SUDITI GLOBAL ACADEMY

NH 19 JANETPUR-JAITAPUR MOD , KANPUR ROAD, AURAIYA

SUMMER VACATION'S HOME WORK
CLASS – IX

General Instructions-

1. The school will remain closed from 17.05.2025 to 30.06.2025 due to Summer Vacation.

2. The school will re-open on 01 July 2025 (Tuesday) as usual.

3. Parents are requested to help their wards in doing their Holiday Homework.

4. Please do you of all subjects in a single note-book/as instructed by the subject teacher.

*5. **For any help you may contact the subject teachers as well**.*

*6. **Respect the Deadline:** Submit all holiday homework on time (the first week) after the vacation. Late submissions may lead to deduction in marks.*

*7. **Be Organized:** Keep your homework tidy and well-organized. Use proper headings, margins.*

*8. **Write Your Own Work**: Copying from friends or the internet is not allowed. Show your creativity and understanding.*

*9. **Label Everything:** Make sure your name, class, roll number, and subject are clearly written on each assignment.*

HINDI:

1. स्वतंत्रता सेनानियों से संबंधित कोई दो कहानियाँ लिखिए, जो 100 से 150 शब्दों में होनी चाहिए।

2. आपने भी किसी न किसी स्थान की यात्रा अवश्य ही की होगी, यात्रा के दौरान हुए अपने अनुभवों को लगभग 120 से 150 शब्दों में लिखिए।

3. कबीरदास के 10 दोहे अर्थ सहित लिखिए जो आपके पाठ्यक्रम में न हो।

4. प्रतिदिन एक पेज सुलेख एवं श्रुतिलेख (इमला) लिखिए ।

English:

1.Reading Comprehension:

- Read the novel "The Diary of a Young Girl" by Anne Frank.
- Write a book review (200–250 words) including:
- Summary; Your opinion; What you learned; Favorite character and why.

2. Writing Skills Practice:

- Write the following in notebook: (150-200 words)
  *How I Plan to Improve My English This Year
  *Why English is Important in Today's World
  *Reflection Diary
- Write 5 diary entries during your holidays, describing:

*A new skill you learned
*A place you visited
*A challenge you faced and overcame
*A book/movie you enjoyed
*A meaningful conversation

- One article on "The Importance of Mental Health in Teenagers" (150–200 words).

3. Grammar Exercises:

- Complete the all parts of Tenses(all 12 take help from the book) in your fair notebook book with rules and examples.
- Revise subject-verb agreement
- Revise Modals
  (Use your grammar book or online sources for practice.)

4. Speaking and Listening:

- Prepare a 2-minute speech on "My Role Model". Practice speaking in front of a mirror and record record it.
- Watch any one Education English documentary and write a short paragraph (100 words) about what it was about and what you learned.

5. Creative Activity

- Design a poster on "Say No to Plastic" with a catchy slogan.
- Write a short poem (8–10 lines) on "Summer Holiday.

Science:

PHYSICS
1. Frame 50 MCQ from chapter 1(Motion) with answers
2. Make a formula chart of all the formulae used in all chapters of physics**.**

BIOLOGY
1. Draw the following diagrams and level them -

(a) Plant cell	(b) Animal cell	(c) Mitochondria
(d) Plastids	(e) Simple Plant Tissue	(f) Various types of cell

2. Make a video showing the experiment of exosmosis and endosmois.
3. Make different dustbin for dry waste, reusable waste and wet waste . Now prepare the vermi compost from dry waste , write its process and make video.
4. Try to reduce the misuse of electricity and water and write a note and prepare a speech about sustainable management of natural resources.

CHEMISTRY
1. Prepare a question paper with 30 MCQ, 10 short questions and 5 long questions from chapter 1 and 2 (With solution)
2. Learn the name, symbols, atomic number and atomic mass of initial 30 elements and make a chart of it.
3. Learn and write the valency of initial 20 elements.

