

AME CET English & General Awareness

Sample Paper – 3

Duration: 30 Minutes

Maximum Marks: 120

Instructions

- This paper contains **30** Multiple Choice Questions (Single Correct Answer), modelled on the combined **English** (Q1–15) and **General Awareness** (Q16–30) sections of the **AME CET** entrance.
- Each correct answer carries **+4 marks**. Each wrong answer carries **–1 mark**. Unattempted questions carry **0 marks**.
- Only **one** option is correct per question. Choose carefully.
- The General Awareness section emphasises **aviation fundamentals, civil-aviation regulation, and basic science** relevant to an Aircraft Maintenance Engineer.
- Use of mobile phones, calculators, or any electronic gadget is strictly prohibited.

Part A: English

- Q1.** Choose the word that is most nearly the **SYNONYM** of the word in capitals: **DILIGENT**
- (A) Lazy
(B) Careless
(C) Hard-working
(D) Forgetful
- Q2.** Choose the word that is most nearly the **ANTONYM** of the word in capitals: **EXPAND**
- (A) Contract
(B) Enlarge



- (C) Stretch
- (D) Widen

Q3. Fill in the blank with the correct preposition: “She is married _____ a doctor who works at the same airbase.”

- (A) with
- (B) to
- (C) from
- (D) by

Q4. Identify the part of the sentence that contains an error. If there is no error, mark (D).

The chief engineer (A) has carefully inspected (B) every part of the wing. (C) No error (D)

- (A) The chief engineer
- (B) has carefully inspected
- (C) every part of the wing
- (D) No error

Q5. Choose the grammatically **correct** sentence:

- (A) She is a honest engineer.
- (B) She is the honest engineer who works here every day.
- (C) She is an honest engineer.
- (D) She is honest engineer.

Q6. Choose the single word for the phrase: “The science and practice of designing, building, and flying aircraft.”

- (A) Astronomy
- (B) Aeronautics
- (C) Geology



(D) Acoustics

Q7. What does the idiom “**break the ice**” mean?

- (A) To start a conversation in a tense or unfamiliar social setting
- (B) To break something valuable by accident
- (C) To end a long friendship suddenly
- (D) To work in extremely cold conditions

Q8. Fill in the blank with the most appropriate word: “Modern aircraft use satellite signals for _____, allowing the crew to plot an exact route from departure to destination.”

- (A) negotiation
- (B) navigation
- (C) renovation
- (D) invitation

Q9. Choose the correct **passive voice** form of: “The mechanic has checked the engine.”

- (A) The engine is checked by the mechanic.
- (B) The engine was checked by the mechanic.
- (C) The engine has been checked by the mechanic.
- (D) The engine had been checked by the mechanic.

Q10. Choose the correct **indirect (reported) speech** form of: He said, “I have finished my work.”

- (A) He said that he has finished his work.
- (B) He said that I had finished my work.
- (C) He says that he had finished his work.
- (D) He said that he had finished his work.



Q11. Read the passage and answer Questions 11 and 12.

Air traffic control (ATC) is the service that keeps aircraft safely separated in the sky and on the ground. Controllers seated in tall tower cabins and in radar rooms watch every flight in their area, talking to pilots over the radio and tracking each aircraft on radar screens. Their main task is to make sure that two aircraft never come dangerously close to one another, whether they are taxiing on the runway, taking off, cruising, or coming in to land. Controllers also pass on weather updates and give pilots clear instructions about height, speed, and direction. Because a single mistake could put hundreds of lives at risk, ATC work demands constant concentration and calm, precise communication.

Q11. According to the passage, the main task of an air traffic controller is to:

- (A) repair aircraft engines before take-off
- (B) keep aircraft safely separated from one another
- (C) sell tickets to passengers at the airport
- (D) design new runways and control towers

Q12. (Based on the passage above.) Controllers track each aircraft mainly with the help of:

- (A) radio and radar screens
- (B) telescopes and binoculars
- (C) printed paper maps only
- (D) the naked eye from the tower

Q13. Fill in the blank with the correct verb: “The team _____ working hard to clear the aircraft before the test flight.”

