



# K. C. PUBLIC SCHOOL, JAMMU

## HOLIDAYS HOME WORK

Subject: English

CLASS: IX

- For the joy of reading, read the novel 'Three men in the boat'.
- Revise all the chapters done in the class.  
DISCOVERY FRAMEWORK IDEAL: Tenacity
- Find extracts from Speeches of great people with its background.  
DISCOVERY FRAMEWORK IDEAL: Team work
- Make comic strips on one of the Round Square Discovery Framework.

Subject: Science

Q.NO.1:-What do you understand by environment. What are our main environmental problems?

Q.NO.2:-Write a note to develop a sense of responsibility and concern for the welfare of the environment and all life forms which share this planet.

Q.NO.3:-Write a short note to deforestation. How it effects climate, atmosphere and soil processes.

Subject: Mathematics

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Sub: Mathematics Topic: Polynomials  
Class: 9<sup>th</sup> Assignment : 1.

Q.1 If the polynomials  $ax^3 + 4x^2 + 3x - 4$  and  $x^3 - 4x + a$  leave the same remainder when divided by  $(x - 3)$ , find the value of  $a$ .

Q.2 Let  $R_1$  and  $R_2$  are the remainders when the polynomials  $x^3 + 2x^2 - 5ax - 7$  and  $x^3 + ax^2 - 12x + 6$  are divided by  $x+1$  and  $x-2$  respectively. If  $2R_1 + R_2 = 6$ , find the value of  $a$ .

Q.3 Find the values of  $p$  and  $q$  so that  $x^4 + px^3 + 2x^2 - 3x + q$  is divisible by  $(x^2 - 1)$ .

Q.4 Factorize:

(i)  $x^2 - 2\sqrt{2}x - 30$   
 (ii)  $5\sqrt{5}x^2 + 20x + 3\sqrt{5}$   
 (iii)  $2x^2 - \frac{5}{6}x + \frac{1}{12}$   
 (iv)  $x^2 - y^2$   
 (v)  $2x^2 + y^2 + 8z^2 - 2\sqrt{2}xy + 4\sqrt{2}yz - 8zx$   
 (vi)  $x^3 + 13x^2 + 32x + 20$ .

Q.5 If  $a+b+c=6$  and  $ab+bc+ca=11$  find the value of  $a^3+b^3+c^3 - 3abc$ .

Q.6 Evaluate:  $30^3 + 20^3 - 50^3$  using Identity.

Q.7 If  $a+b+c=15$  and  $a^2+b^2+c^2=83$  find the value of  $a^3+b^3+c^3 - 3abc$

Q.8 If  $x + \frac{1}{x} = 7$  find the value of  $x^3 + \frac{1}{x^3}$ .

Q.9 If  $x^2 + \frac{1}{x^2} = 83$  find the value of  $x^3 + \frac{1}{x^3}$ .

Q.10) If  $2x+3y=13$  and  $xy=6$  find the value of  $8x^3+27y^3$ .

Q.11) Evaluate  $(999)^3$

Q.12) Prove that:  $a^3+b^3+c^3 - 3abc = \frac{1}{2}(a+b+c)\{(a-b)^2 + (b-c)^2 + (c-a)^2\}$

Q.13)  $(a+b)^3 + (b+c)^3 + (c+a)^3 - 3(a+b)(b+c)(c+a) = 2(a^3+b^3+c^3 - 3abc)$ .

**Assignment:-2****Topic: - Number System**

1. Represent  $\sqrt{17}$  on the number line and write the steps of construction also.
2. Evaluate  $\frac{15}{\sqrt{10} + \sqrt{20} + \sqrt{40} - \sqrt{5} - \sqrt{80}}$ , is being given that  $\sqrt{5} = 2.236$  and  $\sqrt{10} = 3.162$ .
3. If  $x = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$  and  $y = \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$ , find  $x^2 + y^2$ .
4. Write the following in the descending order of their magnitudes  $\sqrt[3]{7}$ ,  $\sqrt[4]{11}$ ,  $\sqrt[6]{50}$ .
5. If  $x = 2 + \sqrt{3}$ , find the value of  $x^3 + \frac{1}{x^3}$ .
6. Represent  $\sqrt{9.4}$  on the real number line and write the steps of construction also.
7. Visualize the representation of  $5.3\bar{7}$  on the number line up to 4 decimal places.
8. Express  $0.6 + 0.\bar{7} + 0.4\bar{7}$  in the form of  $\frac{p}{q}$ , where p, q are integers and  $q \neq 0$ .
9. In a school, 5 out of every 7 children participated in "SAVE WILDLIFE" campaign organized by the school authorities. (i) What fraction of the students participated in the campaign? (ii) Find what kind of decimal expansion it has? (iii) What values do the participating students possess?

**Project Work**

1. Group activity on Numerology as discussed in their respective classes.

**Subject: S. Sc.**

1. Create a fact file on the 'US Presidents & first 100 days'. Do mention about the origin and history of the 'First 100 days' concept.
2. The Republic of Rwanda is one of the smallest countries on the African mainland. Rwanda has a presidential form of government. Presidential elections are scheduled for 4 August, 2017 in Rwanda.  
The federal Republic of Germany is a federal parliamentary republic in central - Western Europe. The 2017 German presidential election was held on 12 February, 2017 to elect the 12<sup>th</sup> President of Germany.  
Do a comparative case study on the different forms of government in Rwanda and Germany. Write the comparative case study report in your class notebook.

**Subject: Hindi**

1. गूँज संस्था के बारे में जानकारी एकत्रित कीजिए तथा बताइए कि अगर आपको इस संस्था का सदस्य बनाया जाए तो आप इसमें क्या योगदान देंगे ।
2. वातावरण से संबंधित कोई भी एक शपथ लिखें । (किसी भी इस्तेमाल की हुई चीज़ पर )

**Subject: FIT**

Make a PowerPoint Presentation on "Operating System and its Functions"

**Note: -**

1. It should be summarized into 15 to 20 slides.
2. Insert images and sound wherever necessary.
3. Add custom animation.
4. Give slide transition effects.