

Questions

1. How is wind considered in the take-off performance data of the Aeroplane Operations Manuals?
 - a. Unfactored headwind and tailwind components are used
 - b. Not more than 80% headwind and not less than 125% tailwind
 - c. Since take-offs with tailwind are not permitted, only headwinds are considered
 - d. Not more than 50% of a headwind and not less than 150% of the tailwind
2. What will be the influence on the aeroplane performance if aerodrome pressure altitude is increased?
 - a. It will increase the take-off distance
 - b. It will decrease the take-off distance
 - c. It will increase the take-off distance available
 - d. It will increase the accelerate-stop distance available
3. The required Take-off Distance (TOD) and the field length limited Take-off Mass (TOM) are different for the zero flap case and take-off position flap case. What is the result of flap setting in take-off position compared to zero flap position?
 - a. Increased TOD required and decreased field length limited TOM
 - b. Increased TOD required and increased field length limited TOM
 - c. Decreased TOD required and decreased field length limited TOM
 - d. Decreased TOD required and increased field length limited TOM
4. During take-off, the thrust of a fixed pitch propeller:
 - a. increases slightly while the aeroplane speed builds up
 - b. varies with mass changes only
 - c. has no change during take-off and climb
 - d. decreases while the aeroplane speed builds up
5. What will be the effect on an aeroplane's performance if aerodrome pressure altitude is decreased?
 - a. It will increase the take-off distance required
 - b. It will increase the take-off ground run
 - c. It will decrease the take-off distance required
 - d. It will increase the accelerate-stop distance

6. The take-off distance of an aircraft is 800 m in a standard atmosphere with no wind and at 0 ft pressure altitude. Using the following corrections:

± 20 m / 1000 ft field elevation
- 5 m / kt headwind
+ 10 m / kt tailwind
± 15 m / % runway slope
± 5 m / °C deviation from standard temperature

The take-off distance from an airport at 2000 ft elevation, temperature 21°C, QNH 1013.25 hPa, 2% upslope, 5 kt tailwind is:

- a. 810 m
- b. 970 m
- c. 890 m
- d. 870 m

7. An uphill slope:

- a. increases the take-off distance more than the accelerate-stop distance
- b. decreases the accelerate-stop distance only
- c. decreases the take-off distance only
- d. increases the allowed take-off mass

8. Other factors remaining constant and not limiting, how does increasing pressure altitude affect allowable take-off mass?

- a. Allowable take-off mass remains uninfluenced up to 5000 ft pressure altitude
- b. Allowable take-off mass decreases
- c. Allowable take-off mass increases
- d. There is no effect on allowable take-off mass

9. In reality, the net thrust of a jet engine at constant rpm:

- a. does not change with changing altitude
- b. is independent of the airspeed
- c. decreases with the airspeed
- d. increases with the airspeed

10. Which of the following are to be taken into account for the runway in use for take-off?

- a. Airport elevation, runway slope, standard temperature, pressure altitude and wind components
- b. Airport elevation, runway slope, outside air temperature, standard pressure and wind components
- c. Airport elevation, runway slope, outside air temperature, pressure altitude and wind components
- d. Airport elevation, runway slope, standard temperature, standard pressure and wind components

11. For a take-off in slush, the slush drag:
- a. will increase up to aquaplaning speed and then remain constant
 - b. will increase up to aquaplaning speed and then decrease
 - c. will increase up to aquaplaning speed and then increase at a greater rate
 - d. will decrease progressively up to the lift-off speed
12. With contamination on the aircraft wings and fuselage only:
- a. the TODR will be unaffected
 - b. the ASDR will decrease
 - c. stalling speed is not affected
 - d. the lift-off speed will be increased
13. The gross take-off distance (TOD) is defined as being from brake release until:
- a. the aeroplane's main wheel lifts off the runway
 - b. the aeroplane has reached 35 ft
 - c. the aeroplane has reached the screen height
 - d. the aeroplane is safely off the ground
14. The result of a higher flap setting up to the optimum at take-off is:
- a. a higher V_R
 - b. a longer take-off run
 - c. a shorter ground roll
 - d. an increased acceleration
15. V_R is the speed at which:
- a. the aeroplane nose wheel is off the ground
 - b. the pilot initiates the action required to raise the nose wheel off the ground
 - c. the main wheels lift off the ground
 - d. the aeroplane rotates about the longitudinal axis
16. During take-off:
- a. the acceleration force decreases
 - b. wheel drag increases
 - c. thrust increases
 - d. total drag decreases
17. High altitudes, hot air and humid conditions will:
- a. increase the take-off payload
 - b. decrease the take-off mass
 - c. increase the take-off performance
 - d. decrease the take-off distance
18. The main purpose for taking off into wind is to:
- a. decrease the true ground speed
 - b. decrease the aeroplane performance
 - c. increase the true ground speed
 - d. increase the take-off distance

