ACADEMIC WORLD SCHOOL™
BEMETARA

SESSION: 2026-27

SUMMER VACATION ASSIGNMENT

GRADE : XI (SCIENCE)

Name _____Class_____Section_____

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SUMMER VACATION ASSIGNMENT

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General Instructions:

1. Write in a clear and legible handwriting.
2. Complete all the homework in a separate subject Summer Vacation Homework Notebook.
3. **DO NOT COPY AND PASTE FROM THE INTERNET**. (Assignment will be rejected)
4. In case of reference from the internet, you may:
   A. Read the content from the internet, if you wish and paraphrase (Rewrite in your own words)
   B. Mention the source of your information by providing the link from the internet for the verification by the teachers.
5. Marks awarded will be counted in the final scores at the end of the session.
6. The Summer Vacation HW will be submitted immediately upon arrival to school after Summer Vacation.
7. For any assignment related query do post your question on E-Mail Id of respective subject teacher. List of Subject Teacher's E-Mail ID attached.

Note for the Parents:

Parents are requested to guide his/her wards to complete their assignments honestly and submit by the due date.

SUBJECT: ENGLISH (LANGUAGE &LITERATURE) - (184)
GRADE : XI

Project Title: SUMMER VACATION ENGLISH PROJECT FILE
Objective:To develop research, thinking, and writing skills.

Ques 1: Write a 2-page biography of a grandparent Give it a title 'Portrait' of my grandmother/ grandfather. You must include descriptions, pictures, an interview and anecdotes about your relationship. Take a small interview with 5 interesting questions and add it to the biography.

Ques 2: Design a short documentary project or an interactive treasure hunt/escape room experience based on King Tutankhamun and the Valley of the Kings. Include detailed research on ancient Egyptian civilization, key discoveries, myths, and interesting facts about King Tut. Use images, articles, and artifacts to enhance the presentation.

Ques 3: After reading any book from the list provided, write a detailed book review in 2000 – 2500 words. Your review must include a creative book jacket (cover design with title, author's name, and artwork) and should cover the following points: ● Brief summary of the plot ● Description of the setting (time and place) ● Detailed analysis of main characters and their development ● Major themes and messages of the book ● Personal opinion and critical evaluation ● Favorite quotes or scenes (optional) ● Recommendation: Who would you suggest this book to and why?

(ANY ONE FROM A , B OR C)

(A) CURATED COMPILATIONS:

• The Catcher in the Rye • Lord of the Flies • The Thorn Birds • Gone with the Wind • The Godfather • Kane and Abel • Siddhartha • The Kite Runner • The Power of Now • Freakonomics • Vagabonding

OR

(B) CLASSIC FAVOURITES NOVELS: (ANY ONE)

• Moby Dick • The Scarlet Letter • The Great Gatsby • To Kill a Mockingbird

OR

(C) TOP BRITISH NOVELS: (ANY ONE)

• Pride and Prejudice • Wuthering Heights • Mayor of Casterbridge • Oliver Twist • Mill on the Floss • Napolean Hil

Follow the format of Cover page, Acknowledgement, Index page, checklist pasted below.

1. Cover Page

ENGLISH SUMMER VACATION ASSIGNMENT
Project Title: _____
Name: _____
Class & Section: _____
Roll Number: _____
School Name: _____
Submitted to: _____

2. Acknowledgement page

I would like to express my sincere gratitude to my English teacher for giving me this project and guiding me throughout.
I also thank my parents and friends for their support and help in completing this work.
This project helped me learn many new things and improve my English skills.

3. Contents of the file:

CHECKLIST PAGE

□ I have used a FILE (SPIRAL BINDING)
□ My project is HANDWRITTEN
□ I have made a proper COVER PAGE
□ I have included ACKNOWLEDGEMENT
□ I have made an INDEX page
□ I have followed all sections in correct order
□ My handwriting is neat and readable
□ I have maintained margins
□ I have used colors only for headings
□ I have not copied from internet/friends but rephrased it
□ I have written in my own words
□ I have completed all parts of the project
□ My project is clean and well-presented

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SUBJECT: PHYSICS (042)
GRADE: XI (PCM & PCB)

GENERAL INSTRUCTION:

1. Write all the experiments in a practical notebook of approx. 200 page. The note book must be covered with a name sticker.
2. Every student has to write all the eight experiments in the same sequence from the given list of experiments. (Both section A and section B).
3. The activities are to be written in the practical notebook itself, but there must be a clear separation between the activities and experiments.
4. **Instruction for Investigatory Projects**. Every student has to individually complete one investigatory project from the given list of all the investigatory projects. Student is free to select the Topic as per his/her choice.
5. The project file must contain Title page, Certificate of investigatory project, Index and the content relevant diagrams and observation tables as required. Do mention the referred books and websites in the Bibliography.
6. The investigatory project must be submitted in a project file of good quality.

