Exam simulation

EASA Drone License A2 - Meteorology

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STUDENT NAME:	DATE AND TIME:

01. What effect does high humidity have on air density?

a) It makes the air denser, improving drone lift

b) It has no effect on air density

c) Because water vapour is lighter than dry air molecules, adding moisture makes the overall air mass less dense, which degrades aircraft performance

d) It causes the air density to fluctuate wildly every second

02. Where on Earth is the 'Coriolis Effect' (which deflects moving air) at its strongest?

a) At the Equator

b) At the North and South Poles

c) At 45 degrees latitude

d) Over the Pacific Ocean exclusively

03. In a METAR report, what does the weather code 'SN' indicate?

a) Snow

b) Sandstorm

c) Squall line

d) Smoke

04. Regarding privacy and data protection (GDPR), a remote pilot equipped with a camera should:

a) Avoid capturing recognizable faces or private properties without consent, and securely manage any personal data recorded

b) Only fly at night to obscure faces in the footage

c) Ignore privacy laws, as drones are exempt from GDPR in public spaces

d) Broadcast all video feeds directly to a public server

05. What is a 'Jet Stream'?

a) The exhaust trail left by a jet engine

b) A warm ocean current flowing from the tropics

c) A narrow band of very strong, high-altitude winds (often exceeding 100 knots) flowing generally from west to east near the tropopause

d) A sudden burst of wind near a mountain valley

06. In a METAR report, what does the code '-RA' indicate?

a) Heavy Rain

b) Light Rain

c) No Rain

d) Freezing Rain

07. What is a 'NOTAM'?

a) National Operation for Toy Aviation Models

b) Notice To Air Missions (or Airmen); a temporary alert containing essential information regarding airspace conditions, hazards, or flight restrictions

c) A specific type of high-capacity drone battery

d) A certificate proving the pilot's medical fitness

08. In the lower troposphere, standard atmospheric pressure decreases by approximately 1 hPa for every:

a) 10 feet of altitude gained

b) 27 to 30 feet (approx. 8 metres) of altitude gained

c) 100 feet of altitude gained

d) 1,000 feet of altitude gained

09. Above the friction layer, the 'geostrophic wind' flows:

a) Perpendicular to the isobars

b) Straight up into the stratosphere

c) Parallel to the isobars, balancing the pressure gradient force and the Coriolis force

d) In a perfect circle around the equator

10. What is a 'Stationary Front'?

a) A front moving faster than 50 knots

b) A boundary between two different air masses where neither is strong enough to replace the other, resulting in very little movement

c) A thunderstorm that stays in one place

d) A solid wall of fog

11. What is the standard temperature lapse rate in the troposphere under ISA conditions?

a) It decreases by approximately 2.0 °C per 1,000 feet (or 6.5 °C per 1,000 metres) of altitude gained

b) It increases by 1 °C for every 100 metres of altitude

c) It remains completely constant up to 30,000 feet

d) It drops by exactly 10 °C per 1,000 feet

12. In the event of an imminent collision between your drone and a manned aircraft, what is the absolute priority?

a) Save the drone to prevent financial loss

b) Take a photo of the manned aircraft to report them

c) Hover in place and wait for the manned aircraft to turn around

d) The safety of human life in the manned aircraft is paramount; you must immediately ditch or crash your drone into the ground if it is the only way to avoid the collision

13. Which of these is a correct step in a pre-flight physical inspection?

a) Bending the propellers as hard as possible to test flexibility

b) Spinning the motors by hand while unpowered to check for grit, resistance, or damaged bearings

c) Washing the drone's flight controller with soap and water

d) Short-circuiting the battery to ensure the failsafe works

14. In the context of risk management, what is a 'Contingency Procedure'?

a) A plan for buying a new drone

b) A predefined action taken to handle an abnormal situation (like a low battery warning) and prevent it from escalating into a critical emergency

c) The procedure for turning on the remote controller

d) A method to bypass airspace restrictions

15. In a METAR report, what does the weather abbreviation 'BR' stand for?

a) Broken clouds

b) Heavy Rain

c) Mist (from the French 'Brumes')

d) Blowing Sand

16. In aviation meteorology, 'Wind Shear' is defined as:

a) A gradual change in wind direction over several days

b) A sudden, drastic change in wind speed and/or direction over a very short vertical or horizontal distance

