

I) A) Find my pair. (2)

Column 'A'

1. Displacement reaction
2. Combination reaction

Column 'B'

- a) $2\text{Cu} + \text{O}_2 \rightarrow 2\text{CuO}$
- b) $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2\uparrow$
- c) $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$

B) Name the following: (3)

- 1) The waves on the fabric of space time, coming from an astronomical source-
- 2) The nonmetallic character of an element determining the tendency of an element to form anion.
- 3) Amount of matter present in an object.

II.A) Answer the following: (4)

- 1) Balance the following chemical equation & write the type of reaction .
 $\text{C}_{12}\text{H}_{22}\text{O}_{11} \xrightarrow{\text{heating}} \text{C} + \text{H}_2\text{O}$
- 2) Distinguish between Universal gravitational constant and Gravitational acceleration of the earth.

III . Answer the following: (6)

- 1) Explain the structure of Modern Periodic Table.
- 2) State Kepler's Laws.

IV.) Answer the following: (5)

- a) Solve the following
An object takes 5s to reach the ground from a height of 5m on a planet. What is the value of g on the planet?
- b) Show that in SI units, the unit of G is $\text{Nm}^2 \text{Kg}^{-2}$
- c) What is escape velocity?