- (A) are
- (B) were
- (C) have been
- (D) is

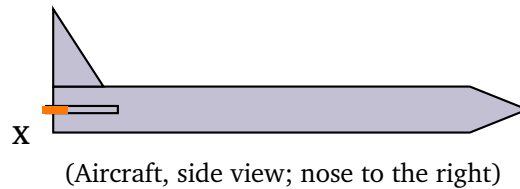


- Q14.** Fill in the blank with the correct verb form: “By next June, she _____ her AME training.”
- (A) completes
 - (B) is completing
 - (C) has completed
 - (D) will have completed
- Q15.** Choose the **correctly spelled** word:
- (A) Manuvre
 - (B) Manoeuvere
 - (C) Manoeuvre
 - (D) Maneouvre

Part B: General Awareness

- Q16.** In aviation licensing, the abbreviation **CPL** stands for:
- (A) Commercial Pilot Licence
 - (B) Civil Passenger Line
 - (C) Certified Propeller Licence
 - (D) Control Panel Logic
- Q17.** In India, the licence that authorises an Aircraft Maintenance Engineer to certify an aircraft as airworthy is issued by the:
- (A) Indian Railways
 - (B) DGCA (Directorate General of Civil Aviation)
 - (C) Bureau of Indian Standards
 - (D) Election Commission of India
- Q18.** In the side-view diagram of the aircraft below, the hinged control surfaces marked **X** on the trailing edge of the horizontal tailplane raise or lower the nose of the aircraft. These surfaces are called:





- (A) Ailerons
- (B) Rudder
- (C) Spoilers
- (D) Elevators

Q19. The world's first commercial jet airliner, which entered passenger service in 1952, was the:

- (A) de Havilland Comet
- (B) Boeing 747
- (C) Concorde
- (D) Airbus A380

Q20. Hindustan Aeronautics Limited (HAL), India's major aircraft manufacturer, has its headquarters in the city of:

- (A) Mumbai
- (B) Kolkata
- (C) Bengaluru
- (D) Chennai

Q21. The cockpit instrument that shows the aircraft's orientation relative to the horizon, indicating both pitch and bank, is the:

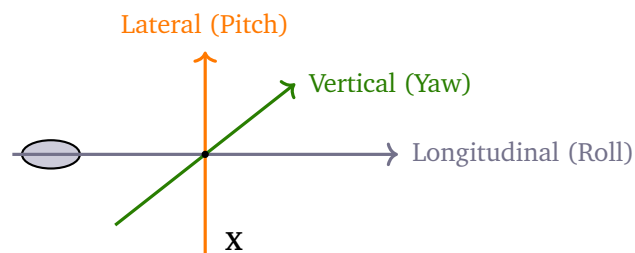
- (A) Fuel gauge
- (B) Tachometer
- (C) Magnetic compass
- (D) Attitude indicator (artificial horizon)



- Q22.** A spinning propeller pushes a large mass of air backwards, and in response the aircraft is pushed forwards. This forward motion is a direct application of:
- (A) Archimedes' principle
 - (B) Pascal's law
 - (C) Newton's third law of motion
 - (D) Ohm's law
- Q23.** The International Civil Aviation Organization (ICAO) was established by an international treaty signed in 1944, known as the:
- (A) Geneva Convention
 - (B) Chicago Convention
 - (C) Paris Convention
 - (D) Montreal Convention
- Q24.** Of the four forces acting on an aircraft, the force produced by the engine that drives the aircraft forward through the air is called:
- (A) Thrust
 - (B) Drag
 - (C) Lift
 - (D) Weight
- Q25.** Which gas makes up about 78% of the Earth's atmosphere and is largely inert, taking little part in ordinary combustion?
- (A) Oxygen
 - (B) Nitrogen
 - (C) Carbon dioxide
 - (D) Hydrogen



