INTERNATIONAL PUBLIC SCHOOL
HOSHANGABAD ROAD, MISROD, BHOPAL

HOLIDAY HOMEWORK
CLASS – XI Session (2026-27)

SCIENCE STREAM

SUBJECTS	HOMEWORK	INSTRUCTION
ENGLISH	Q1. Creative Writing – Poster + Article The recent heatwaves across India have highlighted the urgent need for climate action at individual level. a. Design a poster on A4 sheet promoting 'Beat the Heat: Small Steps, Big Impact'. Include a catchy slogan and visuals. b. Write an article in 120-150 words for your school magazine on 'How Students Can Contribute to Climate Resilience'. Q2. Literature – Character Analysis Read The Portrait of a Lady by Khushwant Singh and A Photograph by Shirley Toulson. Compare and contrast how both writers deal with the theme of 'loss and memory'. Support your answer with textual evidence. Word limit: 150-200 words. Q3. Project Work – Interview & Report Writing Theme: 'Voices of the Community' a. Interview any one senior citizen or working professional in your family/neighborhood about 'How Education Has Changed in the Last 30 Years'. Frame 8-10 relevant questions and record their answers. b. Compile your findings into a report of 150 words with a suitable title. Add your own reflection on what you learned from the interview.	Attempt all questions. Submit in a neat project file after vacations. Note: Marks will be awarded for originality, presentation, language accuracy, and adherence to word limit. Happy Holidays!
PHYSICS	Section A: Numericals 1. A car accelerates from rest at 2 m/s² for 10 s. Find final velocity. 2. A body moves with 5 m/s and accelerates at 3 m/s² for 4 s. Find distance. 3. Convert 72 km/h into m/s.	Complete this in your Physics notebook

	4. Find dimensions of force. 5. A train slows from 20 m/s to rest in 10 s. Find retardation. Section B: Assertion-Reason (5) 1. A: Velocity can be negative. R: Velocity is vector quantity. 2. A: Acceleration can be zero. R: Velocity may be constant. 3. A: Speed is always positive. R: Speed is scalar. 4. A: Retardation is negative acceleration. R: It reduces velocity. 5. A: Distance is scalar. R: It has no direction. Section C: Case Studies (5) Case Study 1: A car accelerates from rest to 20 m/s in 5 s. Q1. Find acceleration. Q2. Distance covered. Q3. Velocity after 10 s. Case Study 2: A train moving at 25 m/s stops in 10 s. Q1. Find retardation. Q2. Stopping distance. Q3. What if speed doubles? Case Study 3: A stone dropped from 80 m height. Q1. Time to reach ground. Q2. Final velocity. Q3. Why speed increases?	
CHEMISTRY	Write answers of following questions in chemistry copy. Q1. What will be the mass of one atom of C-12 in grams? Q2. What is the symbol for SI unit of mole? How is the mole defined? Q3. What is the difference between molality and molarity? Q4. Calculate the mass per cent of calcium, phosphorus and oxygen in calcium phosphate Ca3(PO4)2. 22. 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) + 02(g) —> 2N20(g). Which law is being obeyed in this experiment? Write the statement of the law. Q 5. If 4 litres of water are added to 2 litres of 6M hydrochloric acid solution. What will be the change in the molarity of the solution?	