c) The friction caused by wind hitting the drone's propellers

d) A constant, steady breeze from the ocean

17. The Beaufort scale is used in meteorology to:

a) Measure the intensity of an earthquake

b) Calculate the exact humidity in the air

c) Estimate wind speed empirically based on visual observations of its effects on the sea or land (e.g., leaves rustling, branches moving)

d) Determine the altitude of the cloud base

18. During night operations (where legally permitted), EASA requires drones to be equipped with:

a) Infrared night-vision cameras

b) A flashing green light to ensure the drone is visible and distinguishable from manned aircraft

c) A continuous loud siren to warn bystanders in the dark

d) Laser rangefinders

19. What is the function of the Direct Remote Identification (Remote ID) system on a drone?

a) It locally broadcasts the drone's serial number, position, altitude, and the pilot's location to authorities and the public

b) It allows the manufacturer to remotely control the drone during an emergency

c) It is a sensor used strictly to avoid mid-air collisions with birds

d) It records high-definition video onto an encrypted cloud server

20. What is 'Command Latency' in remote piloting?

a) The slight delay between the pilot moving the control stick and the drone executing the physical manoeuvre

b) The time it takes to get permission from ATC

c) The duration of the drone's battery

d) The time required to read the flight manual

21. If the environmental lapse rate is much greater than the standard 2°C per 1,000 ft (e.g., the air cools very rapidly with height), the atmosphere is considered:

a) Absolutely stable with no chance of clouds

b) Unstable, which promotes the development of strong updrafts, turbulence, and convective clouds

c) A perfect vacuum for drone flight

d) A permanent temperature inversion

22. What does a 4S LiPo battery designation mean?

a) It contains 4 cells connected in series, adding their voltages together

b) It will last for exactly 4 hours of flight time

c) It is equipped with 4 separate temperature sensors

d) It contains 4 cells connected in parallel

23. A drone's 'Endurance' is defined as:

a) The maximum horizontal distance it can travel away from the pilot

b) The maximum amount of time the drone can remain airborne on a single battery charge or tank of fuel

c) The physical toughness of the drone's plastic shell

d) The number of gigabytes the SD card can hold

24. Which air mass is physically lighter (less dense) at the same temperature and pressure?

a) Dry air

b) They have the exact same density

c) Humid air (because water vapour molecules weigh less than the nitrogen and oxygen molecules they replace)

d) Cold air

25. While flying in VLOS, if your drone is suddenly and violently pushed upwards without any pilot input, what is the most likely meteorological cause?

a) The drone has been caught in a strong convective thermal updraft or the updraft of a developing cumulus cloud

b) The drone has entered a vacuum

c) The GPS signal is causing the drone to climb

d) The battery voltage has suddenly doubled

26. Flying a drone over featureless terrain, like calm water or a flat snowy field, can cause:

a) A loss of depth perception and difficulty in accurately judging altitude for the remote pilot

b) The battery to charge itself

c) The drone to fly backward automatically

d) Immediate loss of radio link

27. If a multirotor drone experiences a total failure of one motor (on a standard 4-motor quadcopter), what is the inevitable result?

a) The UAS will hover perfectly on three motors

b) The UAS will glide smoothly to the ground like a fixed-wing aircraft

c) The UAS will increase altitude to compensate

d) The UAS will lose aerodynamic balance, likely flipping and crashing, as a quadcopter lacks the redundancy to fly on three motors

28. What is 'LLWS' in an aviation weather forecast?

a) Light Localized Wind System

b) Low-Level Water Saturation

c) Low-Level Wind Shear; a sudden change in wind speed or direction near the ground, which is extremely hazardous during takeoff and landing

d) Lateral Lift Wind Shear

29. What is 'Vortex Ring State' (VRS) or 'Settling with Power' in rotorcraft aerodynamics?

a) A dangerous condition where a multirotor descends too quickly into its own turbulent downwash, losing lift and dropping rapidly despite full throttle

b) The optimal state for battery efficiency during a hover

c) The physical spinning of the drone when the compass fails

d) A software feature that helps the drone land softly

30. In Human Factors, what is the 'size-distance illusion' when piloting a drone?

a) The tendency to overestimate battery life when flying far away

b) A software glitch that miscalculates the drone's altitude

c) The tendency to perceive a large drone as being closer than it actually is, or a small drone as being further away