- Q26.** The flight recorder that specifically captures the conversations and sounds inside the cockpit is the:
- (A) Altimeter
 - (B) Transponder
 - (C) Flight Data Recorder
 - (D) Cockpit Voice Recorder
- Q27.** ISRO, the national agency responsible for India's space programme, stands for:
- (A) Indian Space Research Organisation
 - (B) Indian Satellite and Rocket Office
 - (C) International Space Research Organisation
 - (D) Indian Scientific Reactor Operation
- Q28.** The figure shows the three axes of rotation of an aircraft passing through its centre of gravity. Rotation about the **lateral axis** (running from wingtip to wingtip), controlled by the elevators, is known as:



- (A) Roll
 - (B) Pitch
 - (C) Yaw
 - (D) Drag
- Q29.** The SI unit of **work and energy** is the:
- (A) Newton



- (B) Watt
- (C) Joule
- (D) Pascal

Q30. A metal aircraft body is electrically bonded, earthed, and fitted with small pointed “static wicks” on the trailing edges mainly in order to:

- (A) increase the engine’s thrust at take-off
- (B) make the aircraft heavier and more stable
- (C) improve the cabin air-conditioning
- (D) safely discharge static electricity that builds up in flight



Detailed Solutions

Q1.

Solution

Concept — Synonyms: A synonym is a word that has the same or nearly the same meaning as another word.

Step 1 — Meaning of the key word: “Diligent” describes a person who works steadily, carefully, and with great effort; it means industrious and hard-working.

Step 2 — Match the option: Among the choices, “Hard-working” carries exactly this sense of putting in sustained, careful effort.

Why other options are wrong:

- Option A (Lazy): The direct opposite of diligent.
- Option B (Careless): Means without attention or effort; opposite in spirit to diligent.
- Option D (Forgetful): Means unable to remember; unrelated to effort.

Final Answer: DILIGENT \approx Hard-working \Rightarrow

[Go Back to Q1](#)

Q2.

Solution

Concept — Antonyms: An antonym is a word opposite in meaning to another word.

Step 1 — Meaning of the key word: “Expand” means to grow larger, to increase in size or volume, or to spread out.

Step 2 — Find the opposite: The opposite of growing larger is “Contract,” which means to become smaller or to shrink.

Why other options are wrong:

- Option B (Enlarge): A synonym of expand, not an antonym.
- Option C (Stretch): Means to extend; close in sense to expand.
- Option D (Widen): Means to make broader; again a synonym, not the opposite.

Final Answer: EXPAND \leftrightarrow Contract \Rightarrow



Answer: (A) [Go Back to Q2](#)

Q3.

Solution

Concept — Fixed preposition with “married”: Certain adjectives and past participles always take a particular preposition. The word “married” is followed by the preposition “to” when naming the person one is married to.

Step 1 — Identify the structure: The blank links “married” with a person (“a doctor”), so a fixed preposition is required.

Step 2 — Choose the matching preposition: The standard collocation is “married to (someone).”

Why other options are wrong:

- Option A (with): A common error; “married with” is non-standard for naming the spouse.
- Option C (from): Used with separation (“different from”), not marriage.
- Option D (by): Marks the agent in a passive construction, not the partner here.

Final Answer: married to a doctor ⇒

Answer: (B) [Go Back to Q3](#)

Q4.

Solution

Concept — Spotting errors (no-error case): Some test sentences are fully correct; the right answer is then “No error.”

Step 1 — Check each part: “The chief engineer” is a correct singular subject; “has carefully inspected” is a correct present-perfect verb with a well-placed adverb; “every part of the wing” is a correct object phrase (“every” + singular noun).

Step 2 — Apply the rule: Since the subject is singular and the verb “has inspected” agrees with it, and the rest is idiomatic, the sentence contains no grammatical error. The answer is part (D).

