



**DELHI PUBLIC SCHOOL**  
**SAIL TOWNSHIP, RANCHI**  
**HALF YEARLY EXAMINATION (2017-18)**

Class:- VII  
Time- 3 Hrs.

Subject:- General Science  
F. M:- 80

**PHYSICS**

- I. 1. How does the heat from the sun reach us ? At what speed does this transfer take place? [1X5=5]
2. Which form of matter does not transfer heat by convection?
3. Which type of mirror is used as  
(a) side view mirror in the car (b) head mirror by ENT doctor?
4. Which lens is used as magnifying glass?
5. If radius of curvature of a concave mirror is 4 cm , find its focal length.
- II. 1. (a) Why does not a clinical thermometer contain markings above 42 ° C? [2X4=8]  
(b) Convert 37 ° C into ° F.
2. (a) Gunny bags are used to prevent melting of ice. Give reason.  
(b) Why do we wear light coloured clothes in summers where as dark coloured in winters?
3. (a) State the two laws of reflection of light.  
(b) What will be distance between you and your image if you are standing 3m in front of a plane mirror ?
4. What is dispersion of light? Name one natural phenomenon based on dispersion of light.
- III. 1. (a) What is the range in ° C of temperature scale in (i) clinical thermometer [3x 3=9]  
(ii) laboratory thermometer?  
(b) Why does a clinical thermometer have constriction in it ? State one reason why is mercury considered as an ideal liquid for thermometer .
2. (a) State two differences between concave and convex lens.  
(b) State two uses of convex lens .
3. (a) State two nature of images formed in a plane mirror.  
(b) A driver uses a convex mirror as a rear view mirror . Explain the reason with the help of a ray diagram.
- IV. Attempt either A or B [5 X 1=5]
1. i) What are the differences between conduction and convection?  
ii) Explain with the help of diagram one application of convection in nature.
- OR**
2. i) Explain with an activity that light travels in a straight path.  
ii) Draw ray diagram to show image formation of a point object by a plane mirror.

## CHEMISTRY

- I. Very short questions:- [1x4 = 4]
1. (a) Name the process by which crystalline solid can be obtained in pure state from their solution. [½]  
(b) What is the solution called which does not change the colour of an indicator. [½]
  2. Write the chemical formula of rust. [1]
  3. Name the chemical which absorbs the moisture and do not allow rusting. [1]
  4. What will be the nature of magnesium oxide? [1]
- II. Short question:- [2x3=6]
1. What is an alkali? Give one example of an alkali which is not a strong base. [1½+ ½=2]
  2. (a) Define neutralization reaction.  
(b) Give an example of neutralization. Write a word equation of it. [1½+½+1=2]
  3. What is galvanization? Name one metal and one non-metal present in steel. [1+1=2]
- III. Long Question:- [3x4=12]
1. (a) Red litmus paper is dipped in a solution. It remains red. What is the nature of solution?  
(b) Two liquids are given to you. One is soap solution and another is lemon juice solution. How will you identify them? You have only one blue litmus paper. [1+1+1=3]
  2. (a) Complete the following reaction  
$$\text{CuSO}_4 + \text{Fe} \longrightarrow$$
  
(b) Which metal gets displaced in the above reaction?  
(c) Why the colour of solution turns to green? [1+1+1=3]
  3. Rima went to her village to meet her grandfather. Her grandfather was unhappy as his bicycle was left in an open area and some brown coloured substances appeared on its handle. She removed the brown layer formed on the handle by rubbing it with sand paper and painted it.  
(a) Why the handle developed brown layer on it?  
(b) Why Rima painted the handle?  
(c) What value did you get from this? [1+1+1=3]
  4. Identify A and B in the given activity-  
(a) When baking soda is treated with lemon juice a gas A is evolved.  
(b) When gas A is passed through lime water it turns milky due to the formation of B.  
(c) Name the type of chemical reaction which occurs in the above reaction (a). [1+1+1=3]
- IV. Very long Question [1x5=5]
1. (a) Name any two synthetic indicator. [1]  
(b) What will be the change in colour of phenolphthalein solution when it is added to vinegar and soap solution? [1]  
(c) Draw a labelled diagram to show the change in colour in the above activity. [3]

**OR**

Four solutions are given to you

(A) Solution A is lemon juice

(B) Solution B is sugar solution

(C) Solution C is soap solution

(D) Solution D is salt solution

- (a) Which solution will turn china rose solution green in colour [½]
- (b) Which solution is neutral? [½]
- (c) What should be the colour of turmeric solution in solution A and solution C? [1]
- (d) Name the chemical present in lemon juice? Draw a labelled diagram of the activity A in which turmeric solution is added to lemon juice. [1+2=3]

**BIOLOGY**

- I. Answer in short. [1X4=4]
1. Why are fungi called saprotroph?
  2. Where is bile juice stored? What is its function?
  3. What are gametes?
  4. Define humidity.
- II. Answer the following questions. [2X4=8]
1. Draw a labeled diagram to show the regions of taste on a tongue.
  2. In which part of the alimentary canal of ruminants is cellulose digested and how ?
  3. Write two points of difference between self and cross pollination.
  4. Why do animals migrate? Name two migratory birds.
- III. Answer briefly. [3X3=9]
1. Write the role of HCL, mucus and digestive juices in our stomach.
  2. (a) Draw the male and female parts of a flower.  
(b) After fertilization, which part of the flower  
(i) changes into fruit.  
(ii) changes into seed.
  3. Write three points of difference between climatic condition in polar region and tropical rain forest.
- IV. Answer the following . [5X1]
1. Write two differences between weather and climate.
  2. Write three adaptations in a polar bear which helps it to survive in the polar region.

**OR**

1. Why is there a variety of life forms in the tropical rain forest?
2. Name three tropical animals and write one adaptation in each.