



# PHYSICS

**BOOKS - AGRAWAL EXAM CART BIHAR**

**FORCES AND ITS TYPES (FRICTIONAL  
FORCE, GRAVITATIONAL FORCE,  
THRUST AND PRESSURE)**

**Example**

1. How much net force is required to accelerate a 1000 kg car at  $4.00m / s^2$  ?



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2. Calculate the pressure produced by a force of 800 N acting on an area of  $2.0m^2$ .



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3. The pressure of a gas contained in a cylinder with a movable piston is 300 Pa. The area of the piston is  $0.5m^2$ . Calculate the force that is exerted on the piston.



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**Jnv Previous Years 2007 2020 Questions**

1. A gas filled ballon moves up because \_\_\_\_.

A. gravity force does not act on the balloon

B. there is no frictional force on the balloon

C. upward force on the balloon is more than gravitational force

D. upward force on the balloon is more than frictional force

**Answer: C**



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2. Wearing of cartilate in the body\_\_\_Friction.

A. Increases

B. decreases

C. does not effect

D. may increase or decrease

**Answer: B**



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3. The hand of a cricket bat is usually rough to

----

- A. get more run
- B. get ball on bat
- C. decrease friction
- D. increase friction

**Answer: D**



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4. While walking on the ground we apply force on\_\_\_\_\_

A. shoes

B. ground

C. gravitational

D. friction

**Answer: B**



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5. In preparing a chapatti from dough \_\_\_ force is applied

A. Muscular

B. Friction

C. gravitational

D. Magnetic

**Answer: A**



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6. Mobile oil is applied on iron shutters to \_\_\_ friction.

A. increase

B. decrease

C. remove

D. keep same

**Answer: B**



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7. The surface of mortar and pestle (silbatta) used for grinding is etched again after long use to \_\_\_ friction.

A. keep same

B. remove

C. increase

D. decrease

**Answer: C**



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8. Which one records the distance travelled by the vehicles?

A. Speedometer

B. Manometer

C. Motometer

D. Odometer

**Answer: D**



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9. The pressure exerted by liquid due to increase in depth-

A. reduces

B. increases

C. remains same

D. depends on the nature of liquid

**Answer: B**



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10. Why the food is cooked quickly in pressure cooker ?

- A. Increased pressure, increases the boiling point.
- B. Steam doesn't go waste
- C. Steam cooks food quickly
- D. Water boils at low temperature

**Answer: A**



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11. An ice cube is floating in a glass filled up to its upper point. When ice melts, then-

- A. The level of water will decrease
- B. Water will start coming out
- C. The level of water will remain same
- D. None of the above

**Answer: C**



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12. A force creates acceleration of  $10m / s^2$  in a body of 0.5 kg. the value of force will be:

A. 6N

B. 5N

C. 20N

D. 50N

**Answer: B**



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**13.** In which of the positions given below, any person creates maximum pressure on earth ?

- A. While laying down on earth
- B. While standing on earth
- C. While standing in calm position
- D. While standing on one leg

**Answer: D**



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14. A rectangular block on the top of a table is kept in such a manner that its various sides touch the table. In different situations, this block imposes-

- A. Uniform thrust and uniform pressure
- B. Uniform thrust and different pressure
- C. Different thrust and uniform pressure
- D. Different thrust and different pressure

**Answer: B**



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15. What is the S.I unit of pressure?

A. Pascal

B. Joule

C. Newton

D. Coulomb

**Answer: A**



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**16.** What is the value of 'g' at the centre of Earth ?

A.  $\infty$  (infinite)

B. Unit (one)

C. Zero

D. None of these

**Answer: C**



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17. Pressure is-

A. Scalalr Quantity

B. Vector Quantity

C. Both 'A' and 'B

D. None of these

**Answer: A**



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**18.** The pressure on earth will be least when the man is

A. Lying down

B. Sitting

C. Standing on one foot

D. Standing on both the feet

**Answer: A**



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**19.** The food can be cooked easily in pressure cooker, because-

- A. Boiling happens at higher temperature
- B. Boiling happens at lower temperature
- C. Pressure remains constant
- D. All of the above

**Answer: A**



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20. The pressure created by water filled in any utensil is maximum-

- A. At the bottom of the utensil
- B. At the uppermost surface of water
- C. In the middle of water
- D. At the walls of utensil

**Answer: A**



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21. If we move from lower height place to higher, then the atmospheric pressure-

