**MODERN PUBLUC SCHOOL**

**SEC 37, FARIDABAD**

**SESSION 2023-24**

**CLASS – X**

**SUBJECT- SCIENCE**

**HOLIDAY HOMEWORK FOR SUMMER VACATION**

Note:

* HOMEWORK should be done neat and clean.
* Last date to submit holiday homework is 3rd July 2023.
* Practical file should also be submitted with holiday homework.
* Science art integrated project should be impressive .

1. Two solutions M and N give Red and Blue colour respectively with a universal indicator.
   1. In which solution will the hydrogen ion concentration be more? Justify your answer.
   2. If both M and N solutions are mixed and the resultant mixture is tested with a universal indicator, it turns green. What is the nature of the salt formed? Justify your answer.
2. What will happen if,
   1. Xylem tissue in a plant is removed?
   2. We are injured and start bleeding?
3. Write a balanced equation to show the reaction that occurs when a piece of aluminium is dipped in a solution of (i) Sulphuric acid, (ii) Sodium hydroxide.
4. Write the colour of the solution formed when copper is treated with hydrochloric acid. Give reason for this observation.
5. With the help of an activity, explain the action of saliva on the food we eat.
6. A student has focused the image of an object of height 3 cm on a white screen using a Concave mirror of focal length 12 cm. If an object is placed at a distance of 20 cm from the optical centre of this lens, according to the New Cartesian Sign Convention, what will be the sign of magnification in this case?
7. Many optical instruments consist of number of lenses. They are combined to increase the magnification and sharpness of the image. The net power ( P) of the lenses placed in contact is given by the algebraic sum of the powers of the individual lenses P1, P2, P3...... as

P= P1+P2+P3

1. What is the nature of the combination of a Convex lens of power + 4D and a Concave lens of power -2 D?
2. Calculate the focal length of a lens of power – 2.5 D?
3. Draw a ray diagram to show the nature and position of an image formed by a convex lens of power + 0.1 D , when an object is placed at a distance of 20 cm from its optical centre.
4. Science – art integrated project

As you are aware about chemicals and fertilizers used by farmers in their crops. Now based on the context mention the fertilizers and chemicals used by Manipur farmers in the crops. Also tell its effect on animals and human beings.( Biological magnification, food chain food web).