

RLJDMC DAV PUBLIC SCHOOL,RANIGANJ

DETAILED INFORMATION AND GUIDELINES ABOUT PHYSICS **INVESTIGATORY** PROJECT FOR CLASS-XII

My dear Students,All of you have successfully passed class XI,now you start preparation for your Board Exam.For a easy start in Physics,all of you use this time to prepare Investigatory project.What is it's importance let me clear all facts as follows.

- For 30 marks in practical you have to prepare three files
 - 1) Laboratory files 2) Activity files 3) Investigatory Project.Last one is our concern for now.

According to the curriculum 30 marks of practical is :-

Time Allowed: 3 hours

Max Marks:30

Two experiments one from each section	8+8 marks
Practical record (experiment and activities)	6 marks
Investigatory Project	3 marks
Viva on experiments activities and project	5 marks
Total	30 marks

Failing to submit any one file,you cannot sit for practical examination.Three files are mandatory at the exam time.

Now some basic ideas on which you can make projects.

- As already you have done project in class XI,you have a rough idea.But for board practical exam this time,project should be completed & error free in all aspect.
- Project will be typed and covered in channel file.
- You can choose your own topic but that topic must be application based and related to your syllabus.

- Don't write irrelevant content. Write as much as you can understand and make people clear about that ideas.
- Before writing or starting project go through that content thoroughly. Mention those point only from which you are enough confident to give answer at the time of viva.
- Don't write more than 20 pages in each project.
- Project is individual project .Each student prepare their own project .
- Topic can be same but the content of the project should be original.
- Each pages should contain proper margin.
- Don't write in both sides of A-4 sheet.
- Full project should be in typed format.
- Body of project should be written in black only.[Font style-Times New Roman,Font Size-12]
- The sequence of pages in projects from beginning is given below:
 - 1. Top Sheet
 - 2. Certificate
 - 3. Acknowledgement
 - 4. Content
 - 5. Aim
 - 6. Continue body of project
 - 7. Conclusion
 - 8. Bibliography

For now don't make top sheet,certificate and acknowledgement.

Topics for project:-(According to CBSE syllabus 2019-20)

- 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 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) 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 equi convex lens (made from a glass of known refractive index) and an adjustable object needle.
- 4) To design an appropriate logic gate combination for a truth table.
- 5) 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.
- 6) 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.
- 7) 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.
- 8) 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.
- 9) To study the earth's magnetic field using a tangent galvanometer.

Since above listed projects can not be completed without laboratory and lab demonstration, I will suggest you to choose topic which is informative, application based and relevant to your syllabus. Some topic I have listed below, you can choose any other topic according to your interest.

1. Project on Fundamental Force of Universe.
2. Role of satellite in advance science.
3. Concept of Electromagnetic waves.
4. Gravitational wave- A new wave in wave family.
5. Fiber Optics.
6. Photo electric effect
7. Universal Logic Gates
8. Role of semiconductor in modern electronics.
9. Application of semiconductor diode- Solar cell.
10. LED- its use and application.
11. What is Optics?(Zone of geometrical and wave optics)
12. Nuclear reactions, its reason and importance of binding energy curve.