Experiments

SECTION–A

1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume.
2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.
3. To determine radius of curvature of a given spherical surface by a spherometer.
4. To find the weight of a given body using parallelogram law of vectors.
5. Using a simple pendulum, plot its graph and use it to find the effective length of second's pendulum.

SECTION-B

6. To determine Young's modulus of elasticity of the material of a given wire.
7. To find the force constant of a helical spring by plotting a graph between load and extension.
8. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.

Activities

1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.
2. To determine mass of a given body using a metre scale by principle of moments.
3. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
4. To study the variation in range of a projectile with angle of projection.
5. To note the change in level of liquid in a container on heating and interpret the observations.
6. 4. To study the effect of detergent on surface tension of water by observing capillary rise.

Investigatory Project Topics:-

1. A comparative study of the rate of heat loss and cooling curves for various liquids like water, milk, and oil.
2. Investigating how the speed of sound varies with air temperature and humidity using a resonance column apparatus.
3. Measuring the relationship between load and extension to determine the Young's Modulus of elasticity for different metal wires.
4. An experimental analysis of how length, mass of the bob, and amplitude of oscillation impact the period of a pendulum
5. A study of how the capillary rise of water is affected by adding varying concentrations of different detergents.
6. Investigating how heating different liquids (like castor oil or glycerin) changes their coefficient of viscosity using the falling sphere method.

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SUBJECT: CHEMISTRY (043)
GRADE : XI

Summer Assignment –

Q.1 Make investigatory project and a report file for the Science project, based on any one of the following themes:-

Themes for Science project-

a) Emerging technology
b) Health and hygiene
c) Waste management
d) Sustainable development
e) Conservation of air, water, soil
f) Eco-friendly city
g) Sensors and signals
h) Agriculture
i) Disaster management
j) Cosmetics

Contents of projects file :-

a) Aim
b) Apparatus required
c) Chemicals used
d) Principle
e) Procedure
f) Observation table
g) Result
h) Precautions
i) Bibliography

Instructions:

i) Students will prepare the science model/project in a group of **maximum 4** and will submit the project file individually based on the project allotted to you and submit it after summer vacation.

ii) Project file should contain –

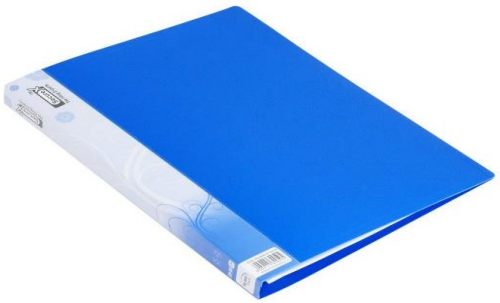
- Front page including school name, logo, topic name & student name and teacher name.
- Second page as certificate.
- Third page as acknowledgement.
- Fourth page showing index.

All these 4 pages should be in printed form.

1st page -color print while rest can be black and white.

iii) Except these 4 pages, write the project in your own handwriting neatly.

NOTE- ONLY REPORT FILE IS ALLOWED NO STICK FILE



Q.2. Complete the practicals mentioned below from lab Manuals

1. Basic Laboratory Technique
2. Determination of the concentration (strength) of a given sodium hydroxide solution by titrating it against a standard solution of oxalic acid.
3. Determination of the strength of a given solution of dilute hydrochloric acid by titrating it against a standard solution of sodium carbonate.
4. To determine the pH of some fruit juices.

INSTRUCTIONS

1. Write Aim, Materials required, theory, procedure, result and precaution
2. Do not fill the observation table before the conduction of the practical.
3. Do not write experiment 1,2 in index write aim of the practical
4. All diagrams and observation table should be there in white unruled page.

Things should be mentioned:

a) Aim
b) Apparatus required
c) Chemicals required
d) Theory/ Principle
e) Procedure
f) Observation table
g) Calculation
h) Result
i) Precaution (if any)

Instructions -

1. Index should be filled properly – Mention all the details in each column carefully.
2. Observation table and diagrams (if any) must be done on blank side of the practical notebook.
3. Chromatogram should be attached properly in notebook on blank side.
4. Salt analysis table should be drawn properly using ruler/scale.
5. At the end of each practical, result must be mentioned.