	Q6. How much lime would be obtained by heating 200 kg of 95% limestone? Q7. If a 500 mL 5 M solution is diluted to 1500 mL, what will be the molarity of the final solution? Q8. The molar mass and empirical formula of a compound are CH2O and 180g. What will be its molecular formula? Q 9. Hydrogen gas is prepared in the laboratory by reacting dilute HC1 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 of STP; atomic mass of Zn = 65.3 u. Q10. How much carbon dioxide would be obtained by heating 10 kg of 90% limestone? Q11. If a 500 mL 5 M solution is diluted to 1500 mL, what will be the molarity of the final solution?	
MATHS	Q.1 Find the degree measure corresponding to the following radian measures (Use □=22/7) 1) $\frac{9\pi}{5}$ 2) $-\frac{5\pi}{5}$ 3) $\left(\frac{18\pi}{5}\right)^c$ 4) $(-3)^c$ 5) 11^c 6) 1^c Q.2 Find the radian measure corresponding to the following degree measures: 1) 300° 2) 35° 3) -56° 4) 135° 5) -300° 6) 7° 30’ 7) 125° 30’ 8) -47° 30’ Q.3 The difference between the two acute angle of a right-angled triangle is $\frac{2\pi}{5}$ radians. Express the angle in degree Q.4 Find the degree measure of the angle subtended at the centre of a circle of radius 100 cm an arc of lengths 22 cm (Use □=22/7). Q.5 The radius of a circle is 30 cm. Find the lengths of an arc of the circle, if the length of chord of the arc is 30 cm. Q.6 Prove that : $\cos 40° \cos 80° \cos 160° = -\frac{1}{8}$ Q.7 Prove that : $\cos 20° \cos 40° \cos 80° = \frac{1}{8}$ Q.8 Prove that : $\tan 20° \tan 30° \tan 40° \tan 80° = 1$ Q.9 Prove that : $\sin 20° \sin 40° \sin 60° \sin 80° = \frac{3}{16}$	

	Q.11 Prove that : $\frac{\sin 3A\cos 4A-\sin A\cos 2A}{\sin 4A\sin A+cos+A\cos A}=\tan 2A$ Q.12 Prove that : $\frac{\sin 3A+\sin 5A+\sin 7A\sin 9A}{\cos 3A+\cos 5A+\cos 7A+\cos 9A}=\tan 6A$ Q.13 Prove that : $\frac{\sin 5A-\sin 7A+\sin 8A-\sin 4A}{\cos 4A+\cos 7A-\cos 5A+\cos 8A}=\tan 6A$ Q.14 Express the following complex numbers in the standard form $a+ib$: 1) $\frac{2+3i}{4+5i}$ 2) $\frac{5+\sqrt{2}i}{1-\sqrt{2}i}$ Q.15 Find the real values of x and y, if 1) $(3x-2iy)(2'+i)^2=10(1+i)$ 2) $\frac{(1+i)x-2i}{3+i}+\frac{(2-3i)y+i}{3-i}=i$ Q.16 Find the conjugates of the following complex number 1) $\frac{(3-i)^2}{2+i}$ 2) $\frac{(1+i)(2+i)}{3+i}$ Q.17 If $z_1=2-i, z_2=1+i$, find $\left\|\frac{z_1+z_2+1}{z_1-z_2+i}\right\|$ Q.18 Find he modulus of the complex number z= $\frac{1+i}{1-i}-\frac{1-i}{1+i}$	
BIOLOGY	A biology student visits a biodiversity park and observes different organisms like moss, ferns, mango trees, insects, birds, and bacteria. While recording observations, the student faces difficulty in identifying and naming some organisms. Based on this situation, answer the following: a) Explain why classification is important in studying such a wide variety of organisms. b) Differentiate between identification and nomenclature. c) Write the rules of binomial nomenclature and give one example. d) Name any two taxonomical aids the student can use for proper identification and explain their use. e) What is the role of taxonomy in understanding biodiversity?	

