P. A – I Examination 2021 – 22				
Student Name			**Grade**	XI
Date			**Subject**	PHYSICS
Roll No.		**Time**	**2hr**	**Total Marks**	50

Q -1 Multiple Choice Type Questions (MCQs)   [10]

1) Physics is a/an

a) Engineering Science   b) Mathematical Science

c) Applied Science   d) Natural Science

2) Which force operates among the heavier elementary particles?

a) Electromagnetic force   b) Strong Nuclear Force

c) Weak Nuclear Force   d) Gravitational Force

3) Electromagnetic Force is stronger than Gravitational force by a factor of

a) 10^{36} b) 10^{10}

c) 10^3 d) 100

4) The word Science originates from the Latin word Scientia meaning

a) to observe   b) to know

c) to experience   d) to see

5) What is the central to the growth of Physics?

a) Qualitative description   b) Conjectural description

c) Speculative description   d) Quantitative description

6) Electron volt is a unit of

a) Charge   b) potential difference

c) energy   d) magnetic force

7) Theory of relativity was discovered by

(a) Maxwell   (b) Faraday

(c) Einstein   (d) Pauli

8) Which of the following is not the name of physical quantity?

(a) Kilogram   (b) Density

(c) Impulse   (d) Energy

9) The weight of a body is 12g. This statement is not correct because

(a) The correct symbol for the unit of weight has not been used.

(b) The correct symbol for gram is gm.

(c) The weight should be expressed in kg.

(d) Of some reason other than those given above

10) Which of the following have the same dimensions as Plank's constant?

(a) Moment of momentum

(b) Moment of fierce

(c) Momentum/distance

(d) Force/distance

Q -2 Answer the following (2 Marks each) [20]

Q – 1 to Q-4 Fill in the blanks

(1) The volume of a cube of side 1 cm is equal to…………m^3.

(2) The surface area of a solid cylinder of radius 2.0 cm and height 10.0 cm is equal to ……..$(mm)^2$.

(3) A vehicle moving with a speed of 18 km h^{-1} covers ………. m in 1 s.

(4) The relative density of lead is 11.3. Its density is …….. g cm^{-3} or ………. kg m^{-3}.

Q -5 to Q - 8 Fill in the blanks by suitable conversion of units

(5) 1 kg m^2 s^{-2} = …. g cm^2 s^{-2}

(6) 1 m =………… ly

(7) 3.0 m s^{-2} = …. km h^{-2}

(8) G = 6.67 x 10^{-11} N m^2 $(kg)^{-2}$ = …. $(cm)^3$ s^{-2} g^{-1}.

9) You are given a thread and a metre scale. How will you estimate the diameter of the thread?

10) Atomic and molecular phenomena are dealt with by_____.

Q -3 Answer the following questions (3 Marks each) [12]

1) A new unit of length is chosen such that the speed of light in vacuum is unity. What is the distance between the Sun and the Earth in terms of the new unit if light takes 8 min and 20 s to cover this distance?

2) Which of the following is the most precise device for measuring length:

(a) a vernier callipers with 20 divisions on the sliding scale.

(b) a screw gauge of pitch 1 mm and 100 divisions on the circular scale.

(c) an optical instrument that can measure length to within a wavelength of light?

3) Which of the following is the most precise device for measuring length:

(a) a vernier callipers with 20 divisions on the sliding scale.

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(c) an optical instrument that can measure length to within a wavelength of light?

4) What is Electromagnetic Force

Q -4 Answer the following questions (4 Marks each)   [08]

1) Explain this statement clearly:

"To call a dimensional quantity 'large' or 'small' is meaningless without specifying a standard for comparison". In view of this, reframe the following statements wherever necessary:

(a) atoms are very small objects

(b) a jet plane moves with great speed

(c) the mass of Jupiter is very large

(d) the air inside this room contains a large number of molecules

2) Describe fundamental force in nature

************* Best of Lucky ***************