

NMMS SCIENCE MODEL EXAM

8th Std – Unit 2: Force and Pressure (English Medium)

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1. Force is defined as an external agency which changes the state of rest or motion. It is a _____ quantity.

- A) Scalar
- B) Vector
- C) Derived
- D) Fundamental

Answer: B) Vector

2. The SI unit of force is _____.

- A) Joule
- B) Watt
- C) Pascal
- D) Newton

Answer: D) Newton

3. A force acting perpendicularly on any given surface area of a body is known as _____.

- A) Pressure
- B) Thrust
- C) Friction
- D) Tension

Answer: B) Thrust

4. What is the formula to calculate pressure?

- A) Force $\times$ Area
- B) Area / Thrust
- C) Thrust / Area
- D) Force + Area

Answer: C) Thrust / Area

5. The SI unit of pressure is named after which French scientist?

- A) Isaac Newton
- B) Blaise Pascal
- C) Albert Einstein
- D) Evangelista Torricelli

Answer: B) Blaise Pascal

6. 1 Pascal (Pa) is equal to ____.

- A) 1 N m
- B) 1 N m⁻¹
- C) 1 N m⁻²
- D) 1 N m²

Answer: C) 1 N m⁻²

7. Why do heavy goods-carriers have more number of wheels?

- A) To increase speed
- B) To decrease pressure by increasing area of contact
- C) To increase pressure by decreasing area
- D) To reduce friction

Answer: B) To decrease pressure by increasing area of contact

8. Broader straps are provided on a back-pack for giving _____ pressure on the shoulders.

- A) More
- B) Less
- C) Zero
- D) Equal

Answer: B) Less

9. Camels can walk easily on sand because they have _____.

- A) Long legs
- B) Small hooves
- C) Large padded feet
- D) Heavy body weight

Answer: C) Large padded feet

10. The envelope of air extending up to many kilometers above the Earth's surface is called the _____.

- A) Lithosphere
- B) Atmosphere
- C) Hydrosphere
- D) Biosphere

Answer: B) Atmosphere

11. Atmospheric pressure can be measured using a device called _____.

- A) Thermometer
- B) Barometer
- C) Hygrometer
- D) Anemometer

Answer: B) Barometer

12. The barometer was invented by _____.

- A) Blaise Pascal
- B) Isaac Newton
- C) Torricelli
- D) Galileo

Answer: C) Torricelli

13. Atmospheric pressure _____ with altitude from the surface of the Earth.

- A) Increases
- B) Decreases
- C) Remains constant
- D) First increases then decreases

Answer: B) Decreases

14. At sea level, the height of the mercury column in a barometer is around _____.

- A) 76 cm
- B) 100 cm
- C) 76 mm
- D) 10 cm

Answer: A) 76 cm

15. The pressure exerted by a mercury column of height 76 cm is considered as _____.

- A) 1 Pascal
- B) 1 Newton
- C) 1 Atmosphere (1 atm)
- D) 1 Joule

Answer: C) 1 Atmosphere (1 atm)

16. In the SI system, 1 atm is equal to _____ pascal.

- A) 10,000
- B) 1,00,000
- C) 1,000
- D) 100

Answer: B) 1,00,000

17. Why is cooking difficult at higher altitudes?

- A) Lack of oxygen
- B) Lack of atmospheric pressure reduces the boiling point of water
- C) Water boils at a higher temperature
- D) Fuel does not burn properly

Answer: B) Lack of atmospheric pressure reduces the boiling point of water

18. The upward force exerted by water on a floating or partly submerged body is called _____.

- A) Frictional force
- B) Gravitational force
- C) Buoyant force
- D) Magnetic force

Answer: C) Buoyant force

19. The buoyant force is exerted by _____.

- A) Solids only
- B) Liquids only
- C) Gases only
- D) Both liquids and gases

Answer: D) Both liquids and gases

20. The pressure exerted by a liquid _____ with the depth of the point of observation in it.

- A) Increases
- B) Decreases
- C) Does not change
- D) Becomes zero

Answer: A) Increases

21. Liquids exert the _____ pressure in all directions at a given depth.

- A) Different
- B) Same
- C) Zero
- D) Maximum

Answer: B) Same

22. Why are dams made stronger and broader at the bottom than at the top?

- A) To make them look beautiful
- B) To withstand greater liquid pressure at greater depth
- C) To store less water
- D) To reduce the cost of construction

Answer: B) To withstand greater liquid pressure at greater depth

23. Which law states that the pressure applied at any point of a liquid at rest is distributed equally through all directions?

- A) Newton's Law
- B) Boyle's Law
- C) Pascal's Law
- D) Archimedes' Principle

Answer: C) Pascal's Law

24. The hydraulic lift in automobile service stations works based on ____.

- A) Pascal's law
- B) Torricelli's law
- C) Law of gravitation
- D) Surface tension

Answer: A) Pascal's law

25. Automobile brake systems work according to ____.

- A) Newton's laws of motion
- B) Pascal's law
- C) Law of conservation of energy
- D) Buoyancy

Answer: B) Pascal's law

26. The property of a liquid which tends to minimize the surface area of water is called ____.

- A) Viscosity
- B) Surface tension
- C) Buoyancy
- D) Friction

Answer: B) Surface tension

27. The unit of surface tension is ____.

- A) N m
- B) N m^{-2}
- C) N m^{-1}
- D) Pascal

Answer: C) N m^{-1}

28. Water molecules rise up in plant xylem tissues due to ____.

- A) Gravity
- B) Viscosity
- C) Surface tension (Capillarity action)
- D) Air pressure

Answer: C) Surface tension (Capillarity action)

29. Water strider insects slide on the water surface easily due to ____.

- A) Viscosity of water
- B) Buoyant force
- C) Surface tension of water
- D) High density of insect

Answer: C) Surface tension of water

30. The frictional force opposing the relative motion between successive layers of a liquid is known as ____.

- A) Surface tension
- B) Thrust
- C) Viscous force (Viscosity)
- D) Buoyancy

Answer: C) Viscous force (Viscosity)



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