INDIAN SCHOOL AL WADI AL KABIR

DEPARTMENT OF SCIENCE
2025- 26

PHYSICS Holiday Assignment: SUMMER BREAK
DATE OF SUBMISSION : 14/08/2025 (THURSDAY)

INSTRUCTIONS :

- You can either choose any one of the following projects or any project based on the topics prescribed by CBSE.
- A working model related to the topic should be made in a group not more than 4 students.
- Investigatory project containing significant information about the same should be submitted by each student.
- Physics journal with all experiments completed in lab, should be submitted.

LIST OFINVESTIGATORY PROJECTS

1.	**RAIN ALARM**
2.	WATER LEVEL INDICATOR
3.	LOGIC GATES
4.	FIRE ALARM
5.	METAL DETECTOR
6.	TRAFFIC SIGNAL
7.	AC GENERATOR
8.	MOTOR
9.	SPEED SENSOR

10.	LIGHT SENSOR ROBOT
11.	BURGLAR ALARM
12.	TRANSMISSION OF WAVE THROUGH LIGHT.
13.	STEP UP AND STEP-DOWN TRANSFORMER.
14.	CLAP SWITCH
15.	ANY OTHER PROJECT SUGGESTED IN THE CBSE CURRICULUM OR IN THE LAB MANUAL.

Investigatory Projects suggested by CBSE

1. To study various factors on which the internal resistance/EMF of a cell depends.

2. To study the variations in current flowing in a circuit containing an LDR because of a variation in

(a) the power of the incandescent lamp, used to 'illuminate' the LDR (keeping all the lamps at a fixed distance).

(b) (b) the distance of a incandescent lamp (of fixed power) used to 'illuminate' the LDR.

3. To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equiconvex lens (made from a glass of known refractive index) and an adjustable object needle.

4. To investigate the relation between the ratio of (i) output and input voltage and (ii) number of turns in the secondary coil and primary coil of a self-designed transformer.

5. To investigate the dependence of the angle of deviation on the angle of incidence using a hollow prism filled one by one, with different transparent fluids.

6. To estimate the charge induced on each one of the two identical Styrofoam (or pith) balls suspended in a vertical plane by making use of Coulomb's law.

7. To study the factor on which the self-inductance of a coil depends by observing the effect of this coil, when put in series with a resistor/(bulb) in a circuit fed up by an A.C. source of adjustable frequency.

8. To study the earth's magnetic field using a compass needle -bar magnet by plotting magnetic field lines and tangent galvanometer.

Investigatory project should consist of the following;

INDEX

1. INTRODUCTION
2. WORKING PRINCIPLE
3. THEORY
4. CIRCUIT DIAGRAM IF ANY
5. WORKING
6. CONCLUSION
7. BIBLIOGRAPHY

THANK YOU