

**NORTH-EX PUBLIC SCHOOL, JAIN NAGAR**  
**SUMMER HOLIDAYS HOMEWORK, 2019-20**  
**CLASS-X**

**ENGLISH**

1. Write 2 words starting with 'A' and give at least two- two antonyms of each.
2. Suppose that you were on a morning walk and caught in a heavy storm, how did you manage to save yourself? Compose a story within 150 words.
3. Do reading of the chapters and poems of PERIODIC TEST – I and make the summary of each.
4. Learn and revise all the syllabus of PERIODIC TEST-I.

**MATHS**

1. If  $(x + a)$  is a factor of  $2x^2 + 2ax + 5x + 10$  find  $a$ .
2. Write the zeroes of the polynomial  $x^2 + 2x + 1$ .
3. Write the zeroes of the polynomial  $x^2 - x - 6$ .
4. Write a quadratic polynomial, the sum and product of whose zeroes are 3 and -2 respectively.
5. If one zero of the polynomial  $(a^2 - 9)x^2 + 13x + 6a$  is reciprocal of the other, find the value of ' $a$ '.
6. If the product of zeroes of the polynomial  $ax^2 - 6x - 6$  is 4, find the value of ' $a$ '.
7. Find all the zeros of the polynomial  $x^4 + x^3 - 34x^2 - 4x + 120$ , if two of its zeroes are 2 and -2.
8. Solve it on a graph  $4x-3y+4=0$ ,  $4x+3y-24=0$ . (3)
9. A number is a two digit number which is three times more than 4 times the sum of the digits. If 18 is added to the number, the digits gets opposite. Represent geometrically.
10. The LCM and HCF of two numbers are 240 and 12 respectively. If one of the numbers is 60, then find the other number.
11. What is the HCF of 52 and 130? Use prime factorization and Euclid division lemma method.

**SCIENCE**

1. (A) Explain how the exchange of gases occurs in plants across the surface of stems, roots and leaves.  
(B) How are water and minerals transported in plants
2. (a) Draw a diagram to show open stomatal pore and label on it:  
(i) guard cells  
(ii) chloroplast  
(b) State two functions of stomata.  
(c) How do guard cells regulate the opening and closing of stomatal pore?
3. Draw a neat diagram of excretory system of human beings and label the following:  
(i) Kidney  
(ii) Ureter  
(iii) Urinary Bladder  
(iv) Urethra
4. Explain the process of nutrition in Amoeba.
5. (a) Draw a sectional view of the human heart and label on it – Aorta, Right ventricle and Pulmonary veins.  
(b) State the functions of the following components of transport system:  
(i) Blood (ii) Lymph

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6. Answer the following questions:
  - (a) Derive an expression for equivalent resistance of a combination of three resistors having resistances  $R_1$ ,  $R_2$  and  $R_3$  respectively when connected in series.
  - (b) A copper wire has a diameter of 0.5 mm and resistivity  $1.6 \times 10^{-8} \Omega\text{m}$ . What will be the length of this wire to make the resistance of  $12 \Omega$ ?

7. Answer the following questions:
- A wire carries a current of 0.1 A and has a resistance of 120 milliohm per meter. What is the potential difference across 1 m of this wire?
  - A wire of length L and resistance R is stretched so that its length is doubled and the area of cross-section is halved. How will its  
(i) Resistance change? (ii) Resistivity change?  
Justify your answer in each case.
  - Define the term potential difference.
8. A piece of wire of resistance R is cut into five equal parts. These parts are then connected in parallel. If the equivalent resistance of this combination is  $R^*$ , then find the ratio  $R/R^*$ .
9. A cable of resistance of  $12\Omega$  carries electric power from a generator producing 250 kW at 10,000 V. Calculate  
(i) The current in the cable,  
(ii) The power lost in the cable during transmission, and  
(iii) The potential difference across the ends of the cable.
10. Answer the following questions:
- Derive an expression for equivalent resistance of a combination of three resistors having resistances  $R_1$ ,  $R_2$  and  $R_3$  respectively when connected in parallel.
  - How can three resistances of 2, 3 and 6 ohms be connected so as to give a total resistance of 1 ohm?  
Justify your answer.
  - Calculate the numbers of electrons constituting one coulomb of charge.
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- Prepare a model on sources of energy.
  - Prepare a working model on alimentary canal or Respiratory system or Human Heart or Excretory System according to your roll numbers.
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#### SST

- How does the sense of collective identity develop among French people?
- Why is it essential to have resource planning? Explain any three reasons?
- Explain common, different and conflicting goals by giving suitable example?
- Explain the concept of underemployment in the urban areas with the help of suitable examples?
- Maintain a project on any one topic in project file.
  - Consumer Awareness (Related to chapter 5 eco)
  - Any social issues
  - Sustainable development

#### IT

- Prepare a project report on the topic : Internet & Web Services. Submit a printed copy of the same.
- Prepare a poster to emphasize on the advantages of Internet. Use your creativity to make it as attractive as possible.
- Revise the syllabus covered for the upcoming periodic test.

कठां - दस्ती  
विजय - हिन्दी

१. दीर्घी की पर स्वारिव होने वाले ऐतिहासिक शारातहिन्दीं की संस्कृत बनते हुए बद्धना मंत्रहात्र को पढ़ दियता।
२. आपके होने में रक्तकान विभिन्न का आधोजन किया गया रहा है। इन विषय पर चर्चा करते हुए दो मित्रों के मध्य लंबाव दियते।
३. कुपाप डाफनी सारकिल खेचना चाहते हैं। उससे संबंधित कियापन टेंगार मीलिए।
४. 'ज्ञातिका विज्ञा' अनन्त की उत्तमगति' विषय पर एक उन्नुच्छेद दियता।
५. 'लड़े भाई याहन' पाठ के अधार पर बड़े गर्व व होटे भाई की स्वभावगत क्षमोत्ताएं अपने उछकों में दियती।