Social Science:

Note - Students are required to write down following details in social Science copy

1- Draw physical map of India, To show with specific colour- physiographic divisions of India .
2- Find out latitude and longitude no. of your state.

3- Write a short biography of any eminent Revolutionary figure from the French Revolution (Chapter-1)
4- Find out and make list - non-form production activities taking place in your region.

MATHS:

* Write and learn squares up to 30 and cubes up to 20.
* Solve worksheets of **Chapter. 1 (Number System) & Chapter. 2 (Polynomials)** given in last.
* Write a paragraph on "IMPORTANCE OF MATHEMATICS IN DAILY LIFE."
(150-200 Words)
(All writing work should be done in your Maths CW notebook).

INFORMATION TECHNOLOGY:

1:-Explain any Three ICT tools.   (Page No:-61)
2: Draw colourful diagram any three Input and Output Hardware devices on the Chart Paper.
(Page No:- 65)
3:- Learn and Write any 10 Questions- Answer of Brain developer. (Page No:- 232-233)

NUMBER SYSTEM

1. Find the value of a and b, if:

   a. $\dfrac{7+3\sqrt{5}}{7-3\sqrt{5}} = a + \sqrt{5}b$

   b. $\dfrac{\sqrt{7}-1}{\sqrt{7}+1} - \dfrac{\sqrt{7}+1}{\sqrt{7}-1} = a + \sqrt{7}\,b$

2. Rationalise the denominator of: $\dfrac{1}{(\sqrt{6}+\sqrt{5})-\sqrt{11}}$.

3. If a=7-4√3, find the value of $\sqrt{a} + \dfrac{1}{\sqrt{a}}$.

4. If $a = \dfrac{4}{3-\sqrt{5}}$, find the value of $a + \dfrac{4}{a}$.

5. If $x = \dfrac{(\sqrt{5}-\sqrt{2})}{\sqrt{5}+\sqrt{2}}$ and $y = \dfrac{\sqrt{5}+\sqrt{2}}{\sqrt{5}-\sqrt{2}}$, find the value of $x^2 + xy + y^2$.

6. Simplify: $\dfrac{\sqrt{6}}{\sqrt{2}+\sqrt{3}} + \dfrac{3\sqrt{2}}{\sqrt{6}+\sqrt{3}} - \dfrac{4\sqrt{3}}{\sqrt{6}+\sqrt{2}}$

7. Simplify: $\dfrac{1}{1+\sqrt{2}} + \dfrac{1}{\sqrt{2}+\sqrt{3}} + \dfrac{2}{\sqrt{3}+\sqrt{5}}$.

8. If $a = \dfrac{2-\sqrt{5}}{3+\sqrt{5}}$ and $b = \dfrac{2+\sqrt{5}}{3-\sqrt{5}}$, find $a^2 + b^2$.

9. If $a = \dfrac{\sqrt{2}+1}{\sqrt{2}-1}$ and $b = \dfrac{1}{a}$, find value of $a^2 - b^2$.

10. If $a = \dfrac{3-\sqrt{5}}{3+\sqrt{5}}$ and $b = \dfrac{3+\sqrt{5}}{3-\sqrt{5}}$, find $a^2 + b^2$.

11. If x=5-2√6, find the value of x²+1/x².

12. If $x = \dfrac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$ and $y = \dfrac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$, find $x^2 + y^2 + xy$.

