flight, when filling in the ICAO flight plan, the time information which should be entered in box 16 (total elapsed time) is the time elapsed from:

- A) taxi out prior to take-off until the IAF
- B) take-off until reaching the IAF (initial approach fix) of the destination aerodrome**
- C) take-off until landing
- D) taxi-out prior to take-off until completion off taxi-ing after landing

12-In the ATS flight plan Item 15, a cruising speed of 470 knots will be entered as:

- A) N470
- B) KN470
- C) 0470K
- D) N0470**

13-An aircraft has a maximum certificated take-off mass of 137000 kg but is operating at take-off mass 135000 kg.

In Item 9 of the ATS flight plan its wake turbulence category is:

- A) medium (M)
- B) heavy/medium (H/M)
- C) medium plus (M+)
- D) heavy (H)**

14-On an ATC flight plan, the letter Y is used to indicate that the flight is carried out under the following flight rules:

- A) IFR followed by VFR
- B) VFR followed by IFR
- C) VFR
- D) IFR

15-In the ATS flight plan item 10 (standard equipment) is considered to be :

- A) VHF RTF, ADF, VOR and transponder
- B) VHF RTF, VOR, ILS and transponder
- C) VHF RTF, ADF, VOR and ILS**
- D) VHF RTF, VOR, ILS and transponder

16-For a radio equipped aircraft, the identifier in the ATS flight plan item 7 must always:

- A) include the operating agency designator
- B) include an indication of the aircraft type
- C) be the RTF callsign to be used**
- D) include the aircraft registration

17-In an ATS flight plan, Item 15 (route), a cruising pressure altitude of 32000 feet would be entered as:

- A) 32000
- B) S3200
- C) FL320
- D) F320**

18-When completing an ATS flight plan, an elapsed time (Item 16) of 1 hour 55 minutes should be entered as:

- A) 0155**
- B) 115M
- C) 0115
- D) 1H55

19-The speed VS is defined as

- A) speed for best specific range
- B) design stress speed
- C) stalling speed or minimum steady flight speed at which the aeroplane is controllable**
- D) safety speed for take-off in case of a contaminated runway

20-Clearway length is limited by:

- A) A load bearing strength less than that of the runway
- B) The first obstacle likely to damage the aeroplane in the event of a continued take-off after engine failure**
- C) The first obstacle likely to damage the aircraft in the event of an abandoned take-off after engine failure
- D) A ditch located at the end of ASDA

21-If the anti-skid system is inoperative:

- A) the landing distance required will be unchanged because anti-skid is not

taken account of in determining landing performance

- B) the landing distance required will decrease
- C) the landing distance required will increase**
- D) the landing distance required will only increase on runways that are wet or precipitation covered

22-Regarding take-off, the take-off decision speed V1:

- A) Is the airspeed on the ground at which the pilot is assumed to have made a decision to continue or discontinue the take-off**
- B) Is the airspeed of the aeroplane upon reaching 35 feet above the take-off surface
- C) Is an airspeed at which the aeroplane is airborne but below 35 ft and the pilot is assumed to have made a decision to continue or discontinue the take-off
- D) Is always equal to VEF (Engine Failure speed)

23-Take-off distance available is:

- A) TORA
- B) the distance from brake release point to 35ft screen height
- C) TORA plus stopway
- D) TORA plus clearway**

24-What will happen to VX and VY if the landing gear is extended?

- A) VX increases, VY decreases
- B) VX decreases and VY increases
- C) VX and VY decrease**
- D) VX and VY increase

25-V2 has to be equal to or higher than:

- A) VMCA**
- B) 1.15 VR
- C) VSO
- D) 1.15 VMCG

26-V1 has to be:

- A) higher than VR
- B) equal to or higher than VMCA
- C) equal to or higher than VMCG**
- D) equal to or higher than V2

27-The rotation speed (Vr):

- A) must not be more than 1.05 Vmca
- B) must not be less than 1.05 Vmca**
- C) is the airspeed at which the aeroplane lifts off the ground
- D) is always equal to V1 for aeroplanes with 2 engines

28-The take-off decision speed V1 is:

- A)** a chosen limit. If an engine failure is recognized before reaching V1 the take-off must be aborted
- B) sometimes greater than the rotation speed VR
- C) not less than V2min, the minimum take-off safety speed
- D) a chosen limit. If an engine failure is recognized after reaching V1 the take-off must be aborted

29-ASDA is defined as:

- A) TODA plus stopway
- B) TORA plus clearway
- C) the same as TODA
- D)** TORA plus stopway

30-The stopway is an area which allows an increase only in :

- A) the take-off distance available
- B)** the accelerate-stop distance available
- C) the landing distance available
- D) the take-off run available

31-Which statement regarding V1 is correct?

