Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Class: X
Subject: physics
Topic: Force and laws of motion
No. of Questions: 20
Duration: 60 Min
Maximum Marks: 60

Question 1

Question: Inertia is _____

1. a property of matter

2. a type of force

3. the speed of an object

4. none of the above

Answer: 1

Exp: Inertia is a property of a body by virtue of which a body can't change its position by itself.

Question 2

Question: A and B are two objects with masses 100 kg and 75 kg respectively, then _____.

1. both will have the same inertia

2. B will have more inertia

3. A will have more inertia

4. both will have less inertia

Answer: 3

Exp: Inertia of a body is a function of mass.

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Question 3

Question: The resultant of balanced forces is _____

1. non zero

2. equal to zero

3. not equal to zero

4. equal to the acceleration produced in the body

Answer: 2

Exp: Equal and opposite forces

Question 4

Question: The physical quantity, which is the measure of inertia, is _____

1. density

2. weight

3. force

4. mass

Answer: 4

Exp: inertia is associated with mass

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Question 5

Question: The sparks produced during sharpening of a knife against a grinding wheel leaves the rim of the wheel tangentially. This is due to _____

1. inertia of rest

2. inertia of motion

3. inertia of direction

4. force applied

Answer: 3

Exp: The sparks produced during sharpening of a knife against a grinding wheel leaves the rim of the wheel tangentially. This is due to Inertia due to direction.

Question 6

Question: The law that gives a qualitative definition of force is _____

1. Newton's second law of motion

2. Law of inertia

3. Newton's third law of motion

4. Law of gravitation

Answer: 2

Exp: Qualitative is subjected to theory that is based on Law of Inertia.

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Question 7

Question: Name the property of matter due to which a body continues in its state of rest or uniform motion unless an external force acts on it.

1. Inertia

2. Elasticity

3. Viscosity

4. Density

Answer: 1

Exp: Inertia is subjected to oppose any change.

Question 8

Question: The S.I. unit of force is

1. erg

2. joule

3. newton

4. dyne

Answer: 3

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Question 9

Question: When a force of 1N acts on a mass of 1kg that is free to move, the object moves with

1. a speed of 1 m/s

2. a speed of 1 km/s

3. an acceleration 10 m/s^2

4. an acceleration of 1 m/s^2

Answer: 4

Exp: a = F/m

Question 10

Question: The acceleration in a body is due to

1. balanced force

2. unbalanced force

3. mass

4. electrostatic force

Answer: 2

Exp: Net force due to result of unbalanced force would be responsible for acceleration.

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Question 11

Question: When an object undergoes acceleration

1. its speed always increases

2. its velocity always increases

3. it always falls towards the Earth

4. a force always acts on it

Answer: 4

Exp: F = M a

Question 12

Question: A force of 10 N is acting on an object of mass 10 kg. What is the acceleration produced in it?

1. $1\ m/s^2$

2. $1\ m/s$

3. $100\ m/s^2$

4. 100 m/s

Answer: 1

Exp: F = M a

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Question 13

Question: What is the force acting on an object of mass 10 kg moving with a uniform velocity of 10 m/s?

1. 100 N

2. 10 N

3. 0

4. 1 N

Answer: 3

When uniform velocity, acceleration would be zero.

Question 14

Question: An athlete can take a longer jump if he comes running from a distance as compared to that when he jumps suddenly. Identify the type of inertia.

1. Inertia of rest

2. Inertia of motion

3. Inertia of direction

4. Inertia of position

Answer: 2

Exp: Inertia opposes the change in direction

askIITians
ENGINEERING | MEDICAL | FOUNDATION

Question 15

Question: 1 newton = _____

1. $1\,kg\,m/s$

2. $1\,kg\,m/s^2$

3. $1kg^2\,m^2/s^2$

4. $1g$

Answer: 2

Question 16

Question: The physical quantity, which is equal to change in momentum, is

1. force

2. impulse

3. acceleration

4. velocity

Answer: 2

Exp: Impulse is force acting for a short moment which is equal to the change in linear momentum.

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Question 17

Question: The physical quantity, which is equal to rate of change of momentum, is

1. displacement

2. acceleration

3. force

4. impulse

Answer: 3

Exp: Force is due to rate change of linear momentum.

Question 18

Question: 1kg m/s = _____.

1. 1 N s

2. 1 N

3. 1 N m

4. 10 N s

Answer: 1

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Question 19

Question: An example for a vector quantity is _____

1. speed

2. momentum

3. distance

4. length

Answer: 2

Exp: Vector quantity has magnitude with direction.

Question 20

Question: Impulse = _____.

1. ma

2. Ft

3. mv

4. $\frac{v-u}{t}$

Answer: 2

Exp: Force acting for a short moment.