PSYCHOLOGY	Chapter 1- What is Psychology? tells you about several professionals in the field of psychology. Contact a psychologist who fits into one of the categories and interview the person. Have a list of questions prepared beforehand. Possible questions could be: (i) What kind of education is necessary for your particular job? (ii) Which college/university would you recommend for the study of this discipline? (iii) Are there many jobs available today in your area of work? (iv) What would a typical day at work be like for you – or is there no such thing as "typical"? (v) What motivated you to enter this line of work? Write a report of your interview and include your specific reactions.	
APPLIED MATHS	Q1. Express 0.00056 in standard form. Q2. $\log_{10} 1000 = x$ find x Q3. Evaluate: $\log_2 8 + \log_2 4$ Q4. Convert 72 km/h into m/s. Q5. If A does half work in 6 days, how long will he take to complete full work? Q6. A can do a work in 12 days and B in 18 days. They work together for 4 days, then A leaves. In how many more days will B finish the work? Q7. If A is twice as efficient as B, and B alone takes 18 days, how long will A alone take? Q8. A leak in a tank can empty it in 10 hours. A pipe fills it in 5 hours. If both operate together, what happens? Q9. A digital system shows number 23. Write it in binary form. Q10. If a student writes a binary number 111011101110, what number does it represent in decimal?	

WEB APPLICATION	1. Create a webpage displaying your personal information (Name, Class, School, Hobbies) 2. Create a webpage showing ordered and unordered lists (your favorite subjects, hobbies) 3. Create a simple photo gallery webpage of outdoor games .(any 5)	Take the printout and paste in your practical file
COMPUTER SCIENCE	Task 1: Answer the following: 1. What is a computer? Write its characteristics. 2. Explain IPO cycle with diagram. 3. Difference between RAM and ROM. 4. What is CPU? Explain its components. 5. Define hardware and software with examples. 6. Convert: ○ $(25)_{10}$ → Binary ○ $(1011)_2$ → Decimal 🎨 Task 2: Activity Work (Creative) ✓ Draw a Block Diagram of Computer System ✓ Create a chart on Generations of Computer ✓ Make a comparison table: Hardware vs Software ✓ Draw Logic Circuits and Truth Table of all Logical gates on a chart paper.	Instructions: ✓ Handwritten work in neat and clean ✓ Proper headings and diagrams ✓ Use colors for better presentation ✓ Be ready for oral/viva after holidays
PHYSICAL EDUCATION	Everyone of you are capable of learning new thing in a vedy little time and we are giving you the beautiful chance to learn more about your sport,fitness and physical education. For a better understanding of all these games, We want you to complete a practical file of physical education in which the following topics will be there to write on :- 1. Sai Khelo Fitness India Test Age Group 9- to 18 years . A. 600m run/walk B. 50m Dash C. Partial Curl Up D. Push ups/modified push ups for girls E. Sit and Reach Test F. BMI 2. SURYA NAMASKAR WITH MANTRAS 3. YOGA ASANAS WITH THEIR PROCEDURE,BENEFITS AND CONTRAINDICATIONS A. FOUR PROLINE B. FOUR SUPINE C. FOUR SITTING D. FOUR STANDING	

	E. PRANAYAMA (any three) F. SHATKARMA KRIYAS. 4. ANY GAME OF YOUR CHOICE FROM THE GIVEN BELOW. Matter to write about Specific sports should follow Introduction,history(origin,development etc.),rules,officials,laws, olympic entry and india's position in major worlds events,first captain and revent captain of both femals and male team. A. Basketball. B. Football. C. Cricket. D. Volleyball. 5. Major Tournament of Your Sports(Descriptive). 6. Awards A. Dronacharya B. Arjuna C. Rajiv gandhi khel ratna award D. Lifetime achievement award E. Padma Shri,Padma Bhushan,Padma Vibhushan.	
YOGA	1. Project File: "Evolution of Yoga" -Timeline chart + 2 pages on Ashtanga Yoga with examples 2. Practical Diary: Practice Tadasana, Vrikshasana, Padmasana, Shavasana for 10 days. Note duration + how you felt 3. Q&A: Answer in 40-50 words: a. Define Yoga as per Patanjali b. Differentiate Yoga and physical exercise c. Write 4 benefits of Yoga for students	
MUSIC	राग भैरवी का आरोह अवरोह पकड और छोटाख्याल को गाकर विडियो बनाके रखना है	
PAINTING	Sessional Sheets- ✨Still life (Pencil shading) - 1 sheet ✨Monochromatic composition - 1 sheet	