Srinath Public School

Summer Vacation Holiday Work
Session: 2025-26

Class: XI Science

Subject	Questions
English	1. Make large colourful Posters highlighting the ENGLISH LITERARY FESTIVAL. 2. Write a summary of the poem "A Photograph" 3. Write the character sketch of khushwant Singh and Grandmother (80-100 words) 4. Draw a difference between ADVERTISEMENT and POSTER with colourful examples.
Physics	1) Write the difference between velocity and speed. 2) Write the difference between distance and displacement. 3) Derive the equation of motion by graphical and differential method. 4) Find the dimensions formula of resistance, resistivity, universal gas constant and coefficient of viscosity. **Numerical questions** **1.. An electron which is moving with a velocity of 5 * 10 ^ 6 * m /sec emerges from a sheet of paper of thickness 2.1 * 10 ^ - 4 cm. With a velocity of 2 * 10 ^ 6 * m /sec. Calculate the time taken by the electron to pass through the sheet of the paper.** **2.Abody travels 200 cm. In the first 2sec, and 220 cm in the next 4 sec. What will be the velocity at the end of the seventh second from the start? Ans. 10 cm/sec.** **3.A car accelerates from rest to a speed of 100 m/sec in 25 sec. Calculate its acceleration.** **4. In the above question (No. 3), calculate the distance travelled in this time.** **5. Calculate the following:** If $\vec{P} = 6\vec{i} + 8\vec{j}$ and If $\vec{Q} = 4\vec{i} - 3\vec{j}$, then calculte the magnitude (1) $\vec{P}$ (2) $\vec{Q}$ (3) $\vec{P} + \vec{Q}$ (4) $\vec{P} - \vec{Q}$ (5) $\vec{Q} - \vec{P}$ (6) $\vec{P}.\vec{Q}$ (7) $\vec{P} \times$ **6.A scooter moves at a constant speed of 90 m/sec. For 4 seconds and then it again moves with a constant speed of 60 m/sec. For 2 second, then calculate its average speed.** If $\vec{P} + \vec{Q} = \vec{R}$; and if $P^2 + Q^2 = R^2$, then find the angle between the vector $\vec{P}$ and $\vec{Q}$

7.A train moves a distance of 10 metre with a constant speed of 40 m/sec. And moves the next 5m with a constant speed of 30 m/sec. Calculate its average speed.

8.A man moves from a place P to another place Q with a constant speed of 10 m/sec. And then he returns back to P again with the same constant speed along the same route. Calculate the average speed of the man.

9.A man moves from a place P to Q with a constant speed of 40 m/sec., and then he returns back to P along the same route with a speed of 20 m/sec. Then calculate the average speed of the man.

Chemistry

1. A vessel contains 1.6 g of dioxygen at STP (273.15K, 1 atm pressure). The gas is now transferred to another vessel at constant temperature, where pressure becomes half of the original pressure. Calculate

(i) volume of the new vessel.

(ii) number of molecules of dioxygen.

2. Calcium carbonate reacts with aqueous HCl to give $CaCl_2$ and CO_2 according to the reaction given below:

$CaCO_3(s) + 2HCl\ (aq) \longrightarrow CaCl_2(aq) + CO_2(g) + H_2O(l)$

What mass of $CaCl_2$ will be formed when 250 mL of 0.76 M HCl reacts with 1000 g of CaCO3? Name the limiting reagent. Calculate the number of moles of $CaCl_2$ formed in the reaction.

3. Define the law of multiple proportions. Explain it with two examples. How does this law point to the existance of atoms?

4. A box contains some identical red coloured balls, labelled as A, each weighing 2 grams. Another box contains identical blue coloured balls, labelled as B, each weighing 5 grams. Consider the combinations AB, AB_2, A_2 B and A $_2B_3$ and show that law of multiple proportion is applicable.

5. What will be the mass of one atom of C-12 in grams?

6. How many significant figures should be present in the answer of the following calculations?

2.5 X 1.25X 3.5/2.01

7. What is the symbol for SI unit of mole? How is the mole defined?

8. What is the difference between molality and molarity?

9. Calculate the mass percent of calcium, phosphorus and oxygen in calcium phosphate $Ca_3(PO_4)_2$

10. 45.4 L of dinitrogen reacted with 22.7 L of dioxygen and 45.4 L of nitrous oxide was formed. The reaction is given below:

$2N2(g) + O2(g) \longrightarrow 2N2O(g)$

Which law is being obeyed in this experiment? Write the statement of the law?

11. If two elements can combine to form more than one compound, the masses of one element that combine with a fixed mass of the other element, are in whole number ratio.

(a) Is this statement true?

(b) If yes, according to which law?

(c) Give one example related to this law.

