BHAVDIYA PUBLIC SCHOOL AYODHYA SUMMER VACATION HOMEWORK (2025-26) CLASS-XI SCIENCE



<u>English</u>

1.Develop a PowerPoint presentation that delves into the key aspects of 'The Portrait of a Lady, focusing on character. NJN analysis, thematic exploration, and narrative techniques. □ Assignment Guidelines Presentation Length: 8-10 slides Duration: 5–7 minutes Submission Format: .pptx or .pdf Deadline: [28 June] 2.Read at least one of the following books & write the book review in at least 350 words. **The Guernsery Literary and Potato Peel Pie Society by Annie Barrows Anxious People by Frederick Backman The Stationary Shop of Tehran by MarjanKamali *Watch any one of the webseries and write film review of it Kota Factory Aspirants Undercover High school *Photograph Collage: Create a collage using old photographs and newspaper clippings that represent themes of memory and loss.

MATHS :-

Do research and make a project on any one of the given topics

- 1. Mathematics and Environment.
- 2. Mathematics and Chemistry: Study structure of organic compounds.
- 3. Mathematics and Music.
- 4. A working model on any topic related to Mathematics.

Note

- Use A4 sheet or graph sheet or chart paper only.
- Don't share your project with other students.
- Project should be art integrated.
- Don't use plastic cover or files, your project will be ecofriendly.
- Last page of your project should contain 10 simple Questions/Answers based on your project.

CHEMISTRY:-

- 1- 3-D model making of any hydrocarbon molecule
- 2- Chart making (S-Block elements)
- 3- Infographic on P- block elements (Group 13/ Group 14) of modern periodic table.

BIOLOGY:-

- 1. Prepare a herbarium file using 10 plants around you. Mention their classification and characteristic features.
- 2. Prepare a animal journal listing atleast 15 animals from the wild/domestic. Mention ther classification and characteristic features.
- 3. Complete the worksheet given in the class.

PHYSICS:

1. MAKE A INVESTIGATORY PROJECT AND WORKING MODEL ON GIVEN TOPIC . 2. WRITE 10 QUESTIONS WITH ANSWERS BASED ON YOUR INVESTIGATORY PROJECT.

3. WRITE FIRST 2 EXPERIMENT IN YOUR PRACTICAL FILE (EXP.1 – TO MEASURE THE DIAMETER OF A SMALL SPHERICAL /CYLINDRICAL BODY AND TO MEASURE ITS INTERNAL DIAMETER AND DEWPTH OF A GIVEN BEAKER USING VERNIER CALLIPER AND HENCVE FIND ITS VOLUME. (EXPERIMENT 2 – TO MEASURE THE DIAMETER OF GIVEN WIRE AND THICKNESS OF A GIVEN SHEET BY USING SCREW GUAGE.

ASSIGNMENT

.1. If the units of energy, force and velocity are 50 J, 5 N and 2m/s, what will be unit of mass, length and time?

2. The units of power, force and time are 1 kW, 1kN and 1 mili second. Find the unitof mass and length. 3. What will be the value of G in CGS units if in SI units it is $6.67 \times 10-11 \text{ m} 3 \text{ kg} - 1 \text{ s} - 2$

4. What will be the dimensions of a/b in the relation E=b-x 2 / at, where E isenergy, x is distance and t is time.

5. In the relation $h=2T\cos \alpha/r^2\rho g$, where h is the height, T is surface tension ρ is density and r is the radius of a capillary tube, α is angle of contact and g is acceleration due to gravity. Verify the correctness of the equation.

6. Give one example each of physical quantities which have SI unit but nodimensions, which neither have unit nor dimension.

7. Acceleration due to gravity is 10m/s2 . Determine its value in cm/minutes2Page 6 of 18

8. If the units of force and length, each are doubled then how many times the unitof energy, Surface tension and stress be affected?

9. If velocity, density and frequency are taken as fundamental quantities, what willbe the dimensions of linear momentum and surface tension?

10. If velocity, acceleration and force are chosen as fundamental units, what will be dimensions of linear momentum, angular momentum and Young's modulus of elasticity?

11. A piece of lead has a mass of 23.94g and a volume of 2.10 cm3. Calculate the density in SI units.

12. If force, length and time are fundamental quantities, determine the dimensionsof mass.

13. Check the dimensional correctness of the following equation – ρ = 3g

14. If the mass (m) of a stone depends on velocity (v), ρ (density of water) and g,find the expression for mass.

15. Determine the expression for centripetal force if it depends on mass m, radius rand speed v of the object. 16. Obtain an expression for the height to which a fluid of density ρ and surfacetension T will rise in a capillary tube of radius r. Given ha1/r

17. E, m, l and G denote energy, mass, angular momentum and gravitational constant respectively. Determine the dimensions of EL2 / m5G2

18. As H(heat)depends on I, R and t, determine its formula with the help ofdimensional analysis.

19. Find the dimensional formulae for the following physical quantities: a) Torque b)Coefficient of Viscosity c) Voltage

20. A large fluid star oscillates in shape under the influence of its own gravitational field. Using dimensional analysis, Find the expression for period of oscillation (T) interms of radius of star (R), mean density of fluid (ρ) and universal gravitational constant (G).

