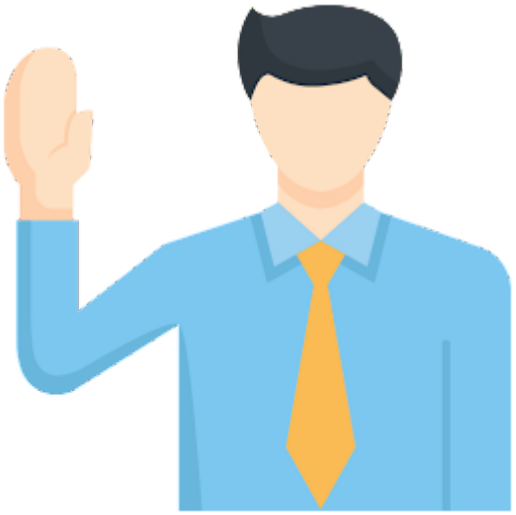
mcq-analytical-reasoning-01-apr-2023

Total points 4/20

Upskill India Jan 2023 Program.

0 of 0 points

I swear on my country (motherland), I swear on my mother tongue, I swear on my family, that I will take this test sincerely and honestly. *



(Icon created by kosonicon - Flaticon)

- (●) I SWEAR.

Enter your registered email as per enrollment in Open Mentor portal or Naan Mudhalvan Portal *

aa

Enter your Naan Mudhalvan Id, if applicable. Otherwise, enter N/A *

aa

Analytical reasoning

4 of 20 points

✗ Under what condition is the average velocity equal to the instantaneous velocity? * 0/1

- (●) Varying velocity ✗
- ( ) Varying speed
- ( ) Constant velocity
- ( ) Constant speed

Correct answer

- (●) Constant velocity

✗ Two trains A and B of length 400m each are moving on two parallel tracks with a uniform speed of 72km/h in the same direction, with A ahead of B. The driver of B decides to overtake A and accelerates by 1m/s. If after 50s, the guard of B just brushes past the driver of A, what is the original distance between them? *0/1

- (●) 50m ✗
- ( ) 150m
- ( ) 125m
- ( ) 1250m

Correct answer

- (●) 1250m

✗ Which of the following holds good in all natural processes? * 0/1

- (●) The Doppler Effect ✗
- ( ) Newton's law of gravitation
- ( ) Electromagnetic law
- ( ) Lenz's law

Correct answer

- (●) Newton's law of gravitation

✗ Convert an acceleration of 2km/h2 into cm/s2. * 0/1

- (●) 2×105 cm/s2 ✗
- ( ) 0.0027 cm/s2
- ( ) 0.0154 cm/s2
- ( ) 0.055 cm/s2

Correct answer

- (●) 0.0154 cm/s2

✓ The instantaneous speed of the point of contact during rolling is zero. * 1/1

- (●) True ✓
- ( ) False

✗ A mass m is moving with a constant velocity along a line parallel to the x-axis, away from the origin. Its angular momentum with respect to the origin _____ *0/1

- (●) Is zero ✗
- ( ) Remains constant
- ( ) Goes on increasing
- ( ) Goes on decreasing

Correct answer

- (●) Remains constant

✗ A body is moving along a straight path. What will happen to the body in the absence of an external field? *0/1

- (●) It will stop ✗
- ( ) It will move with the same speed in a different path
- ( ) It will move with the same speed along the same straight path
- ( ) It will move with a reduced speed along the same path

Correct answer

- (●) It will move with the same speed along the same straight path

✗ Which of the following is also known as the law of inertia? * 0/1

- (●) Newton’s second law of motion ✗
- ( ) Newton’s third law of motion
- ( ) Aristotelian law of motion
- ( ) Newton’s first law of motion

Correct answer

- (●) Newton’s first law of motion

✓ When a cyclist is moving along a curved path, he _____ * 1/1

- (●) Leans inwards ✓
- ( ) Leans outwards
- ( ) Is still
- ( ) Leans sideways

✗ Friction can be increased by _____ * 0/1

- (●) Using air cushion ✗
- ( ) Lubricants
- ( ) Using sand
- ( ) Using ball bearings

Correct answer

- (●) Using sand

✓ Mechanical waves are called elastic waves. * 1/1

- (●) True ✓
- ( ) False

✗ Which of the following is also known as pressure waves? * 0/1

- (●) Transverse waves ✗
- ( ) Longitudinal waves
- ( ) Mechanical waves
- ( ) Stationary waves

Correct answer

- (●) Longitudinal waves

✗ Sound travels through a gas under which of the following condition? * 0/1

- (●) Isothermal condition ✗
- ( ) Non-isothermal condition
- ( ) Adiabatic condition
- ( ) Transverse condition

Correct answer

- (●) Adiabatic condition

✗ Transverse waves can be formed in fluids. * 0/1

- (●) True ✗
- ( ) False

Correct answer

- (●) False

✗ A truck and a car are moving with equal velocity. On applying brakes, both will stop after a certain distance, then? *0/1

- (●) Truck will cover less distance before stopping ✗
- ( ) Car will cover less distance before stopping
- ( ) Both will cover equal distance
- ( ) None of the mentioned

Correct answer

- (●) Car will cover less distance before stopping

✗ A stone of mass m tied to one end of a string of length l is rotated in a circle with the other end of the string as the centre. The speed of the stone is v. If the string breaks, the stone will _____ *0/1

- (●) Move towards the centre ✗
- ( ) Move away from the centre
- ( ) Move along tangent
- ( ) Stop

Correct answer

- (●) Move along tangent

✓ How is the speed related to the magnitude of velocity? * 1/1

- (●) Greater ✓
- ( ) Lesser
- ( ) Equal
- ( ) Doesn't vary

✗ Two balls of different masses (one lighter and one heavier) are thrown vertically upward with same initial speed. Which one will rise to a greater height? *0/1

- (●) The lighter one ✗
- ( ) The heavier one
- ( ) Neither
- ( ) Both the balls

Correct answer

- (●) Both the balls

✕ A player throws a ball upwards with an initial speed of 29.4m/s. What is the direction of acceleration during the upwards motion of the ball? *0/1

- (●) Upwards ✕
- ( ) Diagonal
- ( ) Projectile motion
- ( ) Vertically downwards

Correct answer

- (●) Vertically downwards

✕ Which of the following leads to the law of conservation of energy? * 0/1

- (●) Gravity ✕
- ( ) Isotropy
- ( ) Nuclear force
- ( ) Homogeneity of time

Correct answer

- (●) Homogeneity of time