

AIRFORCE SCHOOL, VAYUSENA NAGAR NAGPUR

SESSION 2023-2024

HOLIDAY HOMEWORK

SUBJECT : PHYSICS

- 1. Write 4 experiments from Section A and 4 experiments from section B, 3 Activities from section A and 3 Activities from Section B from the Physics Practical/lab manual in Physics practical record following all the conditions and suggestions as discussed during practical periods.**

Section A : Experiments

1. To determine resistivity of two/three wires by plotting a graph for potential difference versus current.
2. To find resistance of a given wire / standard resistor using metre bridge.
3. To verify the laws of combination(series/parallel) of resistances using a metre bridge.
4. To determine resistance of a galvanometer by half deflection method and to find its figure of merit.

Section B : Experiments

1. To find the focal length of a convex mirror using a convex lens.
2. To find the focal length of a convex lens by plotting graphs between u and v or $1/u$ and $1/v$.
3. To determine the refractive index of a glass slab using a travelling microscope.
4. To draw the IV characteristics curve for a pn junction diode in forward and reverse bias.

Activities :

1. To assemble a household circuit comprising three bulbs, three(on/off) switches, a fuse and a power source.
2. To assemble the components of a given electrical circuit.
3. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.
4. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.
5. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
6. To observe diffraction of light due to a thin slit.

2. Start working on Physics investigatory project and prepare a file for it.

3. Attempt the questions from the exercise of “chapter 1: Electric Charges and Fields” which have been asked in previous years CBSE exam.

4. Answer the following questions.

i) An object has charge of 1 C and gains 5.0×10^{18} electrons. The net charge on the object becomes.....

- (a) -0.80 C (b) +0.80 C (c) +1.80 C (d) +0.20 C

ii) Sketch the electric field line for +q and -q.

iii) Why do the electric field lines never cross each other?

iv) A proton is placed in a uniform electric field directed along the positive x-axis. In which direction will it tend to move?

v) The dimensional formula of electric flux is

- (a) $[M^1L^2T^{-2}A^{-1}]$ (b) $[M^{-1}L^3T^{-3}A^1]$ (c) $[M^1L^3T^{-3}A^{-1}]$ (d) $[M^1L^{-3}T^{-3}A^{-1}]$

vi) State the superposition principle for electrostatic force on a charge due to number of charges.

vii) A force F is acting between two point charges q₁ and q₂. If a third charge q₃ is placed quite close to q₂, what happens to the force between q₁ and q₂?

viii) A long cylindrical conductor of diameter 1cm situated in air carries a charge of $20\mu\text{C}/\text{m}$. Find the electric intensity at a point at a distance of 1.5cm from its surface.

ix) A uniformly charged infinite plane sheet has surface charge density of $8.85 \times 10^{-9} \text{C}/\text{m}^2$. The dielectric constant of the medium surrounding the plate is 4. Find the electric intensity due to infinite plane sheet.

x) An isolated conducting sphere of radius 10cm placed in air carries a positive charge of $9\mu\text{C}$. Find the electric intensity (a) at a point on the surface of sphere (b) at the centre of the sphere.

SUBJECT : CHEMISTRY

1. Solve the complete Exercises of Unit 6. Haloalkanes and Haloarenes in your Chemistry notebook. (Page No. 189 – 191)

2. Write down all the name reactions from the unit Haloalkanes and Haloarenes.

3. Write IUPAC names and Draw the structure of given compounds in the Unit 7. Alcohols phenols and Ethers (Exercises: Question no 7.1 & 7.2)

4. Write Experiment No. 1 in your Practical record.

5. Find out all the question based on unit 6 and unit 7 from previous board questions papers and make.

SUBJECT: COMPUTER SCIENCE

1. Begin the investigative work assigned to you in the classroom on May 6, 2023. Submit your completed work as a file.

2. Python Revision (Write brief notes about the following topics in your computer copy.)

1. Introduction to Python Programming
 2. Tokens in Python
 3. Data Types
 4. Mutable and immutable types
 5. Expressions
 6. Statement Flow Control
 7. If conditionals
 8. Looping Statements
 9. Jump Statements: Break and Continue
 10. Strings
 11. Lists
 12. Tuples
 13. Dictionaries
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SUBJECT : BIOLOGY

1. Copy all the practical work from the lab manual and as per discussed in the class on 10th May, 2023.
2. Start your investigative project and start writing in A4 size paper with proper labeled diagrams and prepare a file.
3. Prepare any one topic from Chapter- 5 for presentation in class and write it in a separate copy.
4. Write four 5 marks questions without diagrams from lessons 2 3 and 4. (Refer board Question papers).
5. Draw any five diagrams labelled and self-explanatory from lessons 2 and 3.

SUBJECT: MATHEMATICS

Chapter 1 : revision of all exercises 2 times

Chapter 2: revision of all exercises 2 times

Chapter 3 : revision of all exercises 2 times

SUBJECT : ENGLISH

Q1. LETTER WRITING

1) You are Anil/Anita of Vasant Road, Lucknow. you saw the given advertisement in the newspaper and wish to apply for the position advertised. write a letter of application in 120-130 words along with a detailed biodata.

2) You are mithal/Mrinal. You saw the given advertisement in the newspaper and wish to apply for the position advertised in 120-130 words. Write a letter of application for the same.

ROYAL INTERNATIONAL SCHOOL

required- English Teacher for Primary classes

Skills and Qualifications:

*Graduate, Montessori Trained.

*Strong inter-personal and communication skills.

*Experience-3.5yrs

*Competency in computers.

*Send your bio-data within 10 days to Mr. Shams, Principal, Royal Public International school.

3) Mital Kedia sees the following advertisement and wishes to apply for the position advertised. write a letter of application in 120/150 words along with a detailed bio-data.

Skill DEVELOPMENT INSTITUTE

Requires Part -time Trainers for Computer/car mechanic

The applicant must be professionally Qualified. Must be competent in basis computer skills

Experience- minimum 5yrs as trainer.

Apply within 10 day to the Director, skill Development institute, Meerut.

Q2. NOTICE WRITING

1) AIR FORCE SCHOOL, V.S.N. NAGPUR has decided to organise a fancy dress show on 25th June 2023 in which each participant will wear the dress particular to his/her

region. The aim is to show the cultural diversity of India. As a secretary, write a notice in about 50 words inviting the names of those who want to participate.

Q3. UNSEEN PASSAGES

Read and find the answers of all the questions of the unseen passages given on the date 12/05/2023.

Q4. Read all the lessons which are already done in the class properly and also learn questions and answers.