21. Young"s modulus of steel was calculated to be 18 X 10 12N/m2. Express it inCGS units.

22. If energy E is proportional to mass m and c, the speed of light, determine therelation in these quantities using the concept of dimensions.

Page 7 of 18

23. If force (F) acceleration (A) and time (T) are taken as fundamental units, thenfind the dimension of energy.

24. Find the dimensions of latent heat and specific heat?

25. Determine which of the following are dimensionally correct- (i) Pressure =Energy per unit volume

(ii) Pressure = Momentum ´ volume ´ time

Computer:

To reinforce the topics covered in Chapter 1: Computer System Overview and Chapter 2: Python Fundamentals, you are required to complete the following holiday homework. These tasks will help you develop both theoretical understanding and practical programming skills.

Part A: Computer System Overview – Creative & Research-Based Tasks

Choose any one task from the following: 1. Poster Creation: Topic: "Generations of Computers & Their Features" Highlight hardware evolution, key technologies, and applications. You may design the poster digitally (using Canva/MS PowerPoint) or make a handmade one. 2. Presentation/Report: Topic: "Types of Software (System Software, Application Software, Utility Programs, Open Source vs Proprietary Software)" Include definitions, examples, images/logos, and comparisons. Format: PPT (5–8 slides) or Report (300–400 words) 3. Info graphic or Chart: Topic: "Components of a Computer System – Input, Output, Memory, Storage, CPU" Explain each component with a diagram or flowchart. **Part B: Python Fundamentals – Programming Tasks**

Attempt all the following programs in Python.

Write the code, run it, and submit screenshots or typed code with outputs.

- 1. Write a program to input two numbers and display their sum, difference, product, and quotient.
- 2. Write a program to find the square and cube of a number entered by the user.
- 3. Write a program to calculate simple interest.

Formula: SI = $(P \times R \times T)/100$

Take P (principal), R (rate), and T (time) from the user.

4. Write a program to convert temperature from Celsius to Fahrenheit.

Formula: $F = (C \times 9/5) + 32$

5. Write a program to check whether the entered number is even or odd.

6. Create a program that accepts your name, age, and city, and prints it in a formatted way.

Assessment Criteria:

Completion and correctness of Python programs

Creativity and clarity in presentations/posters

Original thinking and conceptual understanding

Enjoy your vacation and explore the world of computing with creativity and logic!

PHYSICAL EDUCATION :-

Make project on the following topics:-

- Any one sports/game of choice. Diagram of field & equipment.
- Also mention its rules , terminology and skills.

हिन्दी

* आपकी पसंदीदा फिल्म कौन सी है ?इस फिल्म का कौन सा चरित्र आपको अच्छा लगा और क्यों? फिल्म क्या संदेश देती है। इस बारे में लगभग 200 शब्दों में एक रिपोर्ट लिखे।(A4 सीट पर)

* अन्य संत कवियों नानक दादू और रविदास आदि के ईश्वर संबंधी विचारों को संग्रह करके लिखें।(A4 सीट पर)

<u> Psychology :-</u>

STEP 1: Choose a Psychology-Based Movie

Here are some easy-to-understand, student-friendly movies (Class 11-12 level):

Movie TitlePsychological ThemeInside Out (Animated)Emotions, memory, mental healthTaareZameen ParLearning disorders (Dyslexia), role of teacherA Beautiful MindSchizophrenia, genius, imaginationThe Pursuit of HappynessMotivation, stress, resilienceWonderSelf-concept, bullying, acceptanceFinding NemoAnxiety, parenting, learning

STEP 2: Watch and Take Notes

Characters and their psychological issues Emotions and behaviors shown How they cope or change Any psychologist or support role in the movie

STEP 3: Prepare the Project Creatively

Title: "Understanding Psychology through Movies: [Movie Name]" Suggested Format: Cover Page Name, Class, Roll No., Title Drawing of brain, emotions, film reel Introduction What is psychology? Why did you choose this movie? Movie Summary (in 5–6 lines) Psychological Concepts in the Movie Which topics from your textbook are reflected? Example: Inside Out shows emotions like joy, sadness, anger, fear, and disgust. Character Study Main character's behavior and emotions Challenges faced (mental health, learning, bullying, etc.) Important Scenes Pick 2–3 scenes and explain the psychology behind them What You Learned How did the movie help you understand psychology better? Creative Work Drawings (of emotions, brain, scenes) Flowchart of emotional change Stickers or comic strip **STEP 4: Conclusion** One paragraph on how psychology is connected with real life and films.

Write a dialogue between the main character and a psychologist Make a poster on "Mental Health Awareness" Design a help card for the character.

Note: Do all written homework of all the subjects except charts/posters/modals in fair Notebook only.