SHIVAJI INTER COLLEGE

KESHAV NAGAR, KANPUR

SUMMER HOLIDAY
HOME WORK

NAME:..

CLASS:..

ROLL NO..

Subject	Holiday Work
Math	**Project work:-1** Q. Draw the graph of $y = \sin^{-1} x$ (or any other inverse trigonometric function) using the group of $y = sinx$ (or any other relevant trigonometric function). Demonstrate the concept of mirror line (about y=x) and find its domain and range. **Project work:-2** Q. Draw a rough sketch of cost (c), Average cost (AC) and Marginal Cost (MC) Or Revenge (R), Average Revenue (AR) and Marginal Revenue (MR). Give their mathematical interpretation using the concept of increasing- decreasing functions and maxima- minima.
Eng Lit.	Project work Candidates are expected to elaborate on the following ideas: * Identify the "forces beyond his control." * State whether the forces are merely the witches or his "Over vaulting ambition." * Discuss the role of Macbeth's soliloquies in brief to reflect the battle within him. * Discuss Macbeth's responsibility in reacting to the persuasion of Lady Macbeth and the witches. * Contrast Macbeth with Banquo and Macduff. * Judge what happens to Macbeth as a result of the battle within and without.
Eng Lang.	1. Write a composition (in approximately 450-500 words) on any one of the following subject- You are reminded that you will be rewarded for orderly and coherent presentation of material, use of appropriate style and general accuracy of spelling, punctuation and grammar.) (a) You have recently moved to a new neighborhood in your city. Describe the new neighborhood, comparing it to the one you have just left. (b) Relate something unpleasant that happened to you during your childhood that nevertheless helped you to grow up and mature. (c) 'The end justifies the means.' Argue for a against the statement. 2. You are the editor of your school magazine. You have recently attended a cultural program in your city. Write an account of this program (in approximately 300 words) using the points given below : Date and venue – occasion – Chief Guest – other invitees – inauguration – events – other important features – highlights – reaction of audience – conclusion
Hindi	प्रस्ताव – लेखन लगभग 400 शब्दों में लिखे – प्रकृति का संदेश- जियो और जीने दो । "समय अमूल्य धन है" इस कथन पर अपने विचार व्यक्त कीजिये । मौलिक कहानी लिखे- 1. दुर्घटना से देर भली 2. मै बाल-बाल बच गया ।
Biology	Make a project file on the topic given below- **Roll No. 01 to 5-** Sexual Reproduction in Angiosperms **Roll No. 06 to 10-** Mendel's principles of inheritance **Roll No. 11 to 15-** DNA & RNA **Roll No. 16 to 20-** Biotechnology: Principles, Processes & Application **Roll No. 21 to 25-** Biodiversity and its conservation **Roll No. 26 to 30-** Human Reproduction **Roll No. 31 to 35-** AIDS and Cancer **Roll No. 36 to 40-** Evolution
Chemistry	Make an assignment on following topic in A4 sheet-
Physics	1. Explain sign convention used for lenses and mirrors. (Roll No. 1 To 9) 2. Draw ray diagram of astronomical telescope and reflecting telescope. (Roll No. 10 To 18)

Chemistry assignment:

S.NO.	Investigatory Project	Roll No.
1	Check the solubility of following compound in water- $CaCO_3$, Nacl, sucrose, mustard oil	(1,3,5,7,9,11,32,34,35,38)
2	a) What is Nessler reagent & write down its use with reaction. b) What is esterification reaction? How it is use to identify organic compound?	(2,4,6,8,12,22,24,26,28,30)
3	Make a chart to explain working of electro chemical cell	(13,10,15,17,19,21,20,23,14)
4	Checking the purity of Condensed Milk, Cheese and hard water	(25,27,29,31,33,16,18,39,40)

	3. Define visual angle and sketch diagram of compound microscope. (Roll No. 19 To 27) 4. Derive expression of radius, velocity and energy of electron in nth orbit. (Roll No. 27 To 35) 5. Sketch diagram of hydrogen spectrum. (Roll No. 36 To 45) 6. Find 1st and last wavelength of all series in hydrogen spectrum. (Roll No. 46 To 54)

Computer	➢ Write a program in java to convert Decimal number into Binary Number.
	➢ Write a program in java to convert Decimal number into Hexa-decimal Number.
	➢ Given the boolean function F(A,B,C,D)=$\sum$(1,3,5,7,8,9,10,11,14,15)
	   a) Reduce the above SOP expression by using 4-variable K-map, showing the various groups (i.e., Octet, quads and pairs)
	   b) Draw the logic gates diagram of reduced SOP expression. Assume that the variables and their complements are available as inpts.
	➢ Given the boolean function F(P,Q,R,S)=π(4,6,7,10,11,12,14,15)
	   a) Reduce the above POS expression by using 4-variable K-map, showing the various group (i.e, Octet, quads and pairs)
	   b) Draw the logic gates diagram of the reduced POS expression. Assume that the variables and their complements are available as inputs.
	➢ Define Multiplexer. Draw the logic diagram for an 4x1 multiplexer.