d) The inability to see the drone when flying against a bright sky

31. What is the primary responsibility of the remote pilot in command?

a) Ensuring the safety of the flight, avoiding collisions, and complying with all operational limitations

b) Delegating legal liability entirely to the visual observer

c) Capturing the highest quality video footage possible

d) Entertaining bystanders during the flight operation

32. Evaluating 'ground risk' before a flight primarily involves analyzing:

a) The likelihood of a manned aircraft entering the airspace

b) The potential for sudden changes in barometric pressure

c) The population density, types of buildings, and the presence of uninvolved people directly below the flight path

d) The quality of the GPS signal emitted by ground stations

33. What is the function of the Flight Controller in a drone?

a) It regulates the temperature of the battery

b) It acts as the 'brain' of the drone, processing inputs from the receiver and sensors (IMU, GPS) to send appropriate commands to the ESCs and motors to maintain stabilized flight

c) It compresses the video files for storage

d) It connects the drone's Wi-Fi to the internet

34. In the Northern Hemisphere, how does the wind flow around a low-pressure system at the surface?

a) Clockwise and spiraling outward

b) Counter-clockwise and spiraling inward

c) Directly downwards into the centre

d) It remains perfectly calm

35. Which of the following is classified as a 'Low Cloud' (base typically below 6,500 ft)?

a) Cirrostratus

b) Stratus

c) Altocumulus

d) Cirrus

36. If you are flying near the wake of a large commercial aircraft, how do the wingtip vortices (wake turbulence) generally move?

a) They shoot straight up into the sky

b) They sink downward and drift outward with the wind, posing a severe danger to UAS flying below and behind the large aircraft's flight path

c) They travel directly forward, ahead of the aircraft

d) They immediately dissipate within 2 seconds

37. If an air mass is pushed up a mountain and its temperature drops below its dew point, what happens?

a) The invisible water vapour condenses into visible water droplets, forming clouds and potentially precipitation (Orographic lifting)

b) The air mass instantly becomes a jet stream

c) The air becomes perfectly dry and clear

d) The air mass catches fire

38. If you are flying in the A2 subcategory and you realize your battery voltage is dropping much faster than anticipated, what is the safest course of action?

a) Push the drone to its top speed to finish the mission quickly

b) Turn off the video transmission to save power and keep flying

c) Abort the mission, safely navigate the drone back to the landing zone, and land immediately before a critical voltage loss occurs

d) Activate the emergency parachute immediately

39. What does a 'green flashing light' on a drone typically signify during night operations under EASA?

a) The battery is critically low

b) It acts as a distinctive anti-collision light, making the drone easily identifiable in the dark compared to manned aircraft

c) The drone is recording video

d) The pilot has lost the radio link

40. What is the cloud coverage (in oktas) for an 'OVC' (Overcast) sky?

a) 1 to 2 oktas

b) 3 to 4 oktas

c) 5 to 7 oktas

d) 8 oktas (the sky is completely covered)

41. In flight dynamics, what is 'Pitch'?

a) Rotation around the vertical axis (turning left or right)

b) Rotation around the longitudinal axis (banking left or right)

c) Rotation around the lateral axis (tilting the nose up or down)

d) The speed at which the drone gains altitude

42. If a payload is attached so that the Centre of Gravity (CG) is shifted significantly forward (nose-heavy), how will the UAS react?

a) The front motors will have to work much harder to maintain a level hover, reducing efficiency and potentially causing instability

b) The drone will automatically increase its maximum speed limit

c) The battery life will double due to aerodynamic momentum

d) The rear motors will overheat while the front motors shut down

43. If a METAR reports 'R27/1200U', what does this indicate?

a) The Runway Visual Range (RVR) for Runway 27 is 1,200 metres, and the visibility is trending Upward (improving)

b) There is a rainstorm (R) at 27 degrees, moving at 1,200 metres per hour

c) The wind is rotating 27 degrees every 1,200 seconds

d) Radar detects a storm 27 miles away at 1,200 feet

44. If you are operating near an airport, what is the primary risk you must mitigate?

a) Collisions with low-flying manned aircraft taking off or landing, which can result in catastrophic accidents

