



Physics

Worksheet 12 : 01/10/2020

Class - IX

**CHAPTER 5 : STATE OF MATTER AND PRESSURE****Instructions:**

- ✓ Watch the uploaded video class from school's website/You Tube channel. For becoming more clear about the basics, watch more than once, if needed.
- ✓ Contact me in case of any difficulty in understanding.

(Questions given in this worksheet are important questions for all exams)

**MCQs**

(Solve Yourself)

- 1.** Which one is the unit of pressure?
  - a) Newton
  - b) Joule
  - c) Pascal
  - d) Watt
- 2.** Which apparatus is used to measure the density?
  - a) Barometer
  - b) Thermometer
  - c) Lactometer
  - d) Hydrometer
- 3.** What is called the ratio of stress and strain?
  - a) Hook's law
  - b) Surface tension
  - c) Elasticity
  - d) Modulus elasticity
- 4.** What is the unit of modulus of elasticity?
  - a)  $\text{Nm}^2$
  - b)  $\text{Nm}$
  - c)  $\text{Nm}^{-1}$
  - d)  $\text{Nm}^{-2}$
- 5.** Which one is a scalar quantity?
  - a) Force
  - b) Velocity
  - c) Pressure
  - d) Momentum
- 6.** If 1N force is applied on  $1\text{m}^2$  area then what is it called?
  - a) 1 Pas
  - b) 1Pa
  - c) 1 poise
  - d) 1T

7. Which one is the dimension of pressure?

- a)  $MLT^{-1}$
- b)  $ML^{-1}T^{-2}$
- c)  $ML^{-1}T^{-3}$
- d)  $ML^{-2}T^{-3}$

8. Applied force on per unit area of an object is known as -

- a) pressure
- b) force
- c) velocity
- d) work

Some substances and their density

Substances	Density ( $kgm^{-3}$ )	Substances	Density ( $kgm^{-3}$ )
Air	1.29	Water (at 4°C)	1000
Cork	250	Iron	7800
Glycerin	1260	Silver	10500
Ice	920	Gold	19300
		Mercury	13600

9. The density of which substance is maximum?

- a) water
- b) ice
- c) glycerin
- d) kerosene

10. What is the volume of 1000 litres of water in  $m^3$ ?

- a) 1
- b) 10
- c) 0.1
- d) 0.001

11. What is the name of the apparatus used to measure the atmospheric pressure?

- a) Thermometer
- b) Barometer
- c) Manometer
- d) Seismometer

12. Melting point of which of the following matter increases as pressure increases?

- a) ice
- b) cast iron
- c) wax
- d) antimony

13. What is the weight of water of  $1cm^3$ ?

- a) 100gm
- b) 1gm
- c) 5gm
- d) 51gm

14. Density of water is the highest at which of following temperature?

- a) 4K
- b) 273K
- c) 277K
- d) 278K

15. What is the unit of density?

- a)  $kgm^{-3}$
- b)  $kgm^{-2}$
- c)  $kgm^{-1}$
- d)  $kgm$

**16.** 1 pascal = ?

- a)  $1\text{Nm}^{-2}$
- b)  $1\text{N}^{-1}\text{m}^{-1}$
- c)  $1\text{Nm}^{-1}$
- d)  $1\text{Nm}$

**17.** What will be the stress if a weight of 98N is hung in a wire of diameter 1mm?

- a)  $1.25 \times 10^{10}\text{Nm}^{-2}$
- b)  $1.25 \times 10^8\text{Nm}^{-2}$
- c)  $1.2 \times 10^8\text{Nm}^{-2}$
- d)  $1.2 \times 10^6\text{Nm}^{-2}$

**18.** Which of the following does not depend upon pressure at point in a liquid at equilibrium?

- a) Density of the liquid
- b) Area of the base of the vessel
- c) Depth of the liquid
- d) On acceleration due to gravity

**19.** What pressure will be at the bottom of a pond if the depth of water in it is 1m?

- a) 9.8 Pa
- b) 98 Pa
- c) 980 Pa
- d) 9800 Pa

**20.** When does blood come out through the nose of a human if the internal blood pressure is risen?

- a) atmospheric pressure < human blood pressure
- b) atmospheric pressure > human blood pressure
- c) atmospheric pressure = human blood pressure
- d) both atmospheric pressure and human blood pressure fluctuate

**21.** What is the density of ice?

- a)  $920\text{kgm}^{-3}$
- b)  $1000\text{kgm}^{-3}$
- c)  $1260\text{kgm}^{-3}$
- d)  $7800\text{kgm}^{-3}$

**22.** If the volume of a body of mass 10kg is  $0.5\text{m}^3$ , then what is its density?

- a)  $0.005\text{kgm}^{-3}$
- b)  $0.05\text{kgm}^{-3}$
- c)  $5\text{kgm}^{-3}$
- d)  $20\text{kgm}^{-3}$

**23.** If the density and mass of an object is  $1000\text{kgm}^{-3}$  and 200 kg respectively, then what is its volume?