13. If x=3-2√2 find the value of x³+1/x³.

14. If x=3+2√2 , find the value of (x-1/x)³.

15. If x=9+4√5, find √x+1/√x.

16. If √2=1.414, √3=1.732, then find the value of $\dfrac{4}{3\sqrt{3}-2\sqrt{2}} + \dfrac{3}{3\sqrt{3}+2\sqrt{2}}$.

17. If x=$\dfrac{\sqrt{7}}{5}$ and $\dfrac{5}{x} = p\sqrt{7}$, find p.

18. Arrange in ascending order: √3, ³√4, ⁴√6.

19. If $y = \dfrac{\sqrt{a+2b}+\sqrt{a-2b}}{\sqrt{a+2b}-\sqrt{a-2b}}$, prove that $by^2 - ay + b = 0$.

20. Simplify ⁴√³√x² and express the result in exponential form of x.

CLASS: IX   **Polynomials**

Q.1 Factorize the following by splitting the middle term:

(a) $3x^2 + 11x+30$ (b) $2\sqrt{2}\ x^2 +9x+5\sqrt{2}$ (c) $4x^2 - 13x + 10$

Q.2 Factorize the following by Factor theorem:

(a)$x^3+9\ x^2 +23x+15$ (b) $x^3+6\ x^2 +11x+6$

Q.3 Factorize the following by using a suitable identity:

(a) $4x^2 + 12xy + 9y^2$ (b) $2a^5 – 54\ a^2$ (c) $2\sqrt{2}\ x^3 + 3\ 3\ y^3$ (d) $x^5- x$ (e) $x^6 – y^6$ (f) $(a-b)^3 + (b-c)^3 +(c-a)^3$ (f) x^8-y^8 (g) $27x^3-135x^2 +225x -125$

Q.4 Evaluate the following using a suitable identity:

(a) 998^3 (b) 10.2^3 (c) 9.8^3 (d) 998^2-4 (e) $999^2 -1$ (f) $(-25)^3 + 10^3 +15^3$ (g) $10.2 * 9.8$

Q.5 If 5 is a zero of $x^3 + kx^2 + 2x +8$ find k.

Q.6 If (x-2) is a zero of of $x^3 -4x^2 + kx -8$ find k.

Q.7 If (x-2) and (x +3) are factors of $x^3 + ax^2 +bx -30$, find a and b.

Q.8 If x+y+ z = 8 and xy +yz+zx = 20 find the value of $x^3+y^3+z^3 -3xyz$.

Q.9 If a+b+c = 9 and $a^2 +b^2+c^2 =35$ find the value of $a^3+b^3+c^3 – 3abc$.

Q.10 Find the value of $2.7^3 -1.6^3-1.1^3$ using a suitable identity.

Q.11 Factorize the following by using a suitable identity:

(a) $a^3 +b^3 – 8c^3 + 6abc$ (b) $(a/b)^3 + (b/c)^3 + (c/a)^3 -3$ (c) $8x^3 -27y^3 + 125\ z^3 + 90xyz$

Q.12 Find the value of $a^3 + 8b^3$ if a + 2b = 10 and ab =15.

Q.13 Find the value of $a^3 -27b^3$ if a - 3b =(-6) and ab = (-10)

Q.14 Find the values of m and n if y^2-1 is a factor of $y^4 + my^3 +2y^2 -3y +n$.

Q.15 (x +2) is a factor of $mx^3 +nx^2+x-6$. It leaves the remainder 4 when divided by (x-2). Find m and n.

Q.16 The polynomials $kx^3 + 3x^2 -3$ and $2x^3 – 5x +k$ leave the same remainder when divided by (x-4). Find k.

Q.17 Factorize : $x^3 + 1/x^3 - 2$

Q.18 If ab + bc+ ca = 10 and $a^2 +b^2 +c^2 = 44$ find $a^3 +b^3 +c^3 -3abc$.

Q.19 Show that x-2 is a factor $p(x) = x^3-12x^2+ 44x-48$

Q.20 Factorize x^3-2x^2-5x+6

Q.21 If x+p is a factor of $p(x) = x^5-p^2x^3+2x+p+1$ find the value of p

Q.22 Factorize: (a) $a^2 + 1/a^2 +2$ (b) $3(x+2)^2 + 17(x+2) +10$ (c)$4x^2 – 9\ y^2 + 20x + 25$