b) The noise of your drone disturbing passengers in the terminal

c) The drone's camera being blinded by runway lights

d) The airport radar charging the drone's battery too quickly

45. The Maximum Take-Off Mass (MTOM) specified in the flight manual includes:

a) Only the weight of the bare airframe without batteries

b) The total weight of the drone, including batteries, payloads, and any accessories, at the moment of take-off

c) The maximum weight the drone can pull horizontally

d) Only the weight of the external payload

46. In the context of Human Factors, 'Command Latency' is:

a) The time it takes for the pilot to receive a flight authorisation

b) The legal time frame for logging flight hours

c) The slight delay between the pilot's input on the controller and the drone's actual physical response

d) The time the battery takes to reach 100% charge

47. If a remote pilot modifies a C2 class UAS with heavy, non-approved aftermarket parts, what is the regulatory consequence?

a) The drone is automatically upgraded to a C3 class

b) The modification may invalidate the C2 class identification label, potentially forcing the drone to be operated under the more restrictive A3 subcategory rules

c) There are no consequences as long as the MTOM remains under 25 kg

d) The drone can only be flown indoors

48. How does surface friction affect the wind near the ground compared to the 'geostrophic wind' at higher altitudes?

a) It speeds the wind up and makes it blow parallel to the isobars

b) It slows the wind down and causes it to blow slightly across the isobars toward areas of lower pressure

c) It has no effect on wind direction or speed

d) It forces the wind to blow strictly vertically

49. How can a remote pilot recover a multirotor from a Vortex Ring State (VRS)?

a) By applying maximum vertical thrust immediately

b) By pitching forward or sideways to fly out of the turbulent column of downwash into clean air

c) By turning the motors off and back on again

d) By rotating the drone 360 degrees on its yaw axis

50. If a drone flies upward into a strong Temperature Inversion layer, what unexpected aerodynamic effect might occur?

a) The sudden encounter with warmer, less dense air can cause a noticeable decrease in lift and motor efficiency

b) The drone will freeze instantly

c) The drone's lift will double

d) The propellers will spin backwards

51. How does EASA define 'BVLOS'?

a) Basic Visual Line of Sight

b) Below Vertical Limit of Space

c) Beyond Visual Line of Sight: an operation where the remote pilot cannot maintain direct, unaided visual contact with the unmanned aircraft

d) Bi-Variable Landing Operation System

52. What is 'Empty-Field Myopia' in the context of maintaining Visual Line of Sight (VLOS)?

a) A condition where the pilot's screen is too bright

b) A visual illusion where the eyes have no specific object to focus on in a featureless sky, causing them to relax and focus at a short distance, making it hard to spot the drone or other aircraft

c) The inability to see the color red in daylight

d) A software error that miscalculates the distance to the home point

53. What meteorological hazard is strongly indicated by the presence of lenticular (lens-shaped) clouds over or downwind of a mountain range?

a) A severe blizzard

b) A totally calm inversion layer

c) An impending drought

d) Mountain waves, characterized by severe clear-air turbulence and strong up/downdrafts

54. In fixed-wing UAV aerodynamics, a 'stall' occurs when:

a) The motor runs out of battery power

b) The critical angle of attack is exceeded, causing a sudden loss of aerodynamic lift

c) The GPS signal is blocked by terrain

d) The propeller spins backwards

55. When wind flows through a narrow mountain valley or a dense group of tall buildings, its speed typically increases. What is this called?

a) The Coriolis Effect

b) The Thermal Inversion Effect

c) The Funneling (or Venturi) Effect

d) The Ground Effect

56. In a METAR report, the abbreviation 'GR' indicates the presence of:

a) Ground Fog

b) Hail (from the French 'Grêle')

c) Gusting Rain

d) Gravel storms

57. When assessing the weather for a drone flight, the remote pilot's responsibility is to:

a) Check the weather once in the morning and ignore it thereafter

b) Only check the weather if flying above 100 metres

c) Obtain forecasts (METAR/TAF/Apps) during pre-flight planning and continuously monitor the real-time weather conditions visually during the entire operation

d) Rely entirely on the drone's internal barometer to warn them of bad weather

58. Why is it important to calibrate the drone's compass in an open area, away from metal structures or vehicles?

a) Metal structures block the Wi-Fi signal required for calibration

b) The drone needs a clear view of the sun to calibrate

c) Large metallic objects or electromagnetic fields can distort the Earth's local magnetic field, leading to an incorrect calibration and erratic flight behavior