Why other options are wrong:

- Option A: “The chief engineer” is grammatically correct.



- Option B: “has carefully inspected” is a correct verb phrase.
- Option C: “every part of the wing” is correct (“every” takes a singular noun).

Final Answer: The sentence is correct \Rightarrow No error \Rightarrow

[Go Back to Q4](#)

Q5.

Solution

Concept — Articles “a” vs “an”: “An” is used before a word that begins with a *vowel sound*. The word “honest” begins with a silent “h,” so it starts with a vowel sound and takes “an.”

Step 1 — Test the sound: “Honest” is pronounced “onest”; the leading sound is the vowel “o.”

Step 2 — Choose the right article: A vowel sound requires “an,” giving “an honest engineer.”

Why other options are wrong:

- Option A (a honest): Wrong, because “honest” begins with a vowel sound and cannot take “a.”
- Option B (the honest engineer who works here every day): Adds an unnecessary defining clause and uses “the,” changing the simple intended meaning.
- Option D (honest engineer): Missing the required article altogether.

Final Answer: “She is an honest engineer.” \Rightarrow

[Go Back to Q5](#)

Q6.

Solution

Concept — One-word substitution: A single precise word can replace a longer descriptive phrase.

Step 1 — Read the definition: “The science and practice of designing, building, and flying aircraft” describes the field concerned with flight and aircraft.

Step 2 — Select the term: That field is “Aeronautics.”

Why other options are wrong:



- Option A (Astronomy): The study of stars, planets, and outer space.
- Option C (Geology): The study of the Earth's rocks and structure.
- Option D (Acoustics): The study of sound.

Final Answer: Aeronautics ⇒

Answer: (B) [Go Back to Q6](#)

Q7.

Solution

Concept — Idioms: An idiom is a fixed expression whose meaning cannot be guessed from the literal words.

Step 1 — Recall the idiom: “Break the ice” means to do or say something that relieves tension and gets people talking when they first meet or in an awkward situation.

Step 2 — Match the meaning: The closest meaning is “to start a conversation in a tense or unfamiliar social setting.”

Why other options are wrong:

- Option B (break something valuable): A literal misreading of the words.
- Option C (end a long friendship): Unrelated to the idiom's meaning.
- Option D (work in cold conditions): A literal interpretation of “ice.”

Final Answer: break the ice = start a conversation ⇒

Answer: (A) [Go Back to Q7](#)

Q8.

Solution

Concept — Vocabulary in context: The correct word must fit both the grammar and the meaning of the sentence.

Step 1 — Understand the context: The sentence is about plotting a route and finding the way from departure to destination. The act of finding and following a route is “navigation.”

Step 2 — Select the word: “Satellite signals for navigation” is the natural, meaningful collocation.

Why other options are wrong:



- Option A (negotiation): Discussion to reach an agreement; unrelated to route-finding.
- Option C (renovation): Repairing or restoring a building; not relevant here.
- Option D (invitation): A request to attend; meaningless in this context.

Final Answer: satellite signals for navigation ⇒

[Go Back to Q8](#)

Q9.

Solution

Concept — Active to passive (present perfect): In the passive of a present-perfect sentence (“has/have + past participle”), the object becomes the subject and the verb becomes “has/have been + past participle,” with the original subject introduced by “by.”

Step 1 — Identify the parts: Subject = “the mechanic,” verb = “has checked,” object = “the engine.”

Step 2 — Build the passive: Object first: “The engine” + “has been checked” + “by the mechanic.”

Why other options are wrong:

- Option A (is checked): Simple-present passive; loses the perfect aspect.
- Option B (was checked): Simple-past passive; the original is present perfect.
- Option D (had been checked): Past-perfect passive; the original uses “has,” not “had.”

Final Answer: “The engine has been checked by the mechanic.” ⇒

[Go Back to Q9](#)

Q10.