- A) When determining the V1, reverse thrust is only allowed to be taken into account on the remaining symmetric engines
- B) V1 is not allowed to be greater than VMCG
- C) The V1 correction for up-slope is negative
- D)** V1 is not allowed to be greater than VR

32-A clearway:

- A) Need not have the same weight bearing qualities as the runway with which it is associated
- B) Provides an area over which an aeroplane can safely transit from lift off to the required height
- C) May be water
- D)** All of the above

33-What is the advantage of a balanced field length condition?

- A)** A balanced field length gives the minimum required field length in the event of an engine failure
- B) A balanced take-off provides the lowest elevator input force requirement for rotation
- C) For a balanced field length the required take-off runway length always equals the available runway length
- D) A balanced field length provides the greatest margin between " net" and " gross" take-off flight paths

34-the speed V1 is:

- A) the speed at which rotation to the unstick attitude is initiated

- B) the stalling speed with the flaps in a prescribed position
- C) the speed at which, with the critical engine inoperative, the TODR will not exceed the TODA, the TORR will not exceed the TORA and the ASDR will not exceed the ASDA**
- D) the critical speed for engine failure during take off

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

- A) V_2
- B) VMCA
- C) V_1**
- D) VMC
- G

36-Minimum control speed on ground, VMCG, is based on directional control being maintained by:

- A) nosewheel steering only
- B) primary aerodynamic control, nosewheel steering and differential braking
- C) primary aerodynamic control and nosewheel
- D) primary aerodynamic control only**

37-A stopway is:

- A) An extension to the take-off runway free of obstacles but not capable of supporting the aeroplane in the event of an aborted take-off
- B) An extension to the take-off runway capable of supporting the aeroplane during an aborted take-off**
- C) An extension to the Take-off runway free of obstacles
- D) An extension to the take-off runway free of obstacles which can be used to extend the take-off run

38-For a twin-engine class B aircraft the rotation speed V_r must not be less than:

- A) $1,05V_{mc}$ or $1,2V_{s1}$
- B) the stalling speed with the flaps in the take-off position (V_{s1})
- C) $1,05V_{mc}$ or $1,1V_{s1}$**
- D) $1,1V_{mc}$ or $1,2V_{s1}$

39-Which of the following will decrease V_1 ?

- A) Increased take-off mass
- B) Increased outside air temperature
- C) Inoperative flight management system
- D) Inoperative anti-skid**

40-Changing the take-off flap setting from flap 15° to flap 5° will normally result in:

- A) a longer take-off distance and a better climb**
- B) a shorter take-off distance and an equal climb
- C) a shorter take-off distance and a better climb
- D) a better climb and an equal take-off distance

41- The lift-off speed and take-off safety speed (V_2) when flap position is changed from 10° to 5° will:

- A) decrease and decrease
- B) increase and decrease**
- C) decrease and increase
- D) increase and increase

42- What is the effect of increased weight on (i) ROC and (ii) best ROC speed?

- A) u(i) increases, (ii) increases
- B) u(i) reduces, (ii) increases**
- C) u(i) reduces, (ii) reduces
- D) u(i) increases, (ii) reduces

43- What is the effect of increasing the flap setting on (i) gradient and (ii) rate of climb?

- A) (i) decreases, (ii) decreases**
- B) (i) does not change, (ii) decreases
- C) (i) decreases, (ii) does not change
- D) (i) increases, (ii) increases

44- What is the effect of extending flaps on V_X and V_Y ?