A. Increases

B. Decreases

C. First increase then decreases

D. There is no change

**Answer: B**



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22. The machine by which the atmospheric pressure is measured at any place, is-

A. Hydrometer

B. Borometer

C. Sonometer

D. Voltmeter

**Answer: B**



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23. What is the SI unit of pressure

A.  $Nm^2$

B.  $Nm$

C.  $N/m$

D.  $N/m^2$

**Answer: A**



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24. The machine by which the atmospheric pressure is measured at any place, is-

A. Dynamometer

B. Hydrometer

C. Lactometer

D. Barometer

**Answer: D**



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25. A more pointed or sharp allpin penetrate the paper easily in comparison to less sharp allpin, because-

A. The price of more sharp all pin more than less sharp all pin

B. More sharp all pin puts more force is comparison to less sharp all pin.

C. More sharp allpin puts more pressure in comparison to less sharp allpin.

D. More sharp allpin puts less force is  
comparison to less sharp allpin.

**Answer: C**



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## Important Questions

1. Which of the following places hat the  
highest atmospheric pressure ?

A. On the top of a hill.

B. In a cable car

C. On the roof top of a tall building

D. At the bottom of the sea

**Answer: D**



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**2. Pressure at a point in the liquid is:**

A. same in all directions

B. greater in the upward direction

C. greater in the downward direction

D. none of the above

**Answer: A**



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**3.** When a body is submerged in liquid, its weight:

A. remains same

B. increases

C. decreases

D. reduces to zero

**Answer: C**



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**4.** A body is floating in upright position in water. Then force of gravity and buoyant force acting on the body are:



A. in the same direction long the same line

B. in opposite direction but along the same  
line

C. at right angle to each other

D. in opposite to direction and from couple  
which turns and only anti clockwise.

**Answer: B**



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5. Force of friction is caused due to :

A. roughness of two surface

B. due to force of adhesion (molecules attraction)

C. weight of body

D. All of the above

**Answer: D**



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6. If the weight of the floating body is equal to the buoyant force then body:

A. sinks

B. rises

C. floats

D. first floats and then sinks

**Answer: C**



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7. When a body is placed in a liquid, the buoyant force experienced by it is equal to the:

A. weight of liquid displaced

B. density of the body

C. volume of body

D. density of liquid

**Answer: A**



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8. A body immersed in a liquid will rise to the surface if the buoyant force acting on it is

A. greater than its actual weight

B. less than its actual weight

C. equal to its actual weight

D. equal to zero

**Answer: A**



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9. If the humidity in the air increase the atmospheric pressure will:

A. increase

B. decrease

C. remain same

D. first increase then decrease

**Answer: A**



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**10.** The reason for spilling out the blood from the nose of mountaineers is :

A. low atmospheric pressure and low blood pressure of the body

B. high atmospheric pressure and low blood pressure of the body

C. low atmospheric pressure and high blood pressure of the body

D. none of the above

**Answer: C**



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**11.** The pressure on earth will be least when the man is

- A. Lying down
- B. sitting
- C. standing by one foot
- D. standing by two feet



**Answer: A**



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**12.** The bottom wall of a dam is made thick as:

A. the water exerts less pressure on the  
bottom wall

B. the water exerts more pressure on the  
bottom wall

C. it looks good

D. it is a custom

**Answer: B**



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**13.** The mercury barometer was invented by:

A. Archimedes

B. Toricelli

C. Fahrenheit

D. Celcius

**Answer: B**



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**14.** At sea level, atmospheric pressure is

A. 760 cm of Hg

B. 76 cm of Hg

C. 0.76 cm of Hg

D. 7.6 cm of Hg

**Answer: B**



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15. What is force?

A. pull

B. push

C. push and pull both

D. none of these

**Answer: C**



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**16.** What is state of motion ?

A. Position of rest

B. position of motion

C. both by the state of rest or motion

D. none of these

**Answer: C**



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17. The strength of force is expressed by?

A. weight

B. mass

C. magnitude

D. longitudinal force

**Answer: C**



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**18.** The force between two charged bodies is called:

- A. muscular force
- B. gravitational force
- C. magnetic force
- D. electrostatic force

**Answer: D**



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19. What happens when two forces act in opposite direction?