Solution

Concept — Direct to indirect speech: When the reporting verb is in the past (“said”), a present-perfect tense inside the quotation shifts back to the past perfect, and first-person pronouns change to agree with the speaker.

Step 1 — Shift the tense: “I have finished” (present perfect) becomes “he had finished” (past perfect).



Step 2 — Adjust the pronoun and add “that”: “I” and “my” refer to the speaker “He,” so they become “he” and “his.” The reported clause is joined with “that.”

Why other options are wrong:

- Option A (has finished): Fails to back-shift the present-perfect tense.
- Option B (I had finished my work): Wrongly keeps the first-person pronouns “I” and “my.”
- Option C (says): Changes the reporting verb to the present, which is not required.

Final Answer: “He said that he had finished his work.” ⇒

Answer: (D) [Go Back to Q10](#)

Q11.

Solution

Concept — Reading comprehension (main idea): The answer must come directly from what the passage says, not from outside assumptions.

Step 1 — Find the relevant line: The passage states: “Their main task is to make sure that two aircraft never come dangerously close to one another. . .”

Step 2 — Match to an option: This directly supports “keep aircraft safely separated from one another.”

Why other options are wrong:

- Option A (repair engines): Engine repair is the work of an engineer, never mentioned for controllers.
- Option C (sell tickets): Ticketing is unrelated to air traffic control.
- Option D (design runways): The passage never says controllers design runways or towers.

Final Answer: keep aircraft safely separated ⇒

Answer: (B) [Go Back to Q11](#)



Q12.

Solution

Concept — Reading comprehension (detail recall): Choose the option that restates the passage accurately.

Step 1 — Find the relevant line: The passage says controllers are “talking to pilots over the radio and tracking each aircraft on radar screens.”

Step 2 — Match to an option: Option A (radio and radar screens) repeats this fact exactly.

Why other options are wrong:

- Option B (telescopes and binoculars): Never mentioned in the passage.
- Option C (printed paper maps only): The passage stresses radar, not paper maps.
- Option D (the naked eye): Tracking is done on radar screens, not merely by eye.

Final Answer: radio and radar screens ⇒

[Go Back to Q12](#)

Q13.

Solution

Concept — Collective nouns: A collective noun such as “team” is treated as a *singular* unit when the group acts together, and so it takes a singular verb.

Step 1 — Identify the subject: The subject “the team” is acting as one body working together.

Step 2 — Choose the verb: A singular subject acting as a unit takes the singular verb “is,” giving “The team is working hard.”

Why other options are wrong:

- Option A (are): Plural; would suit “the team members,” not “the team” as a unit.
- Option B (were): Plural and past tense; changes both number and time.
- Option C (have been): Forms a perfect continuous (“have been working”) and is plural; it does not agree with the singular “team.”

Final Answer: “The team is working hard.” ⇒



Answer: (D) [Go Back to Q13](#)

Q14.

Solution

Concept — Future perfect tense: The future perfect (“will have + past participle”) describes an action that will be *completed before* a stated future time.

Step 1 — Spot the time marker: “By next June” fixes a point in the future by which the action will be finished.

Step 2 — Apply the tense: An action completed before that future point uses “will have completed.”

Why other options are wrong:

- Option A (completes): Simple present; cannot express completion by a future deadline.
- Option B (is completing): Present continuous; describes an action in progress now.
- Option C (has completed): Present perfect; links to the present, not to a future deadline.

Final Answer: will have completed ⇒ D

Answer: (D) [Go Back to Q14](#)

Q15.

Solution

Concept — Correct spelling: Recognise the standard spelling of a commonly misspelled word.

Step 1 — Recall the correct form: The word for a planned movement of an aircraft is spelled **manoeuvre** (British spelling: “man-oe-uvre”).

Step 2 — Eliminate the misspellings: Only option C matches the dictionary spelling.

