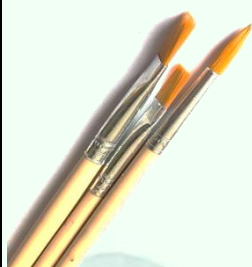


SWARNPRASTHA PUBLIC SCHOOL, SONEPAT



SESSION: 2024-25 HOLIDAY HOMEWORK CLASS 12 STREAM : SCIENCE



"Learn while you explore, makes for a summer you'll adore!"

SUBJECT- ENGLISH

TOPICS (ANY ONE)

1. Interview-Based research:

Example:

Students can choose a topic on which to do their research/ interview, e.g. a student can choose the topic: “Evolving food tastes in my neighbourhood” or “Corona pandemic and the fallout on families.”

Read the available literature.

The student then conducts interviews with a few neighbours on the topic. For an interview, with the help of the teacher, student will frame questions based on the preliminary research/background.

The student will then write an essay/ write up / report etc. up to 1000 words on his/her research and submit it. He/ She will then take a viva on the research project. The project can be done in individually or in pairs/ groups.

2. Students listen to podcasts/ interviews/radio or TV documentary on a topic and prepare a report countering or agreeing with the speakers. Write an 800 - 1000 words report and submit. Take a viva on the report.

3. Students create their own video/ Audio, after writing a script. Before they decide a format, the following elements can be taken into consideration:

Theme/topic of the audio / video. Would the child like to pick a current issue or something artistic like theatre?

What are the elements that need to be part of the script?

Will the video/audio have an interview with one or more guests?

Would they prefer to improvise while chatting with guests, or work from a script?

What would be the duration?

How would they present the script/report to the teacher, e.g. Can it be in the form of a narrative?

4. Students write, direct and present a theatrical production, /One act play

This will be a project which will be done as a team.

It will involve planning, preparation and presentation. In short, various language skills will be utilised.

There will be researching, discussion, writing the script, auditioning and ultimately producing the play.

The project will end with a presentation and subsequently a viva.

The project will help assess the core language skills of the students and help them grow as 21st century critical thinkers.

THE PROJECT-PORTFOLIO MAY INCLUDE THE FOLLOWING:

- Cover page, with title of project, school details/details of students.
- Statement of purpose/objectives/goals
- Certificate of completion under the guidance of the teacher.
- Students Action Plan for the completion of assigned tasks.
- Materials such as scripts for the theatre/role play, questionnaires for interview, written assignments, essays, survey-reports and other material evidence of learning progress and academic accomplishment.
- The 800-1000 words essay/Script/Report.
- Student/group reflections.
- If possible, Photographs that capture the positive learning experiences of the student(s).
- List of resources/bibliography

SUBJECT- HINDI

तुलसी के काव्य में लोकमंगल विषय पर एक परियोजना (प्रोजेक्ट) कार्य तैयार कीजिए। परियोजना निर्माण निम्नलिखित बिंदुओं को ध्यान में रखकर किया जाएगा –

(क) साहित्यकार का संक्षिप्त परिचय/ प्रमुख रचनाएं

(ख) साहित्य सृजन के प्रमुख उद्देश्य

(ग) रचनाओं में लोकमंगल प्रसंग

(घ) प्रासंगिकता परियोजना कार्य का क्रम निम्नवत रखें - मुख्य पृष्ठ, विद्यार्थी का घोषणा पत्र, प्रमाण पत्र, विषय सूची, अभारोक्ति, विषय परिचय, उद्देश्य, सीमांकन, विषय विस्तार, संदर्भ सूची

SUBJECT- PHYSICS

Complete your practical notebook with the given set of Experiments and activities.

Make an investigatory project out of the investigative project ideas given below or on any topic of senior secondary-level Physics.

SECTION-A

Experiments

1. To determine the resistivity of two / three wires by plotting a graph for potential difference versus current.

2. To find the resistance of a given wire / standard resistor using a metre bridge.

3. To verify the laws of combination (series) of resistances using a metre bridge.

OR

To verify the laws of combination (parallel) of resistances using a metre bridge

6. To find the frequency of AC mains with a sonometer.

Activities

3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.

4. To assemble the components of a given electrical circuit.

5. To study the variation in potential drop with the length of a wire for a steady current.

6. 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.

SECTION-B

Experiments

1. To find the value of v for different values of u in the case of a concave mirror and to find the focal length.

3. To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$.

5. To determine the angle of minimum deviation for a given prism by plotting a graph between the angle of incidence and the angle of deviation.

9. To draw the I-V characteristic curve for a p-n junction diode in forward and reverse bias.

Activities

1. To identify a diode, an LED, a resistor, and a capacitor from a mixed collection of such items.

2. Use of a multimeter to see the unidirectional flow of current in the case of a diode and an LED and check whether a given electronic component (e.g., diode) is in working order.

6. To study the nature and size of the image formed by a (i) convex lens, or (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).

7. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

Suggested Investigatory Projects

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) the distance of an 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) the 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.

SUBJECT- CHEMISTRY

A. ICPE Project

Theme: Government of India has taken initiative for the use of recycled plastic in final product as a part of Extended Producer Responsibility (EPR) Policy.

- Highlight the important benefits of this initiative.
- Is there any limitation of application of final product?