- A) V_X decreases and V_Y increases
- B) V_X increases and V_Y decreases
- C) V_X increases and V_Y increases
- D) V_X decreases and V_Y decreases**

45- Maximum and minimum values of V_1 are limited by:

- A) V_R and $VMCA$
- B) V_2 and $VMCG$
- C) V_R and $VMCG$**
- D) V_2 and $VMCA$

46- If not $VMBE$ or V_{mcg} limited, what would V_1 be limited by:

- A) V_2
- B) VMU
- C) V_R**
- D) V_{mca}

47- Which of the following statements is correct :

- A) If the aircraft is rotated before V_R to the normal attitude, the take off distance required will be reduced
- B) If the aircraft is rotated after V_R to the normal attitude, the take off distance required will be increased**
- C) If the aircraft is rotated after V_R to a greater than normal attitude, the take off distance will be reduced
- D) If the aircraft is rotated before V_R to a greater than normal attitude, the take off distance required will be reduced

48-The speed V_2 of a jet aeroplane must be greater than:

- A) $1.05V_{LOF}$
- B) $1.2V_{MCG}$
- C) $1.2V_s$**
- D) $1.3V_1$

49-VR cannot be lower than:

- A) $1.15 V_s$ for turbo-prop with three or more engines
- B) V_1 and 105% of VMCA**
- C) 105% of V_1 and VMCA
- D) $1.2 V_s$ for twin and three engine jet aeroplane

50-With a decreased flap setting from 20° to 10° on take off the effect will be:

- A) V_{LOF} would decrease
- B) V_{LOF} would increase but V_2 would decrease
- C) V_{LOF} and V_2 would both increase**
- D) V_{LOF} would decrease and V_2 would increase

51- V_r for transport category aircraft must be at least:

- A) less than V_1
- B) $1.2 \times V_{mca}$
- C) $1.05 \times V_{th}$
- D) $1.05 \times V_{mca}$**

52-Which of the following statements is correct?

- A) A stopway means an area beyond the take-off runway, able to support the aeroplane during an aborted take-off**
- B) A clearway is an area beyond the runway which can be used for an aborted take-off
- C) An under run is an area beyond the runway end which can be used for an aborted take-off
- D) If a clearway or a stopway is used, the lift-off point must be attainable at least at the end of the permanent runway surface

53-Which of the following statements is correct?

- A) A stopway means an area beyond the take-off runway, able to support the aeroplane during an aborted take-off**
- B) A clearway is an area beyond the runway which can be used for an aborted take-off
- C) An under run is an area beyond the runway end which can be used for an aborted take-off
- D) If a clearway or a stopway is used, the lift-off point must be attainable at least at the end of the permanent runway surface

54-Which of the following is true with regard to VMCA (air minimum control speed)?

- A) The aeroplane will not gather the minimum required climb gradient
- B) VMCA only applies to four-engine aeroplanes
- C) Straight flight can not be maintained below VMCA, when the critical engine has failed**
- D) The aeroplane is uncontrollable below VMCA

55-Clearway may not exceed:

- A) 50% TODA
- B) 50% TORA**
- C) 150% ASDA
- D) 50% ASDA

56-Which is the correct sequence of speeds during take-off?

- A) V1, VR, VMCG, V2
- B) V1, VR, V2, VMCA
- C) V1, VMCG, VR, V2
- D) VMCG, V1, VR, V2**

57-The speed V_{mu} is (class A):

- A) the maximum speed for flight with the undercarriage extended
- B) the minimum speed at which the aircraft can safely lift off the ground**
- C) the minimum speed at which the elevators can rotate the aircraft until the tail skid is in contact with the runway
- D) the maximum speed at which the aircraft should become airborne

58-If the flap setting is changed from 10° to 20°, V_{2MIN} will:

- A) decrease if not limited by VMC**
- B) increase
- C) remain the same
- D) increase or decrease

59-Which of the following represents the maximum value for V₁ assuming max tyre speed and max brake energy speed are not limiting?

- A) VR**
- B) VMCA
- C) VREF
- D) V2

60-Which are the two most important parameters to determine the value of VMCG?

- A) Air density and rudder deflection
- B) Engine thrust and air density
- C) Engine thrust and flap setting
- D) Engine thrust and rudder deflection**

61-Compared with still air, a tailwind will cause the value of V₁ to:

- A) decrease**
- B) a take-off with tailwind is not permitted

- C) remain unchanged
- D) increase

62-The minimum value of V_2 (class A):

- A)** must not be less than $1,1V_{mc}$ or $1,2V_s$
- B) must not be less than $1,1V_{mu}$ or $1,2V_s$
- C) must not be less than $1,1V_s$ or $1,2V_{mc}$
- D) must not be less than $1,1V_{lof}$ or $1,2V_s$

63-The 'maximum tyre speed' limits:

- A)** VLOF in terms of ground speed
- B) V_1 in kt TAS
- C) V_1 in kt ground speed
- D) VR, or VMU if this is lower than VR

64-Which of the following distances will increase if you increase V_1 ?