Why other options are wrong:

- Option A (Manuvre): Drops the “oe” and an “e.”
- Option B (Manoeuvere): Adds an extra “e” before the final “re.”
- Option D (Maneouvre): Reverses the order of the vowels to “eou.”



Final Answer: Manoeuvre ⇒ C

Answer: (C) [Go Back to Q15](#)

Q16.

Solution

Concept — Aviation licences: Pilots hold different grades of licence depending on whether they may fly for hire and reward.

Step 1 — Expand the abbreviation: CPL stands for **Commercial Pilot Licence** — the licence that allows a pilot to be paid for flying.

Step 2 — Confirm the role: A CPL holder may operate aircraft commercially, unlike a private pilot.

Why other options are wrong:

- Option B (Civil Passenger Line): Not an aviation licence.
- Option C (Certified Propeller Licence): No such licence exists.
- Option D (Control Panel Logic): An electronics term, not a pilot licence.

Final Answer: Commercial Pilot Licence ⇒ A

Answer: (A) [Go Back to Q16](#)

Q17.

Solution

Concept — AME licensing authority: In India, one national body certifies aircraft, crews, and maintenance engineers.

Step 1 — Identify the body: The **DGCA (Directorate General of Civil Aviation)** issues the AME licence that lets an engineer certify aircraft as airworthy.

Step 2 — Confirm its scope: The DGCA regulates civil aviation safety, licensing, and airworthiness across India.

Why other options are wrong:

- Option A (Indian Railways): Operates trains; has nothing to do with aircraft.
- Option C (Bureau of Indian Standards): Sets product standards, not AME licences.
- Option D (Election Commission): Conducts elections; unrelated to aviation.



Final Answer: DGCA ⇒

Answer: (B) [Go Back to Q17](#)

Q18.

Solution

Concept — Primary flight control surfaces: An aircraft is controlled in pitch, roll, and yaw by movable surfaces on the wings and tail.

Step 1 — Locate the marked surface: The mark X is on the *trailing edge of the horizontal tailplane* — the standard position of the elevators.

Step 2 — Identify its function: The elevators move up or down together to raise or lower the nose, controlling pitch about the lateral axis.

Why other options are wrong:

- Option A (Ailerons): On the outer trailing edge of each wing; control roll, not pitch.
- Option B (Rudder): On the vertical tail fin; controls yaw.
- Option C (Spoilers): On the upper wing surface; reduce lift, not the pitch control shown.

Final Answer: The tailplane trailing-edge surfaces are the elevators ⇒

Answer: (D) [Go Back to Q18](#)

Q19.

Solution

Concept — History of jet airliners: The first jet-powered passenger aircraft marked a turning point from propeller airliners.

Step 1 — Recall the aircraft: The **de Havilland Comet**, a British aircraft, entered commercial passenger service in 1952 as the world's first jet airliner.

Step 2 — Confirm the credit: It pioneered jet travel before later designs improved on its safety and range.

Why other options are wrong:

- Option B (Boeing 747): The first wide-body “jumbo jet,” but it appeared in 1970, much later.



- Option C (Concorde): A supersonic airliner from the 1970s, not the first jet airliner.
- Option D (Airbus A380): A modern double-deck airliner from the 2000s.

Final Answer: de Havilland Comet ⇒

Answer: (A) [Go Back to Q19](#)

Q20.

Solution

Concept — Indian aerospace industry: India's main aircraft manufacturer is a large public-sector company.

Step 1 — Recall the headquarters: Hindustan Aeronautics Limited (HAL) has its headquarters in **Bengaluru** (Bangalore), Karnataka.

Step 2 — Confirm its work: From Bengaluru, HAL designs and builds aircraft, helicopters, and aero-engines.

Why other options are wrong:

- Option A (Mumbai): A major commercial city, but not HAL's headquarters.
- Option B (Kolkata): Not the location of HAL's head office.
- Option D (Chennai): Has aviation industry, but HAL is headquartered in Bengaluru.

