HOLIDAY HOMEWORK
(CLASS – IX)

❖ **ENGLISH:**
- **Draft your own Magazine**
- **Step 1:** Make a beautiful cover page and give your magazine a name.
- **Step 2:** Page 1 Write your own imaginary story(paste pictures also)
- **Page 2:** Joke , recipe of your favourite dish, crossword puzzle (one each)
- **Page 3:** Collect and paste any 2 English news headlines.
- **Page 4:** Write a movie review (word limit 100 words)
- **Page 5:** Myself (write about your strength and weakness) (word limit-100 words)
- **Page 6:** Write & Paste pictures of any one poet of the states (Puducherry and Uttarakhand)
  NOTE: Use A4 Ruled Sheets

❖ **HINDI:**
- किसी भी शीर्षक पर एक सचित्र स्वचरित्र कहानी लिखकर परियोजना तैयार कीजिए।
- उत्तराखण्ड व पुडुचेरी के प्रसिद्ध किन्ही चार लेखक/लेखिकाओं अथवा कवि/कवियित्रियों के नाम व उनकी रचनाऐं लिखकर सचित्र परियोजना तैयार किजिए।

❖ **MATHEMATICS:**
- ➢ **Art integrated Activity : (Do this activity in A4 Shets)**
  - About Uttarakhand and Puducherry.
  - Depict the double bar graph for male and female population of Utatarakhand and Puducherry for the years 2001 and 2011.
- ➢ **Do the following activities in Maths Lab Manual:**
  - To construct a square root spiral.
  - To find the values of abscissae and ordinates of various points given in a cartesian plane.
- ➢ **Do the following practice work in a separate notebook.**

1. Find five rational numbers between $\frac{2}{3}$ and $\frac{5}{6}$.

2. Express the following in $\frac{p}{q}$ form
   (a) 0.353535……..   (ii) 0.53333……….

3. Simplify: (i) $\sqrt{8} + 16\sqrt{2} - \sqrt{128}$
   (ii) $\sqrt[4]{81} - 8\sqrt[3]{216} + 15\sqrt[5]{32} + \sqrt{225}$.

4. Rationalize the denominator of $\frac{5 + 2\sqrt{3}}{7 + \sqrt{3}}$.

5. If x = 2 + $\sqrt{3}$, find the value of $x^2 + \frac{1}{x^2}$.

6. If $\frac{3 + \sqrt{8}}{3 - \sqrt{8}}$ = a + b$\sqrt{8}$, find the value of a and b.

7. Simplify : $\frac{(25)^{\frac{3}{2}} \times (243)^{\frac{5}{3}}}{(16)^{\frac{5}{4}} \times (8)^{\frac{4}{3}}}$.

8. Simplify: $\left(\frac{\sqrt{5} + \sqrt{2}}{\sqrt{5} - \sqrt{2}} + \frac{\sqrt{5} - \sqrt{2}}{\sqrt{5} + 2}\right)$.

9. Find the value of x for which $\left(\frac{3}{4}\right)^6 \times \left(\frac{16}{9}\right)^5 = \left(\frac{4}{3}\right)^{x+2}$

10. If f(x) = 2x^3 − 3x^2 + 12, then find f (− 2)

11. Prove that $\left(\frac{81}{16}\right)^{\frac{-3}{4}} \times \left\{\left(\frac{25}{9}\right)^{\frac{-3}{2}} \div \left(\frac{5}{2}\right)^{-3}\right\}$.

12. The coordinates of the three vertices of a rectangle ABCD are A(3, 2), (-4, 2), (-4, 5). Plot these points in cartesian plane and write the coordinates of D.
13. Factorise: (i) $25x^2 + 16y^2 + 4z^2 - 40xy + 16yz - 20xz$
    (ii) $2x^2 - 7x - 15$
14. Find the value of k, if $(x - 1)$ is a factor of $4x^3 + 3x^2 - 4x + k$.
15. Factorise: $2x^3 - 3x^2 - 17x + 30$.
16. Factorise: $x^3 + 216y^3 + 8z^3 - 36xyz$.
17. Examine whether x +2 is a factor of $x^3 + 3x^2 + 5x + 6$ and of $2x + 4$.
18. Factorise : (i) $8p^3 + \frac{12}{5} p^2 + \frac{6}{25} p + \frac{1}{125}$
    (ii) $1 - 64a^3 - 12a + 48a^2$
19. Expand : (i) $(- 2x + y - 4z)^2$
    (ii) $\left(4 - \frac{1}{3}x\right)^3$
20. If a + b + c = 9 and ab + bc + ca = 26 , find $a^2 + b^2 + c^2$.

❖ **SCIENCE:**
   ➢ **Chemistry:**
      • Draw charts of different atomic models (Thomson, Rutherford and Bohr's)
      • Write down the table of atomic number from 1 to 20 with element name, mass , valency in the notebook.
   ➢ **Physics:**
      • Make a chart of equations of motion (equation I, II and III) from graphical method.
      • Make a list of various formulas in chapter – motion, force and gravitation in physics notebook.

❖ **SOCIAL SCIENCE:**
   ➢ **Art Integrated Activity:**
      • Comparative account of Puducherry and Uttarakhand under the following headings :
         (1) Major Crops (2) Cropping pattern (3) Irrigation system
         (4) Majority of people involved in which activity
         (5) Literary rate   (6) Net attendance ratio
   ➢ **CBSE Project :**
      • Disaster Management
   ➢ **Political Science :**
      • Write and draw the symbols of any 5 state political parties of Puducherry.
   ➢ **History :**
      • Write few lines about the following topics related to Uttarakhand and Puducherry:
         (1) Folk dances (2) Music (3) Tourist Places (4) Cuisine
      Note: Paste or draw pictures as well.