- a)  $0.2\text{m}^3$
- b)  $0.5\text{m}^3$
- c)  $2.75\text{m}^3$
- d)  $2.8\text{m}^3$

**24.** Which of the following is the equation of buoyancy?

- a)  $V\rho g$
- b)  $h\rho g$
- c)  $A\rho g$
- d)  $Ah\rho g$

- 25.** Atmospheric pressure -
- it decreases as the height from the earth increases.
  - the density of air increased as it is decreased.
  - as weight of air-column increases it increases

Which of the following is correct?

- i and ii
- ii and iii
- i and iii
- i, ii and iii

- 26.** Plasma -
- is the fourth state of matter
  - particles carry electric charge
  - particles have no definite shapes and volume

Which of the following is true?

- i and ii
- ii and iii
- i and iii
- i, ii and iii

- 27.** Pressure of a liquid kept in a rectangular container is maximum at -
- the top of the liquid
  - the mid-point of the liquid
  - bottom of the liquid

Which one is correct?

- i
- ii
- iii
- i, ii and iii

- 28.** Which point the value of the pressure depends in liquid?
- density of the liquid
  - quantity of the liquid
  - depth of the liquid

Which one of the following is correct?

- i and ii
- ii and iii
- i and iii
- i, ii and iii

- 29.** Plasma is -
- ionized gas at a very high temperature
  - fourth state of the matter
  - without definite shape and volume

Which one is correct?

- i and ii
- ii and iii
- i and iii
- i, ii and iii

- 30.** If the weight of a body is greater than the buoyancy of liquid, then what will be happened?
- the body will completely sink into the liquid
  - the body will float keeping partially immersed
  - in the liquid, the body will be seemed to be weightless
  - the body will rise up on the liquid

**31.** Weight of an object is equal to the weight of a liquid of two-third volume of the object. What will happen if the object is released in that liquid?

- a) sinks in the liquid
- b) floats being half immersed in liquid
- c) floats being fully immersed in liquid
- d) floats being partly immersed in liquid

**32.** The amount of liquid pressure is -

- a) proportional to its depth
- b) proportional to area
- c) inversely proportional to density
- d) equal to acceleration due to gravity

**33.** If force is applied on the free surface of the container, then this force -

- i. will exert pressure at the bottom of the container only
- ii. will exert pressure at the curved surface of the vessel only
- iii. will exert pressure in all directions of the vessel

Which of the following is correct?

- a) i
- b) ii
- c) iii
- d) i, ii and iii

**34.** Which one is the main source of plasma?

- a) the moon
- b) the earth
- c) the sun
- d) minerals

**35.** When is there a possibility of storm?

- a) if the atmospheric pressure decreases
- b) if the atmospheric pressure increases
- c) if the temperature of the atmosphere increases
- d) if the temperature of the atmosphere decreases

**36.** What is the atmospheric pressure on earth surface per square meter?

- a)  $10^4\text{N}$
- b)  $10^3\text{N}$
- c)  $10^5\text{N}$
- d)  $10^6\text{N}$

**37.** With the increase of altitude from the sea-level of the surface of the earth -

- i. the weight of air column decreases
- ii. the density of air column decreases
- iii. the air pressure decreases

Which one is correct?

- a) i and ii
- b) ii and iii
- c) i and iii
- d) i, ii and iii

**38.** In which molecules does a very strong attractive force exists?

- a) solid
- b) liquid
- c) gaseous
- d) all of them

**39.** Atmosphere -

- i. it has weight.
- ii. it has pressure.
- iii. the atmospheric pressure on earth surface is almost  $10^5\text{N}$  per square meter.

Which one is correct?

- a) i and ii
- b) ii and iii
- c) i and iii
- d) i, ii and iii

**40.** Within elastic limit -

- i. stress is directly proportional to strain
- ii. the ratio of stress and strain is constant
- iii. stress is inversely proportional to strain

Which one is correct?

- a) i and ii
- b) ii and iii
- c) i and iii
- d) i, ii and iii

**Read the stem carefully and answer the questions no. 41 and 42.**

The volume of a spherical body is  $200\text{cm}^3$ . Half of the body floats in water.

**41.** What is the weight of water displaced by the body?

- a) 0.98N
- b) 9.8N
- c) 49N
- d)  $9.8 \times 10^5\text{N}$

**42.** The sphere is of -

- i. density  $500\text{kgm}^{-3}$
- ii. lost weight 49N
- iii. buoyancy 0.98N

Which one is correct?

- a) i and ii
- b) ii and iii
- c) i and iii
- d) i, ii and iii

**Read the stem carefully and answer the questions no. 43 and 44**

Volume of a body of mass 500gm is  $64\text{cm}^3$ . Density of water is  $1000\text{kgm}^{-3}$ .

**43.** What is the weight of the body?

- a) 0.49N
- b) 4.9N
- c) 49N
- d) 4900N

**44.** If the body is released in water, then -

- i. the body will sink
- ii. buoyancy will be less than the weight of the body
- iii. lost weight will be equal to the weight of the body

Which of the following is correct?

- a) i and ii
- b) ii and iii
- c) i and iii
- d) i, ii and iii

**45.** Which of the following is the unit of strain?

- a) meter
- b) newton
- c) pascal
- d) it has no unit

**46.** Which one has least Young's modulus?

- a) rubber
- b) bones
- c) wood
- d) glass