Final Answer: Bengaluru ⇒

Answer: (C) [Go Back to Q20](#)

Q21.

Solution

Concept — Flight instruments: Each cockpit instrument measures a specific flight parameter.

Step 1 — Match instrument to quantity: The **attitude indicator** (artificial horizon) shows the aircraft's orientation relative to the horizon, displaying both pitch (nose up/down) and bank (wings tilted).

Step 2 — Confirm: It is the primary instrument a pilot uses to keep the aircraft level when the real horizon is not visible.

Why other options are wrong:



- Option A (Fuel gauge): Shows fuel remaining, not orientation.
- Option B (Tachometer): Shows engine speed in RPM.
- Option C (Magnetic compass): Shows heading/direction, not pitch and bank.

Final Answer: Attitude indicator ⇒ D

Answer: (D) [Go Back to Q21](#)

Q22.

Solution

Concept — Newton's third law: For every action there is an equal and opposite reaction.

Step 1 — Identify action and reaction: The propeller pushes a large mass of air backwards (action); the air pushes the propeller, and hence the aircraft, forwards (reaction).

Step 2 — Name the law: This action–reaction pair is precisely Newton's third law of motion.

Why other options are wrong:

- Option A (Archimedes' principle): Concerns buoyancy in fluids, not thrust.
- Option B (Pascal's law): Concerns transmission of pressure in fluids (hydraulics).
- Option D (Ohm's law): An electrical law relating voltage, current, and resistance.

Final Answer: Newton's third law of motion ⇒ C

Answer: (C) [Go Back to Q22](#)

Q23.

Solution

Concept — Founding of ICAO: International civil aviation is governed by a treaty agreed near the end of the Second World War.

Step 1 — Recall the treaty: ICAO was created by the **Chicago Convention** of 1944 (the Convention on International Civil Aviation), signed in Chicago, USA.

Step 2 — Confirm: This convention laid down the framework for safe and orderly



international air travel.

Why other options are wrong:

- Option A (Geneva Convention): Deals with the laws of war and humanitarian treatment, not aviation.
- Option C (Paris Convention): An earlier 1919 air-navigation agreement, but ICAO came from Chicago 1944.
- Option D (Montreal Convention): A 1999 treaty on airline liability, not the founding of ICAO.

Final Answer: Chicago Convention ⇒

Answer: (B) [Go Back to Q23](#)

Q24.

Solution

Concept — The four forces of flight: An aircraft in flight is acted on by lift, weight, thrust, and drag.

Step 1 — Match the description: The force produced by the engine that drives the aircraft forward is **thrust**.

Step 2 — Confirm the balance: In steady level flight, thrust balances drag while lift balances weight.

Why other options are wrong:

- Option B (Drag): Acts backward, opposing thrust, not driving the aircraft forward.
- Option C (Lift): Acts upward, opposing weight.
- Option D (Weight): Acts downward due to gravity.

Final Answer: Thrust ⇒

Answer: (A) [Go Back to Q24](#)



Q25.

Solution

Concept — Atmospheric composition: Dry air is a mixture dominated by two gases.

Step 1 — Recall the proportions: Air is about 78% **nitrogen** and about 21% oxygen, with small amounts of other gases.

Step 2 — Note the property: Nitrogen is largely inert and does not readily support ordinary combustion, which is why it dominates the atmosphere harmlessly.

Why other options are wrong:

- Option A (Oxygen): Makes up about 21%, not 78%, and actively supports combustion.
- Option C (Carbon dioxide): A trace gas, well under 1% of the atmosphere.
- Option D (Hydrogen): Present only in tiny traces in the air.

Final Answer: Nitrogen ⇒

[Go Back to Q25](#)

Q26.

Solution

Concept — Flight recorders: The “black box” is actually a pair of recorders that together capture what happened on a flight.

Step 1 — Identify the recorder: The **Cockpit Voice Recorder (CVR)** captures the conversations, radio calls, and sounds inside the cockpit.