19. What is the effect of a contaminated runway on the take-off?
- a. Increases the take-off distance and greatly increases the accelerate-stop distance
 - b. Increases the take-off distance and decreases the accelerate-stop distance
 - c. Decreases the take-off distance and increases the accelerate-stop distance
 - d. Decreases the take-off distance and greatly decreases the accelerate-stop distance
20. Which of the following statements is correct?
- a. If a clearway or a stopway is used, the lift-off point must be attainable at least by the end of the permanent runway surface
 - b. A stopway means an area beyond the take-off run available, able to support the aeroplane during a rejected take-off
 - c. An under-run is an area beyond the runway end which can be used for a rejected take-off
 - d. A clearway is an area beyond the runway which can be used for a rejected take-off
21. A 'balanced field length' is said to exist where:
- a. the accelerate-stop distance available is equal to the take-off distance available
 - b. the clearway does not equal the stopway
 - c. the accelerate-stop distance is equal to the all engine take-off distance
 - d. the one engine out take-off distance is equal to the all engine take-off distance
22. The stopway is an area which allows an increase only in:
- a. the accelerate-stop distance available
 - b. the take-off run available
 - c. the take-off distance available
 - d. the landing distance available
23. An airport has a 3000 metres long runway, and a 2000 metre clearway at each end of that runway. For the calculation of the maximum allowed take-off mass, the take-off distance available cannot be greater than:
- a. 4000 metres
 - b. 3000 metres
 - c. 5000 metres
 - d. 4500 metres
24. Can the length of a stopway be added to the runway length to determine the take-off distance available?
- a. Yes, but the stopway must be able to carry the weight of the aeroplane
 - b. Yes, but the stopway must have the same width as the runway
 - c. No
 - d. No, unless its centre line is on the extended centre line of the runway

25. In relation to runway strength, the ACN:

- a. must not exceed 90% of the PCN and then only if special procedures are followed
- b. may exceed the PCN by up to 10% or 50% if special procedures are followed
- c. may exceed the PCN by a factor of 2
- d. must equal the PCN

26. The TODA is:

- a. declared runway length only
- b. declared runway length plus clearway up to a maximum of 150% of TORA
- c. declared runway length plus stopway
- d. declared runway length plus clearway and stopway

27. Take-off distance available is:

- a. take-off run available plus clearway up to 50% of TORA
- b. take-off run minus the clearway, even if clearway exists
- c. always 1.5 times the TORA
- d. 50% of the TORA

28. Can a clearway be used in the accelerate-stop distance calculations?

- a. Yes
- b. No
- c. Only if the clearway is shorter than the stopway
- d. Only if there is no clearway

29. The take-off distance available is:

- a. the total runway length, without clearway even if one exists
- b. the length of the take-off run available plus any length of clearway available, up to a maximum of 50% of TORA
- c. the runway length minus stopway
- d. the runway length plus half of the clearway

30. The stopway is:

- a. at least as wide as the runway
- b. no less than 152 m wide
- c. no less than 500 ft wide
- d. as strong as the main runway

31. Which class of aeroplane describes all multi-engine turbojet aeroplanes?

- a. Unclassified
- b. Class C
- c. Class B
- d. Class A

32. A propeller aeroplane with nine or less passenger seats and with a maximum take-off mass of 5700 kg or less is described as:

- a. unclassified
- b. Class C
- c. Class B
- d. Class A