



Delhi Public Elementary School

Session 2022-2023

CLASS: XII

SUMMER HOLIDAY HOMEWORK

ENGLISH

- Q.1. Read the newspaper daily and cut samples of the following:
- 3 Reports
 - 3 Articles (ON RUSSIA-UKRAINE WAR)
 - 3 Posters (Economic Freedom/India Today/Save Environment)
 - 5 Classified advertisements.
- Q.2. Write a letter to the Editor of a national daily highlighting the neglect of our national monuments and how these are being damaged in the present-day world.
- Q.3. Write an article on the topic-‘How Google controls the life of an average person?’ 150-200 words.
NOTE: Write the homework on A-4 size papers and present in a stick file.

PHYSICS

- Answer the following
 - Define electric flux. Write its SI unit
 - A uniform electric field $\mathbf{E} = E_x \mathbf{i}$ N/C for $X > 0$ and $\mathbf{E} = -E_x \mathbf{i}$ N/C for $X < 0$ are given. A right circular cylinder of length ‘l’cm and radius ‘r’cm has its centre at the origin and its axis along the x-axis . Find out the net outward flux. Using gauss’s law write the expression for the net charge within the cylinder.
- State gauss’s theorem in electrostatics. Using this theorem, derive an expression for the electric field intensity due to an infinitely long, straight wire of linear charge density ‘ λ ’ Cm^{-1} .
- Define the term ‘electric dipole moment’. Is it a scalar or a vector?
 - Deduce an expression for the electric field at a point on the equatorial plane of an electric dipole of length 2a.
- A point charge is placed at the centre of a spherical Gaussian surface. How will electric flux change if
 - The sphere is replaced by a cube of same or different volume.
 - A second charge is placed near, and outside the original sphere.
 - A second charge is placed inside the sphere
 - The original charge is replaced by an electric dipole
 - The magnitude of charge is doubled
- An electric dipole of length 2 cm is placed with its axis making an angle of 60° to a uniform electric field of 10^5 N/C. If it experiences a torque of $8\sqrt{3}$ Nm. Calculate
 - Magnitude of the charge on the dipole, and
 - Potential energy of the dipole.

CHEMISTRY

Make a proper project file

Topic:

1. Sterilization of water using bleaching powder.
2. Electrolyte turns on the solar cell
3. To Study the Solar Electrolysis for Hydrogen Production
4. To Study of the Lattice Structure present in Crystalline Solid
5. To Study the Band Theory of the Metals, Semiconductors, and Insulator
6. To Study of the Food Adulterants

INSTRUCTIONS

- Front Page
- Index
- Acknowledgement
- Introduction/Preface
- Topic
- Presentation – [15 to 20 pages]
(graphs, tables, charts, newspaper cuttings, handmade diagrams, photographs, statistical analysis if relevant)
- Conclusion/ Summary
- Bibliography

MATHS

Q. 1. Prepare mind map of the given topic as instructed-

- MATRICES
- DETERMINANTS
- INVERSE TRIGONOMETRIC FUNCTIONS
- RELATIONS AND FUNCTIONS

WHERE TO DO: In A3 Size Sheet

PARAMETERS: Presentation, Neatness and Content.

Q.2. Each student is to make a Power point Presentation (Min.5 slides) on any TWO of the following topics:

1. Use of Mathematics in daily life
2. Use of Trigonometry in daily life
3. History of π
4. Fibonacci numbers
5. Exploring Pascal's triangle

BIOLOGY

Write answers of the following questions and learn them.

Use -A4 size paper to write answers.

1. All the papaya plants bear flowers but fruits are seen only in some. Explain?
2. Banana is a true fruit, but is also a parthenocarpic fruit. Give a reason?
3. Why do corn cobs have long tassels?
4. How do pollen grains of Vallisneria protect themselves?
5. Pea flowers produce assured seed sets. Give a reason?
6. How are ovules technically referred to?
7. Mention one application of pollen Bank. How are pollen stored in a bank?
8. Why do you think the zygote is dormant for sometime in a fertilised ovule?

9. What is meant by monosporic development of female gametophyte?
10. Give the technical term for the type of pollination which ensure genetic recombination?
11. Name the tallest flower?
12. Name the parasitic species of plants that produce many minute seeds in a fruit?
13. Name the plant species having pollen viability for (a) few minutes (b) several months
14. Name the seeds that have retained their viability for thousands of years?
15. What is cryopreservation?
16. Mention one advantage and disadvantage of a cleistogamous flower?
17. Give an example of a plant which came into India as a contaminant and is a cause of pollen allergy?
18. How is it possible in Oxalis and Viola plants to produce assured seed sets even in the absence of pollinators?
19. Papaver and Michelia both have multicarpellary ovaries. How do they differ from each other?
20. Mention two environmental factors that affect Pollen viability?
21. Why is an apple referred to as a false fruit?
22. Banana produces fruits but is propagated only by vegetative means. Why is it so?
23. A bilobed dithecous anther has 100 microspore mother cells per microsporangium. How many male gametophytes can this anther produce?
24. Draw well labelled diagram of anatropous ovule.
25. Draw well labelled diagram of Microsporangium.

INFORMATION PRACTICE

1. Introduction to Python Libraries
2. Data Structures in Pandas

Program:

1. Create a pandas series from a dictionary of values and an ndarray.
2. Given a series, print all the elements that are above the 75th percentile.

PHYSICAL EDUCATION

1. Management of Sports Event
 - ❖ Meaning and definition of planning
 - ❖ Objectives of planning
 - ❖ Various committees and their responsibility
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