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SUBJECT: BIOLOGY (044)
GRADE: XI

Note-

1. Section A contains Investigatory Project
2. Section B contains Experiments/Practicals
3. Make Investigatory project in a Proper File

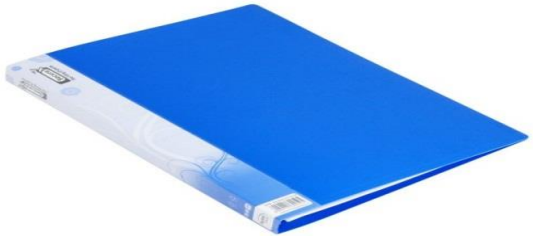
SECTION- A (INVESTIGATORY PROJECT)

1. Make an investigatory project based on any one topic of your choice. The following points are to be taken care while preparing project-
2. Relevant topic must be chosen from the text book
3. Project must be handwritten.
4. Proper evidences (Data, pictures etc.) are to be produced in favour.
5. Project should not be copied from any source rather put your own effort.
6. Use internet for more information.
7. You may choose other relevant topics of your choice other than suggested from NCERT only.

Suggested topics

1. Biodiversity of local area
2. Effect of sunlight on plant growth (keep plants in sun vs shade)
3. Study of transpiration using polythene bag method
4. Effect of different types of water (tap, distilled, saline) on plant growth
5. Observation of seed germination under different conditions (light, moisture)
6. Study of phototropism in plants
7. Effect of fertilizers on plant growth
8. Detection of adulterants in food items (milk, turmeric, sugar)
9. Testing presence of nutrients (carbohydrates, proteins, fats) in food
10. Effect of cooking on nutrients in vegetables
11. Study of food preservation methods used at home
12. Effect of physical activity on breathing rate and study of pulse rate before and after exercise.
13. Survey on eating habits and daily water intake patterns of students.
14. Study of water usage in your household.
15. Waste management practices at home
16. Awareness about balanced diet among students
17. Study of common summer diseases in your area.

NOTE - ONLY REPORT FILE IS ALLOWED, NO STICK FILE



SECTION – B (PRACTICALS)

NOTE:-

A. List of Experiments

1. Study and describe locally available common flowering plants, from family Solanaceae (Poaceae, Asteraceae or Brassicaceae can be substituted in case of particular geographical location) including dissection and display of floral whorls, anther and ovary to show number of chambers (floral formulae and floral diagrams), type of root (tap and adventitious); type of stem (herbaceous and woody); leaf (arrangement, shape, venation, simple and compound).
2. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
3. Study of osmosis by potato osmometer.
4. Study of plasmolysis in epidermal peels (eg. Rhoe/Lily leaves or flashy scale leaves of onion bulb)
5. Study of distribution of stomata on the upper and lower surfaces of leaves.

B. Study and observe the following (Spotting):

1. Parts of a compound microscope.
2. Specimens/slides/models and identification with reasons – Bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen.
3. Virtual specimens/slides/models and identifying features of – Amoeba, Hydra, liverfluke, Ascaris, leech, earthworm, prawn, silkworm, honey bee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.
4. Mitosis in onion root tip cells and animals cells (grasshopper) from permanent slides.
5. Different types of inflorescence (cymose and racemose).
6. Human skeleton and different types of joints with the help of virtual images/models only.

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SUBJECT: MATHEMATICS (041)
CLASS: XI

1. **Project File.**
   Project Work:
   Topic: Sets and their applications.
   Objectives:
   (i) to understand the concept of sets.
   (ii) to learn types of sets.
   (iii) to study operations on sets.
   (iv) to apply sets in real-life situations.

2. **To be done in Math lab manual.**
   Activity 1:
   To find the number of subsets of a given set and verify that if a set has n number of elements, then the total number of subsets is 2^n.
   Activity 2:
   To represent set theoretic operations using Venn diagrams.
   Activity 3:
   To distinguish between a Relation and a Function.
   Activity 4:
   To find the values of sine and cosine functions in second, third and fourth quadrants using their given values in first quadrant
   Activity 5:
   To plot the graphs of sin x, sin 2x, 2sinx and $\sin\frac{x}{2}$, using same coordinate axes.

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