- A) All Engine Take-off distance
- B) Take-off run
- C) Take-off distance
- D)** Accelerate Stop Distance

67-If the anti-skid system is inoperative:

- A) the landing distance required will be unchanged because anti-skid is not taken account of in determining landing performance
- B) the landing distance required will only increase on runways that are wet or precipitation covered
- C)** the landing distance required will increase
- D) the landing distance required will decrease

68-The navigation plan reads:

Trip fuel: 100 kg

Flight time: 1h35min

Taxi fuel: 3 kg

Block fuel: 181 kg

The endurance on the ICAO flight plan should read:

- A) 2h 04min
- B)** 2h 49min
- C) 2h 52min
- D) 1h 35min

69-In the ATS flight plan Item 13, in a flight plan submitted before departure, the departure time entered is the:

- A) estimated time over the first point en route
- B) estimated take-off time
- C) allocated slot time

D) estimated off-block time

70-TOTAL ELAPSED TIME for an IFR flight, when filling in the ICAO flight plan at box 16, is the time elapsed from:

- A) taxiing until the IAF (Initial Approach Fix) of the destination aerodrome
- B) taxi-out prior to take-off until taxiing after landing
- C)** take-off until reaching the IAF (Initial Approach Fix) of the destination aerodrome
- D) take-off until landing

71-On a ATC flight plan, to indicate that you will overfly the way-point ROMEO at 120 kt at flight level 085, you will write:

- A) ROMEO / K0120 FL085
- B)** ROMEO / N0120 F085
- C) ROMEO / F085 N0120
- D) ROMEO / FL085 N0120

72-In the ATS flight plan item 15, when entering a route for which standard departure (SID) and standard arrival (STAR) procedures exist:

- A) STARS should be entered but not SIDs
- B) SIDs should be entered but not STARS
- C) neither SID nor STAR should be entered
- D)** both should be entered in the ATS plan where appropriate

73-Given the following flight plan information:

Trip fuel: 136 kg

Flight time: 2.75 hrs

Reserve fuel: 30% of trip

Fuel in tanks: minimum

Taxi fuel: 3 kg

State how ENDURANCE should be completed on the ICAO flight plan:

- A) 0245
- B) 0249
- C) 0338
- D)** 0334

74-Refer to the ICAO Flight Plan Form)

Item 9 of the ATS flight plan includes NUMBER AND TYPE OF AIRCRAFT. In this case, the NUMBER means:

- A) the ICAO type designator number as set out in ICAO Doc 8643
- B)** the number of aircraft flying in a group
- C) the registration number of the aircraft
- D) the number of aircraft which will separately be using a repetitive flight plan (RPL)

75-If a flight is subject to ATFM the flight plan should be filed:

- A) 30 minutes
- B) 60 minutes
- C) 120 minutes
- D) 180 minutes**

76-How many hours in advance of departure time should a flight plan be filed in the case of flights into areas subject to air traffic flow management (ATFM)?

- A) 0:30 hours
- B) 3:00 hours**
- C) 0:10 hours
- D) 1:00 hour

77-The planned departure time from the parking area is 1815 UTC. The estimated take-off time is 1825 UTC. The IFR flight plan must be filed with ATC at the latest at:

- A) 1725 UTC
- B) 1715 UTC**
- C) 1745 UTC
- D) 1755 UTC

78-if a pilot lands at an aerodrome other than the destination aerodrome specified in the flight plan, he must ensure that the ATS unit at the destination aerodrome is informed within a certain number of minutes of his planned ETA at destination. This number of minutes is:

- A) 10
- B) 15
- C) 30**
- D) 45

79-You have filed a flight plan for an uncontrolled flight and suffer a delay prior to departure. After how long a delay must you restate your OB?T?

- A) 30 mins
- B) 90 mins
- C) 60 mins**
- D) 40 mins

80-In the ATS flight plan item 15, it is necessary to enter any point at which a change of cruising speed takes place.

For this purpose a CHANGE OF SPEED is defined as:

- A) 20 km per hour or 0.1 Mach or more
- B) 5% TAS or 0.01 Mach or more**
- C) 10 % TAS or 0.05 Mach or more
- D) 20 knots or 0.05 Mach or more