A. sum of two factors

B. difference between two factors

C. both of these

D. none of these

**Answer: B**



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20. Magnetic force is a

A. contact force

B. non-contact force

C. both (A) and (B)

D. none of these

**Answer: D**



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21. Force acts on an object may change

A. direction

B. shape

C. speed

D. all of above

**Answer: D**



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22. Leaves or fruits fall on the ground due to

- A. Magnetic force
- B. Gravitational force
- C. Electrostatic force
- D. Muscular force

**Answer: B**



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23. Which force is being applied by a vendor when he is pushing the pusheart ?

- A. Muscular force
- B. Magnetic force
- C. Friction
- D. electrostatic force

**Answer: A**



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24. What happens to the speed of a moving car when force is applied in the opposite

- A. Speed increases
- B. Speed decreases
- C. No change in speed
- D. Change in direction

**Answer: B**



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25. Which force always opposes motion ?

- A. Magnetic force
- B. Electrostatic force
- C. Friction
- D. Muscular force

**Answer: C**



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26. When your friend pushes your bike from behind, what will happen to the speed of the bike ?

A. Speed decreases

B. Speed increases

C. No change

D. Any of the above

**Answer: B**



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27. Which of the following posses gravitation ?

A. Earth

B. Venus

C. Saturn

D. All of the above

**Answer: D**



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**28.** Explain why a charged balloon is repelled by another charged balloon whereas an uncharged balloon is attracted by another charged balloon?

- A. Muscular force
- B. Electrostatic force
- C. magnetic force
- D. Gravitational force

**Answer: B**



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29. A dropper to fill ink works because of which of the following ?

- A. Friction
- B. Magnetic force
- C. Air pressure
- D. Electrostatic force

**Answer: C**



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30. What is the SI unit of force ?

A. Newton

B. Galileo

C. Einstein

D. Faraday

**Answer: A**



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**31. Which animal can easily walk in desert ?**

A. Lion

B. Zebra

C. Giraffe

D. Camel

**Answer: D**



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**32.** Force of friction is an example of

A. contact force

B. Non : contact force

C. both of these

D. None of these

**Answer: A**



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**33.** The direction of force of friction is always \_\_\_ to the direction of motion.

A. Same

B. Opposite

C. Unchanged

D. None of these

**Answer: B**



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**34.** When one body rolls over the surface of another body, the resistance to its motion is called :

A. Rolling friction

B. Sliding friction

C. Fluid friction

D. Static friction

**Answer: A**



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**35.** Choose the correct option for each question. There is only correct response for each question.

Which one of these characteristics does a smooth surface has?

A. Less friction force

B. More friction force

C. Sometimes less and sometimes more  
force

D. All of the above



**Answer: A**



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**36.** When a body slides over the surface of another body, the resistance to its motion is called :

A. Rolling friction

B. Sliding friction

C. Fluid friction

D. Static friction

**Answer: B**



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**37. Fluid friction is also known as:**

A. Rolling friction

B. Sliding friction

C. Drag

D. Static friction

**Answer: C**



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38. Lubricants are the substance which \_\_\_ friction.

A. Increases

B. Decreases

C. Increase or decrease

D. None of these

**Answer: B**



**39.** Fluids are:

A. Gas

B. Liquid

C. Gas as well as liquid

D. None of these

**Answer: C**



40. Sliding friction is \_\_\_ than static friction

A. Smaller

B. Greater

C. Smaller as well as greater

D. None of these

**Answer: A**



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41. Rolling friction is \_\_\_ than sliding friction.

A. Smaller

B. greater

C. Smaller as well as greater

D. None of these

**Answer: A**



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42. Which of the following surface have greater friction ?

A. Smooth surface

B. Rough surface

C. Curved surface

D. None of these

**Answer: B**



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**43.** Friction is reduced by :

A. Ball bearings

B. Glass

C. Both of these

D. None of these

**Answer: A**



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**44.** Friction is a/an:



A. Evil

B. Foe

C. Evil and foe both

D. None of these

**Answer: C**



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**45. On what force friction depends ?**

A. Smoothness of surface

B. Roughness of surface

C. Shape of surface

D. All of the above

**Answer: D**



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**46.** Shape of the aeroplane looks like :

A. Bird

B. Car

C. Boat

D. None of these

**Answer: A**



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**47. Why do tyres of vehicles have tread?**

A. Increase

B. Decrease

C. Remove

D. None of these

**Answer: A**



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**48.** The force required to overcome friction at the instant an object starts moving from rest is a measure of :

A. Rolling friction

B. Sliding friction

C. Drag

D. Static friction

**Answer: D**



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