



# PIET SANSKRITI SENIOR SECONDARY SCHOOL

NFL TOWNSHIP PANIPAT

Academic Year – 2019-20

## Grade X HOLIDAYS HOMEWORK

### ENGLISH

**NOTE: Do the entire holidays homework in the English notebook only.**

- Write a critical review of any one poem/ play/writing of any two writers out of the given list.
  - Robert Frost
  - Carolyn Wells
  - Ogden Nash
  - W.B Yeats
  - Leslie Norris
- Write a story in about 150-200 words to illustrate 'BEAUTY LIES IN THE EYES OF THE BEHOLDER'.
- Write four lines each of English in the fair notebook everyday during the summer break.

### हिंदी

**NOTE: Do the entire holidays homework in the Hindi notebook only.**

### ग्रीष्मअवकाश-कार्य

- बच्चों के लिए अच्छे स्कूल बैग हेतु विज्ञापन तैयार कीजिए |
  - इस विषय पर दो मित्रों के बीच संवाद लिखिए 'खाने से ज्यादा व्यायाम पर ध्यान दो'
  - आप अपने विद्यालय के सचिव हैं व विद्यालय में दिवाली मेला आयोजित करना चाहते हैं उससे संबंधित छात्रों के लिए | शब्दों में सूचना लिखें 30 से 25
  - विद्यालय में अवकाश के दिनों में भी प्रातः काल में योग की अभ्यास कक्षाएँ चलने की सूचना देते हुए इच्छुक :  
- विद्यार्थी द्वारा अपना नाम देने हेतु सूचना पट्ट के लिए एक सूचना लगभग | शब्दों में लिखें 30
- महत्वपूर्ण निर्देशपठित अध्यायों की पुनरावृत्ति लिखित व मौ 1 -खिक दोनों रूपों में अवश्य करे |**  
- दिए गए ग्रीष्मअवकाश कार्य को कक्षा 2 कार्य उत्तर - पुस्तिका में करें |

### MATHEMATICS

**NOTE: Do the entire holidays homework in the Maths notebook only.**

- Prove that  $n^2 - n$  is divisible by 2 for every positive integer  $n$ .
- A fruit vendor has 990 apples and 945 oranges. He packs them into baskets. Each basket contains only one of the two fruits but in equal number. Find the number of fruits to be put in each basket in order to have minimum number of baskets.
- Use Euclid's Division Lemma to show that the square of any positive integer cannot be of the form  $5m+2$  or  $5m+3$  for some integer  $m$ .
- Find the centre of a circle passing through the points  $(6, -6)$ ,  $(3, -7)$  and  $(3,3)$ .
- If  $n$  is rational and  $\sqrt{m}$  is irrational, then prove that  $(n+\sqrt{m})$  is irrational.
- If one zero of the quadratic polynomial  $f(x) = 4x^2 - 8kx - 9$  is negative of the other, find the value of 'k'.
- If one zero of  $p(x) = 7x^3 - x^3 - 6$  is 1. Find the other two zeroes.
- Find the quadratic polynomial whose zeroes are  $2/3$  and  $-1/4$ .
- $a, b, c$  are zeroes of the cubic polynomial  $x^3 - 2x^2 + qx - r$ . If  $a+b = 0$  then show that  $2q = r$ .
- What must be subtracted from  $8x^4 + 14x^3 - 2x^2 + 7x - 8$  so that the resultant polynomial is exactly divisible by  $4x^2 + 3x - 2$ .
- The two opposite vertices of a square are  $(-1, 2)$  and  $(3, 2)$ . Find the coordinates of the other two vertices.
- In a  $\Delta ABC$ ,  $\angle C = 3 \angle B = 2(\angle A + \angle B)$ . Find the three angles.
- Determine the ratio in which the line  $2x + y - 4 = 0$  divides the line segment joining the points  $A(2, -2)$  and  $B(3, 7)$ .
- Prove that Product of three consecutive positive integers is divisible by 6.
- Find the value of 'k' so that the zeroes of the quadratic polynomial  $3x^2 - kx + 14$  are in the ratio 7:6.
- Find a relation between  $x$  and  $y$  if the points  $(x, y)$ ,  $(1, 2)$  and  $(7, 0)$  are collinear.
- ABCD is a rectangle formed by the points  $A(-1, -1)$ ,  $B(-1, 4)$ ,  $C(5, 4)$  and  $D(5, -1)$ . P, Q, R and S are the mid-points of AB, BC, CD and DA respectively. Is the quadrilateral PQRS a square? a rectangle? or a rhombus? Justify your answer.
- Find the nature of roots:  $2x^2 + 3x - 4 = 0$
- The sum of a number and its square is  $63/41$ . Find the number.
- Factorize  $100x^2 - 20x + 1 = 0$
- One fourth of a herd of camels was seen in the forest. Twice the square root of the herd had gone to mountains and the remaining 15 camels were seen on the bank of a river. Find the total number of camels.
- A motor boat whose speed is 20 km/h in still water, takes 1 hour more to go 48 km upstream than to return downstream to the same spot. Find the speed of the stream.
- Three consecutive natural numbers are such that the square of the middle number exceeds the difference of the squares of the other two by 60. Find the numbers.
- Prove that the diagonals of a rectangle bisect each other and are equal.
- Prove that the points  $A(c, a+b)$ ,  $B(a, b+c)$ ,  $C(b, a+c)$  are collinear.
- Prove that the points  $(a,0)$ ,  $(b,0)$  and  $(1,1)$  are collinear, if  $1/a + 1/b = 1$ .

27. Find the third vertex of a triangle, if two of its vertices are at (-3,1) and (0,-2) and the centroid is at the origin.
28. A girl is twice as old as her sister. Four years hence, the product of their ages (in years) will be 160. Find their present ages.
29. Is it possible to design a rectangular mango grove whose length is twice its breadth, and the area is 800 m. If so, find its length and breadth.
30. Show that the reciprocal of  $3+2\sqrt{2}$  is an irrational number.

\* **Revise chapter 1, 2, 4 and 7.**

#### SCIENCE

1. Search for the functioning of digestive system of different organisms(any 5) other than humans and write a report.(150-200 words)
2. An electrical fuse is rated at 2 A. What is meant by this statement?
3. Draw a schematic diagram of a circuit consisting of a battery of 4 cells of 2 V each connected to a key, an ammeter and two resistors of 2  $\Omega$  and 3  $\Omega$  respectively in series and a voltmeter to measure the potential difference across 3  $\Omega$ .
4. An electric bulb of resistance 200  $\Omega$  draws a current of 1 Ampere. Calculate the power of the bulb and the energy in kWh consumed burning it for 5 hours.
5. What is corrosion? Give its chemical equation and research on the devastating effects of corrosion. Also mention some measures to reduce it.
6. Hydrogen being a highly inflammable gas and oxygen being a supporter of combustion, yet water which is a compound made up of hydrogen and oxygen is used to extinguish fire. Why?
7. What is the colour of ferrous sulphate crystals? How does this colour change after heating?
8. Learn the syllabus covered till the month of may.

**Note : All the work has to be done in c.w notebook.**

#### SOCIAL SCIENCE

#### **PROJECT WORK**

- 1 What are the various movements initiated to conserve our natural resources? Support your view point with any two movement in any part of India and locate it on the political map of India.( 10 pages of project file on A4 sheets)
- 2 Revise the syllabus completed till May

#### COMPUTERS

Revise chapter 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>.