You may present your findings in any one of the following formats:

- Audio Visual Clip (Duration 2 minutes, max size 10 MB)
- Power Point Presentation Maximum 5 + 2 Slides within 10 MB (Including title slide and last slide)
- Poster / Artwork A3 size within max 10 MB size (For Hard Copy – A 3 Size Poster Paper)
- Essay Language: English OR Hindi (ONLY)

Font & Size: Times New Roman (English), 12 Kruti Dev -010 (Hindi), 12 Handwritten: Clean handwriting

Page Size: A4 (One Page Only); Number of Words: Not more than 150

B. Write down the following experiments in your chemistry practical file (leaving the observations):

1. Prepare 0.05 M solution of Mohr's salt. Using this solution find out the molarity & strength of given KMnO_4 solution (leave the observations).
2. Prepare M/50 solution of oxalic acid. With its help, find out the molarity & strength of given KMnO_4 solution. (leave the observations)
3. To prepare a pure sample of Mohr's salt.
4. To prepare a pure sample of potash alum.
5. To prepare dibenzal acetone.
6. Separation of pigments from extracts of leaves by paper chromatography and determination of R_f values (leave the observations).
7. To analyse the given salts for acidic & basic radicals (each salt to be written separately at the back pages of the file) : Ammonium carbonate, Ammonium chloride, Lead carbonate, Lead acetate, Lead nitrate,

Aluminium sulphate, Zinc carbonate, Barium nitrate

8. To study some simple tests of carbohydrates.

9. To study some simple tests of oils/fats.

10. To study some simple tests of proteins.

C. To prepare an investigatory project as discussed and allotted during class in a separate file folder.

It must include the following pages: index, acknowledgement, certificate, text matter with pictures at suitable places, bibliography

SUBJECT- COMPUTER SCIENCE

TASK 1:

1. Write a Python program to sum all the items in a list.
2. Write a Python program to get the largest number from a list.
3. Write a Python program to count the number of strings where the string length is 2 or more and the first and last character are same from a given list of strings. Sample List : ['abc', 'xyz', 'aba', '1221']
4. Write a Python program to remove duplicates from a list.
5. Write a Python program to generate and print a list of first and last 5 elements where the values are square of numbers between 1 and 30 (both included).

TASK 2:

1. Write a Python program to count the number of characters (character frequency) in a string.
Sample String : google.com'
Expected Result : {'o': 3, 'g': 2, '!': 1, 'e': 1, 'l': 1, 'm': 1, 'c': 1}
2. Write a Python program to get a string from a given string where all occurrences of its first char have been changed to '\$', except the first char itself.
Sample String : 'restart'
Expected Result : 'resta\$t'
3. Write a method in python to display the elements of a list twice if it is a number and display the element terminated with '*' if it is not a number.
4. Write a user defined function findname(name) where name is an argument in python to delete phone number from a dictionary phonebook on the basis of the name ,where name is the key.
5. Write a program to input employee number and name for N employees and display all employees' information in ascending order of their employee number.

TASK 3:

1. Write an interactive menu driven program with the following four functions:
 - (a) To create a text file called "Nation.txt"
 - (b) Display the file
 - (c) Append relevant content to the file
 - (d) Make a copy of the file
 - (e) Count the total number of "the" in the file

TASK 4:

1. A blood bank maintains data file "Blood.dat" that contains following information for every donor: donor name, donor date of birth, donor address, donor phone number and donor blood group. Write a complete program to do the following:
 - a) Create a file of the donor
 - b) Append a record in the file
 - c) Display the records
 - d) Given the blood group display name, address of the donor
 - e) Modify the existing information of the donor

SUBJECT- MATHEMATICS

Project: Do any one project(In form of PPT, 3D model, Chart, album etc)

Maths aerobics: A great fusion of Manipur dance form and maths functions.

#The random Fibonacci sequence.

#Leelavati : Life line of Indian mathematics history

#Wall of Indian mathematician

Maths lab Activities:(Do in maths lab manual)

Ref. Full marks Lab Manual

- To verify that the relation R in the set L of all perpendicular lines in a plane is symmetric but neither reflexive nor transitive.
- To verify that the relation R in the set L of all parallel lines in a plane is an equivalence relation.
- To find analytically the limit of a function $f(x)$ at $x = c$ and also to check the continuity of the function at that point.
- To draw a graph of $\sin^{-1} x$ using graph of $\sin x$.

SUBJECT- PSYCHOLOGY

1. Worksheet of Ch- 2 Self and Personality
2. Practical file work (report writing of three tests)
3. Revision of syllabus covered till date

SUBJECT- BIOLOGY

A. Write down the following experiments in your biology practical file (leaving the observations):

List of practical to be done:

- Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc
- Study the plant population density by quadrat method.
- Study the plant population frequency by quadrat method.
- Prepare a temporary mount to observe pollen germination.
- Prepare a temporary mount of onion root tip to study mitosis.
- Spotting
- Flowers adapted to pollination by different agencies (wind, insects, birds).
- Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).
- T.S. of blastula through permanent slides (Mammalian).
- Mendelian inheritance using seeds of different colour/sizes of any plant.
- Prepared pedigree charts of the genetic traits: rolling of tongue and colour blindness.
- Common disease-causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through permanent slides.
- Flash cards models showing examples of homologous and analogous organs.

B. To prepare an investigatory project as discussed during class in a separate file.
It must include the following pages: index, acknowledgement, certificate, text matter with pictures at suitable places, bibliography

SUBJECT- PHYSICAL EDUCATION

- 1)Physical Fitness Test:SAI Khelo India test.
- 2)Proficiency in any game and sports.(Skill of any one IOA-Recognized sports/game of choice.
- 3)Yogic practice: Any two asanas ,contraindication and benefits.
- 4)Maintain all records in the record file(Lab Manual)

SUBJECT- ENTREPRENEURSHIP

- Prepare one project report on the topic of business plan which consists of all types of business plan.
- Project on the life history of anyone of the Entrepreneurs. do all questions of exercise of unit 1;2and3.

"Art is the silent
expression of thoughts,
feelings, and
experiences."

- Marilyn O



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