



Class: X
Paper: Physics

Max. Marks: 85
Duration: 2 Hours

Section "A" (COMPULSORY) MULTIPLE CHOICE QUESTIONS (MCQ'S)

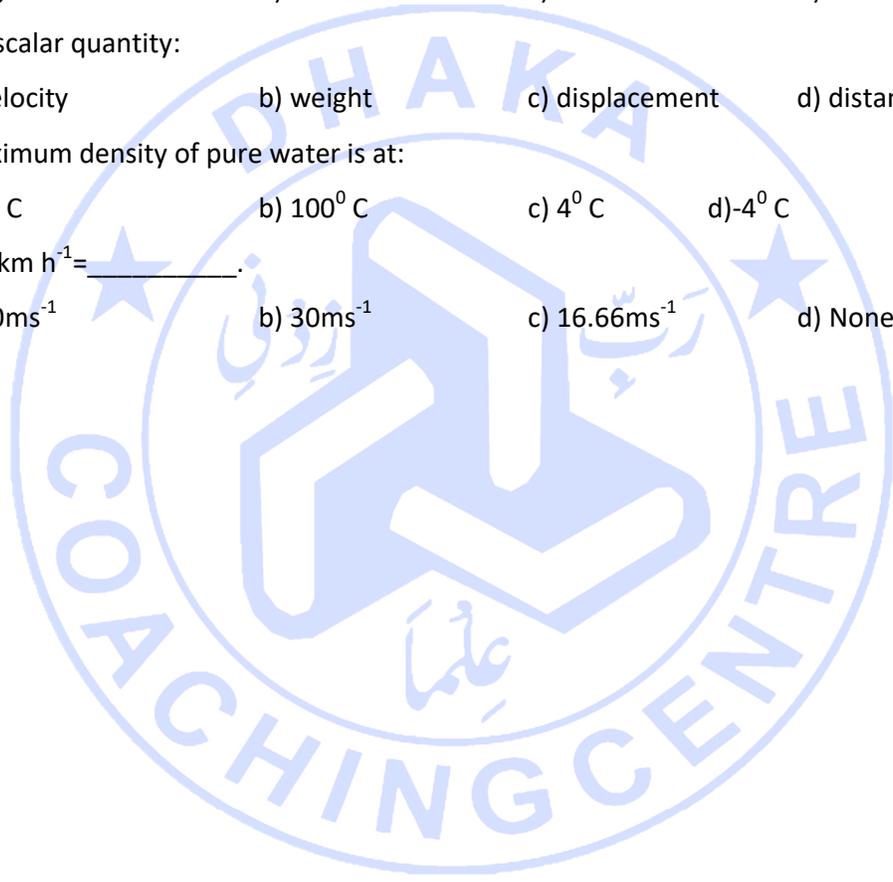
Note:

- (i) Attempt all Questions from this section.
- (ii) Do not copy down the question. Write only the correct answer against the proper number of the question and its part according to the question paper.
- (iii) Each part has 2 marks.

Q1. Choose the correct answer for each from the given options: (44 Marks)

- i. The Geometrical center of the mirror is called _____.
a) magnification b) Pole c) focal length d) focus
- ii. The refractive index of Diamond is _____.
a) 1.52 b) 1.36 c) 1.5 d) 2.42
- iii. We use a _____ to disperse white light into different colors.
a) Convex Mirror b) prism c) Convex lens d) Concave Mirror
- iv. $\text{Kgm/s} =$ _____.
a) N b) N/M c) N/M^2 d) N.S
- v. Ibn-al-Haitham contributed toward _____ physics.
a) Nuclear b) Oceanographic c) Optical d) Thermal
- vi. Acceleration due to gravity denoted by _____.
a) G b) S c) g d) a
- vii. The decomposition of a vector into its component is called _____.
a) Negative vectors b) Head to Tail c) Resultant vector d) Resolution of a vector
- viii. A cone resting on its side is the example of _____.
a) Stable equilibrium b) Neutral Equilibrium
c) Unstable equilibrium d) Equilibrium
- ix. The objects which are used for communication are called _____.
a) Machine b) Magnet c) Lever d) Artificial satellite
- x. For negative work angle will be _____.
a) 180^0 b) 0^0 c) 90^0 d) 45^0
- xi. The value of radius of our galaxy is _____.
a) $6 \times 10^{19}m$ b) 6×10^9m c) $6 \times 10^{15}m$ d) $6 \times 10^{25}m$
- xii. Negative acceleration is also called _____.
a) generation b) combination c) Retardation d) Sublimation
- xiii. One mega ohm resistance is equal to _____ ohm.
a) 10^6 b) 10^{-6} c) 10^8 d) 10^2
- xiv. Like poles of a magnet _____ each other.
a) attract b) neither attract non repel c) repel

- xv. $J/mol.k$ is the unit of _____.
- a) power b) Specific Heat c) Gas Constant d) G
- xvi. A normal human ear cannot hear. Sound whose frequency is less the _____.
- a) 20Hz b) 2 Hz c) 10 Hz d) 12 Hz
- xvii. For forward biased PN Junction positive terminal is connected to.
- a) P-Type crystal b) N-Type c) Neutral d) None of these
- xviii. Which of the following is more penetrating?
- a) α - rays b) β - rays c) γ - rays d) None of these
- xix. The S.I unit of weight is _____ :
- a) Kg b) Joule c) N.s d) Newton
- xx. It is scalar quantity:
- a) velocity b) weight c) displacement d) distance
- xxi. The maximum density of pure water is at:
- a) $0^{\circ}C$ b) $100^{\circ}C$ c) $4^{\circ}C$ d) $-4^{\circ}C$
- xxii. $108 \text{ km h}^{-1} =$ _____.
- a) 20ms^{-1} b) 30ms^{-1} c) 16.66ms^{-1} d) None of these



SECTION "B" (SHORT-ANSWER QUESTIONS)

Marks: 24

PART "I" (Theoretical)

Note: Answer any THREE (3) questions from this part. All questions carry equal marks

(12 Marks)

Q2. Write two differences between

Stress and strain *Fission and Fusion*

Q3. Define Torque .Write the formula, unit and factors of it.

Q4. State the following laws.

Second Law of motion *Ohm's Law* *Hooke's Law* *Pascal law*

Q5. Write four properties of alpha rays.

OR

Define Simple Harmonic motion. Write down two condition of it.

Q6. Describe Quantum Theory of light and Dual nature of light.

PART "II" (Numerical)

Note: Answer any three questions from this part. All questions carry equal marks.

(12 Marks)

Q7. Calculate the length of a pendulum whose time period is 2sec.

Q8. Find the current passing through the heater which has the resistance of 20ohms and a potential difference of 220v is supplied to it.

Q9. Calculate the distance of object from a concave mirror having a focal length of 15cm if the magnification is 3 and the image is real.

Q10. Calculate the amount of heat required to **100g** of water from **10⁰c** to **60⁰c**? (sp. Heat of water 4200)

Q11. A ball is dropped from a height of 122.5m.How much time will it take to reach the ground?

SECTION "C" (DESCRIPTIVE-ANSWER QUESTIONS)

Marks: 17

Note: Answer any TWO (2) questions from this section. All questions carry equal marks.

Q12. State *Boyle's Law* and *Charles' law* and derive $pv = nRT$.

Q13. Explain how value of 'g' acceleration due to gravity varies with decreasing altitude?

Q14. Show that Co-efficient of volumetric expansion is three times equal to Co-efficient of linear expansion.

Q15. Prove that: $S = Vit + \frac{1}{2}at^2$

OR

$$1/f = 1/p + 1/q$$