d) It takes too long to calibrate near buildings

59. Under the EASA A2 subcategory, how is the 'low-speed mode' physically activated on a C2 drone?

a) By manually changing the propellers to smaller ones

b) By holding the controller sticks at the bottom left position for 5 seconds

c) Via a selectable switch or software toggle on the remote controller/app that strictly limits the maximum speed to 3 m/s

d) It activates automatically whenever the drone senses a person nearby

60. How does alcohol affect a remote pilot's performance?

a) It improves multitasking abilities

b) It impairs judgment, slows reaction times, decreases spatial awareness, and makes the pilot prone to taking dangerous risks

c) It has no effect on remote piloting because the pilot is not physically inside the aircraft

d) It enhances night vision

61. Increasing the payload weight on a drone will have what effect on its flight performance?

a) It will significantly increase the maximum flight time

b) It will decrease the flight endurance (battery life) and reduce manoeuvreability due to higher inertia and power demands

c) It will improve the drone's top speed

d) It will have zero impact as long as it remains under the MTOM

62. When referring to a drone's battery, what does a 'Cell' mean?

a) An individual electrochemical unit within the battery pack that stores energy, typically with a nominal voltage of 3.7V in a LiPo

b) The plastic outer casing of the battery

c) The connector wire that plugs into the drone

d) A software partition on the SD card

63. Gliders and certain drones can gain altitude without motor power by flying into 'Thermals'. What characterizes a thermal?

a) A horizontal gust of wind

b) A localized column of warm air rising due to convective solar heating of the ground

c) A sudden downdraft of cold air

d) An area of high atmospheric pressure

64. When performing routine maintenance on a multirotor, what is the primary reason to check the brushless motors for physical resistance or 'grittiness' when spun by hand?

a) To ensure the magnets are properly polarized

b) To identify worn-out bearings or internal debris (like sand or salt) that could lead to a motor seizure and a catastrophic mid-air failure

c) To manually reset the internal Electronic Speed Controller (ESC) timing

d) To generate a small electrical charge to test the battery's health

65. In Human Factors, what does the 'IMSAFE' checklist stand for?

a) Illness, Medication, Stress, Alcohol, Fatigue, Emotion - a self-assessment to ensure the pilot is fit to fly

b) Internal Motors, Sensors, Altitude, Frequencies, ESCs

c) Immediate Safety Measures And Flight Emergencies

d) It is a standard checklist for formatting the SD card

66. What is 'Yaw' in flight dynamics?

a) The lateral movement of the drone sliding left or right

b) The rotation of the drone around its vertical axis, changing the direction its nose is pointing

c) The angle of the camera gimbal relative to the horizon

d) A sudden drop in altitude

67. Which of these METAR codes represents an obscured sky where the vertical visibility is restricted (e.g., by thick fog)?

a) CAVOK

b) VV (Vertical Visibility, e.g., VV002)

c) FEW

d) SKC (Sky Clear)

68. In the context of Human Factors, what is a primary risk of visual fatigue during Visual Line of Sight (VLOS) flights?

a) A sudden loss of radio telemetry link

b) The inability to correctly estimate the drone's distance, orientation, and altitude

c) The mobile device screen overheating

d) An automated compass calibration failure

69. In the context of Human Factors, what is 'Acute Fatigue'?

a) A long-term state of exhaustion caused by months of overwork

b) Short-term fatigue caused by a single period of heavy exertion, lack of sleep, or a long shift, which can usually be cured by a good night's rest

c) The physical wear and tear on the drone's motors

d) An allergic reaction to the materials of the remote controller

70. How does 'Steam Fog' differ from 'Advection Fog'?

a) Steam fog forms when very cold air moves over warmer water; Advection fog forms when warm, moist air moves over a colder surface

b) Steam fog only happens in the desert; Advection fog only happens in cities

c) Steam fog is caused by pollution; Advection fog is pure water vapour

d) There is no difference; they are two names for the same phenomenon

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Response Scheme

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

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

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Response form

Use this form to mark your answers

01:	02:	03:	04:
05:	06:	07:	08:
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