

IGRUA Exam 2023 Demo Test Paper 1

IGRUA Entrance Exam - MCQ Question Paper for Pilot Aspirants

Section A: General Knowledge (1-10) Section B: Mathematics (11-20) Section C: Physics (21-30)

Section D: English (31-40) Section E: Aviation Knowledge (41-50)

Section A: General Knowledge

1. What is the capital city of Australia?
  - a) Sydney
  - b) Melbourne
  - c) Canberra
  - d) Perth
2. What does the acronym RADAR stand for?
  - a) Radio Detection and Ranging
  - b) Remote Aerial Detection and Reporting
  - c) Radio Direction and Ranging
  - d) Remote Access Detection and Ranging
3. Who was the first human to journey into space?
  - a) Neil Armstrong
  - b) John Glenn
  - c) Yuri Gagarin
  - d) Alan Shepard
4. What are the four main points on a compass called?
  - a) North, South, East, West
  - b) North, South, Left, Right
  - c) Up, Down, Left, Right
  - d) Forward, Backward, Left, Right
5. Which is the busiest airport in the world by passenger traffic?
  - a) Hartsfield-Jackson Atlanta International Airport
  - b) Beijing Capital International Airport
  - c) London Heathrow Airport
  - d) Dubai International Airport

Section B: Mathematics

11. If the function  $f(x) = 2x^2 + 3x - 5$ , what is the value of  $f(2)$ ?
  - a) 9
  - b) 11
  - c) 13
  - d) 15
12. Which of the following is NOT a Pythagorean triple?
  - a) (3, 4, 5)
  - b) (5, 12, 13)
  - c) (7, 24, 25)
  - d) (8, 15, 18)

13. If  $\log_a(x) = 2$  and  $\log_b(y) = 3$ , what is the value of  $\log(ab)(xy)$ ?

- a) 5
- b) 6
- c) 10
- d) 15

14. What is the value of the integral of  $x^2$  with respect to  $x$  from 0 to 2?

- a)  $\frac{8}{3}$
- b)  $\frac{16}{3}$
- c) 8
- d) 16

15. What is the derivative of  $\sin(x)$  with respect to  $x$ ?

- a)  $\sin(x)$
- b)  $\cos(x)$
- c)  $-\sin(x)$
- d)  $-\cos(x)$

### Section C: Physics

21. What is the SI unit of force?

- a) Newton
- b) Joule
- c) Watt
- d) Pascal

22. Which of the following is NOT a scalar quantity?

- a) Speed
- b) Mass
- c) Velocity
- d) Temperature

23. What is the work done when a force of 10 N is applied over a distance of 5 meters?

- a) 2 J
- b) 15 J
- c) 50 J
- d) 200 J

24. What is the acceleration due to gravity near the Earth's surface?

- a)  $9.8 \text{ m/s}^2$
- b)  $9.8 \text{ km/s}^2$
- c)  $9.8 \text{ m/s}$
- d)  $9.8 \text{ km/s}$

25. What is the principle behind the working of an airplane's wing?

- a) Bernoulli's principle
- b) Archimedes' principle
- c) Pascal's principle
- d) Newton's third law of motion

Section D: English

31. Choose the correct form of the verb in the following sentence: If I \_\_\_\_ a pilot, I would fly all around the world.
- a) was
  - b) were
  - c) am
  - d) be
32. Choose the appropriate synonym for the word "innovative":
- a) Traditional
  - b) Creative
  - c) Imitative
  - d) Reactive
33. Identify the correct plural form of the word "aircraft":
- a) Aircrafts
  - b) Airplanes
  - c) Aircraft
  - d) Aircaf
34. Choose the appropriate word to complete the sentence: The pilot must \_\_\_\_ in constant communication with the control tower.
- a) remain
  - b) refrains
  - c) sustain
  - d) persists
35. Identify the correct passive voice for the sentence: "The engineers are inspecting the aircraft."
- a) The aircraft is being inspected by the engineers.
  - b) The aircraft are inspected by the engineers.
  - c) The aircraft has been inspected by the engineers.
  - d) The aircraft was inspected by the engineers.

Section E: Aviation Knowledge

41. What does the acronym "ATC" stand for in aviation?
- a) Air Traffic Control
  - b) Aircraft Testing Center
  - c) Aeronautical Technical Committee
  - d) Aviation Training Center
42. Which instrument is used to measure an aircraft's altitude?
- a) Altimeter
  - b) Airspeed Indicator
  - c) Vertical Speed Indicator
  - d) Attitude Indicator
43. What is the primary function of flaps on an aircraft?
- a) Increase lift and drag during takeoff and landing
  - b) Control the yaw motion of the aircraft
  - c) Control the pitch motion of the aircraft
  - d) Control the roll motion of the aircraft

44. Which of the following terms refers to the angle between the chord line of the wing and the relative wind?

- a) Angle of incidence
- b) Angle of attack
- c) Dihedral angle
- d) Bank angle

45. What type of engine is commonly used in commercial airliners?

- a) Piston engine
- b) Turboprop engine
- c) Turbojet engine
- d) Turbofan engine

For answers check [HERE](#)

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