Step 2 — Distinguish from the other recorder: The CVR records audio, while the Flight Data Recorder logs technical parameters such as speed, altitude, and control inputs.

Why other options are wrong:

- Option A (Altimeter): A cockpit instrument showing altitude, not a recorder.
- Option B (Transponder): Sends identification and altitude signals to ATC; it does not record cockpit audio.
- Option C (Flight Data Recorder): Records flight parameters, not cockpit conversations.

Final Answer: Cockpit Voice Recorder ⇒



Answer: (D) [Go Back to Q26](#)

Q27.

Solution

Concept — India's space agency: A national organisation runs India's satellite and launch-vehicle programmes.

Step 1 — Expand the abbreviation: ISRO stands for **Indian Space Research Organisation**.

Step 2 — Confirm its work: ISRO designs and launches satellites and rockets, and conducts space-science missions.

Why other options are wrong:

- Option B (Indian Satellite and Rocket Office): Not the correct expansion.
- Option C (International Space Research Organisation): ISRO is national (Indian), not international.
- Option D (Indian Scientific Reactor Operation): Refers to nuclear reactors, not space research.

Final Answer: Indian Space Research Organisation ⇒

Answer: (A) [Go Back to Q27](#)

Q28.

Solution

Concept — The three axes of aircraft rotation: An aircraft rotates about three mutually perpendicular axes through its centre of gravity — longitudinal (roll), lateral (pitch), and vertical (yaw).

Step 1 — Identify the lateral axis: The lateral axis runs from wingtip to wingtip (the orange arrow marked X in the figure).

Step 2 — Name the motion: Rotation about this wingtip-to-wingtip axis, produced by the elevators, raises or lowers the nose and is called **pitch**.

Why other options are wrong:

- Option A (Roll): Rotation about the longitudinal (nose-to-tail) axis, controlled by the ailerons.
- Option C (Yaw): Rotation about the vertical axis, controlled by the rudder.



- Option D (Drag): A force, not a rotation about an axis.

Final Answer: Pitch \Rightarrow

Answer: (B) [Go Back to Q28](#)

Q29.

Solution

Concept — SI units: Each physical quantity has a defined SI unit.

Step 1 — Recall the unit of energy: The SI unit of work and energy is the **joule** (J), where $1 \text{ J} = 1 \text{ N} \cdot \text{m}$ (one newton acting through one metre).

Step 2 — Confirm: Whenever a force moves an object through a distance, the work done is measured in joules.

Why other options are wrong:

- Option A (Newton): The SI unit of force, not of energy.
- Option B (Watt): The SI unit of power (rate of doing work).
- Option D (Pascal): The SI unit of pressure (force per unit area).

Final Answer: Joule \Rightarrow

Answer: (C) [Go Back to Q29](#)

Q30.

Solution

Concept — Static electricity on aircraft: As an aircraft flies through air, dust, and precipitation, it picks up an electric charge that must be controlled.

Step 1 — Describe the build-up: Friction with air particles causes static electricity to accumulate on the metal skin during flight.

Step 2 — Reason for bonding and static wicks: Bonding and earthing tie all metal parts to a common potential, and the pointed static wicks (static dischargers) on the trailing edges let the charge leak safely back into the air, preventing sparks and radio interference.

Why other options are wrong:

- Option A (increase thrust): Static wicks have nothing to do with engine power.



- Option B (make the aircraft heavier): They are tiny and add negligible weight, which is not their purpose.
- Option C (improve air-conditioning): Cabin air-conditioning is handled by a separate system.

Final Answer: to safely discharge static electricity ⇒

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Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	A	3	B	4	D	5	C
6	B	7	A	8	B	9	C	10	D
11	B	12	A	13	D	14	D	15	C
16	A	17	B	18	D	19	A	20	C
21	D	22	C	23	B	24	A	25	B
26	D	27	A	28	B	29	C	30	D