12. Calculate the average atomic mass of hydrogen using the following data :

Isotope	% Natural abundance	Molar mass
^1H	99.985	1
^2H	0.015	2

	13. Hydrogen gas is prepared in the laboratory by reacting dilute HCl with granulated zinc. Following reaction takes place. Zn + 2HCl –→ ZnCl2 + H2 Calculate the volume of hydrogen gas liberated at STP when 32.65 g of zinc reacts with HCl. 1 mol of a gas occupies 22.7 L volume at STP; atomic mass of Zn = 65.3 u. **14.** The density of 3 molal solution of NaOH is 1.110 g mL–1. Calculate the molarity of the solution. **15.** Volume of a solution changes with change in temperature, then, will the molality of the solution be affected by temperature? Give reason for your answer. **16.** If 4 g of NaOH dissolves in 36 g of H2O, calculate the mole fraction of each component in the solution. Also, determine the molarity of solution (specific gravity of solution is 1g mL–1). **17.** The reactant which is entirely consumed in reaction is known as limiting reagent. In the reaction 2A + 4B → 3C + 4D, when 5 moles of A react with 6 moles of B, then (i) which is the limiting reagent? (ii) calculate the amount of C formed? **18.** Calculate the number of moles of hydrogen gas that can be produced by reaction of 3.62 mol of hydrochloric acid, HCl with zinc metal. **19.** What is the mole fraction of the solute in 2.5 m aqueous solution? **20.** Concentrated H_2SO_4 has density 1.9 g/ml and is 99% H_2SO_4 by mass. Find the molarity of solution.
Physical Education	CH.1: Changing Trends & career in physical education. CH.2: Olympism. Homework : Self Notes Making. Q.1: Physical education is a rapidly growing discipline in India,with numerous specialized courses being offered. Compare and contrast three post – graduate diploma level courses in physical education, discussing their focus area and potential career outcomes. Q.2: Compare and contrast the Yamas and Niyamas in Asthang Yoga. Discuss how these ethical guidance complement each other and contribute to managing once's energy in integrated manner.
Maths	**How set theory is the root of mathematics project work.** A transparent file with no flashy edges Objectives Number and operations Function and relation Algebra and geometry Logic and proof Introduction All mathematical symbols What is set theory Different types of set Role of set theory in mathematics Venn daigram Examples and illustrations Applications Conclusion
Biology	1. Write the taxonomic hierarchy of the followings (kingdom to species):

	i. Human being Ii. Wheat Iii. House fly iv. Rice v. Mango 2. Write the name of the scientists of two - kingdom, three - Kingdom, four - kingdom and five - kingdom classification. 3. Write the five points of characteristics of Monera, Protista, Fungi, Plantae and Animalia.
Computer Science	1. Explain the function of a CPU. 2. What is the need of secondary storage device? 3. Differentiate between Primary Memory and Secondary Memory. 4. Convert the following numbers: i. $(ADF3)_{16} = (?)_2 = (?)_8 = (?)_{10}$ ii. $(1011111.01101)_2 = (?)_{10} = (?)_8 = (?)_{16}$ iii. $(563.24)_8 = (?)_2 = (?)_{16} = (?)_{10}$ iv. $(2025)_{10} = (?)_2 = (?)_8 = (?)_{16}$ 5. Draw the truth table and logic gate diagram for XOR and XNOR. 6. Why NAND and NOR gate are known as Universal gate? Explain with the help of an example. 7. Explain the following with an example of each: i. Algorithm ii. Flowchart iii. Data type iv. Variable v. Token 8. What is the difference between / and // operator? Give example. 9. What is the difference between * and ** operator? Give example. 10. What is the purpose of assignment operator in python. 11. Explain the difference between compiler and interpreter. 12. Develop a XOR gate by using AND, OR and NOT gates. 13. How is the unary '+' operator different from the binary '+' operator? Explain. 14. Will 14.0/5 and 14.0//5 produce the same result? Justify your answer. 15. Write a program to read two numbers and prints their quotient and reminder. 16. Write a program that accepts weight in Kg and height in meters and calculate the BMI. 17. Write a program that accepts two numbers and check if the first number is fully divisible by the second number or not. 18. Write a program to input a number and print its square if it is odd, otherwise print its square root. 19. Write a program to input a number and check whether it is positive, negative or zero. 20. Write a program that reads two numbers and an arithmetic operator and displays the computed result. **Note: All these computer assignment questions to be done in stick file.**

Hindi	**<u>आरोह भाग</u>** क. नमक का दारोगा कहानी का प्रश्न अभ्यास आपने उत्तर पुस्तिका में लिखेंगे । ख. कबीर - पहला पद का प्रश्न अभ्यास आपने उत्तर पुस्तिका में लिखेंगे । ग. कहानी के लगभग सभी पात्र समाज की किसी न किसी सच्चाई को उजागर करते हैं । निम्नलिखित पात्रों के संदर्भ में पाठ से उस अंश को उद्धृत करते हुए बताइए कि किस सच्चाई को उजागर करते है I क. वृद्ध मुंशी ख. वकील ग. शहर की भीड़ ख. परियोजना कार्य ड़. प्रसिद्ध हिंदी लेखक या कवि का जीवन परिचय और योगदान जैसे: प्रेमचंद, महादेवी वर्मा, सूर्यकांत त्रिपाठी 'निराला', हरिवंश राय बच्चन आदि। **<u>वितान भाग</u>** क. भारतीय गायिकाओं में लता मंगेशकर पाठ का प्रश्न अभ्यास को आपने उत्तर पुस्तिका में लिखेंगे । ख. आपको लता मंगेशकर जी को श्रद्धांजलि देने के लिए एक भाषण देना है। एक संक्षिप्त भाषण (100-120 शब्दों में) तैयार कीजिए। (रचनात्मक लेखन)