

# INTERNATIONAL PUBLIC SCHOOL BHOPAL

## SUMMER ASSIGNMENT 2017-18

### CLASS-X

#### ENGLISH

1. Collect facts and photographs about Helen Keller's life from the internet and make an interesting display about her life. (Project – In file)

**Question 2 & 3 to be done in class work notebook.**

2. Read the novel carefully and write the summary in 150-200 words.
3. Answer the following questions based on the novel "The Story of my Life."
  - (a) How can the story of Helen Keller inspire others ?
  - (b) How did Miss Sullivan teach Helen Keller the connection between words and meanings ?
  - (c) What did Miss Sullivan teach Keller about nature ?
  - (d) What are Helen Keller's reasons for describing her father as 'the most loving and indulgent'?

#### CHEMISTRY

- Q.1 Translate the following reactions in to the language of chemistry and then balance it. When ferric oxide is heated with aluminium, it gives aluminium oxide and iron.
- Q 2 Give two examples from every day life situations where redox reactions are taking place?
- Q3 Give reasons for the following :
  - a) Stale food gives bad smell and taste.
  - b) Gold and silver not corrode in moist air.
  - c) Copper vessel covered with a green coating in rainy season?
- Q4 You are provided with two containers made of copper and aluminium. You are also provided with solution of dilute HCl, dilute HNO<sub>3</sub>, ZnCl<sub>2</sub> and H<sub>2</sub>O. In which of the above containers these solutions can be stored.
- Q5 A brown substance X on heating in air forms a substance Y. When hydrogen gas is passed over heated Y, it again changes back in to X.

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#### PHYSICS

General Instructions:

1. Perform any one of the given activities.
2. Prepare a report on the same.

#### **ACTIVITIES**

1. Survey at least ten people wearing spectacles. (In different age groups).
  - a) Find out their power of lens and type of lens.
  - b) Chart-out age wise if the person is myopic or hypermetropic or both.
2. Analyze at least 10 different metals. Find out their physical properties. Also find (a) their melting point (b) resistivity. – Few questions based on their analysis: (a) Categorize which of them can be used as connecting wire and which as heating element. Give reasons to support your answer. (b) If temperature changes what will be the changes in the above analysis.
3. Demonstration on plotting magnetic field around a bar magnet.  
Plotting in group magnetic field lines around bar magnet and verify the properties of magnetic field lines.

#### COMPUTER SCIENCE

##### **Chapter 1: Social Impact of IT**

Make a collage on the topic "Cyber Crimes". Browse the internet to gather information on topics like Cyber Terrorism, Hacking , Credit card frauds and include it in the collage.

OR

Collect information on any five latest Antivirus software and their features and make an attractive chart on it.

#### FINE ART

- Make an Ambrose painting (Size 1\*1.5 feet).
- Please submit framed painting.

#### MATHS

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#### NAME OF THE CHAPTERS: REAL NUMBERS AND POLYNOMIALS

1. By what number should 1365 be divided to get 31 as quotient and 32 as remainder.
2. If the HCF of 65 and 117 is expressible in the form of  $65m-117$ , find the value of  $m$ .
3. Find the largest number which divides 70 and 125 leaving remainders 5 and 8 respectively.
4. For what value of  $n$ ,  $2^n \times 5^n$  ends with 5 ?
5. Can the number  $6^n$ , where  $n$  being a natural number ends with digits 5 ?
6. If  $n$  is a odd integer, then show that  $n^2 - 1$  is divisible by 8
7. Show that square of any positive integer is of the form  $3m+2$ ,  $m$  is any  $3m$  natural number
8. On GT road three consecutive traffic lights change after 36,42,and 72s.If the lights are first switched on at 9:00am,then at what time will they change simultaneously.
9. Using EDL,show that cube of any positive integer is either of the form  $9m$  or  $9m+1$  or  $9m+8$
10. Find the HCF and LCM of (i) 441,567,693 (ii)1620,1725,255
11. Show that one and only one out of  $n,n+2,n+4$  is divisible by 3
12. Prove  $\sqrt{2}, \sqrt{3}, \sqrt{5}, 3 + 2\sqrt{5}$ , is irrational number

#### POLYNOMIALS

13. For what value of  $k$  3 is the zero of  $2x^2+x+k$  ?
14. If 2 and 3 are the zero of  $3x^2 - 2kx+2m$  ,find the value of  $k$  and  $m$
15. What is the geometrical meaning of zeroes of a polynomial
16. Find the zeroes of the polynomials.  
a) $5x^2-8x-4$  ,b) $x^2-20x+91$  ,c)  $x^2-(\sqrt{2} + 1)x + \sqrt{2}$  .
17. if  $\alpha$  and  $\beta$  are the zeroes of  $x^2-7x+k$  such that  $\alpha - \beta=1$ ,find  $k$
18. if  $\alpha$  and  $\beta$  are the zeroes of  $2y^2+7y+5$  find the value of  $\alpha^2+\beta^2$ ,
19. Find a quadratic polynomial whose zeroes are 2 and -6
20. Find quadratic polynomial ,the sum and the product of whose zeroes are  
(i) 0 and  $-\sqrt{2}$ (ii)  $2 + \sqrt{3}, 2 - \sqrt{3}$
21. WRITE a cubic polynomial whose zeroes are  $(2+\sqrt{5})/2,(2-\sqrt{5})/2$

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22. If one zero of the polynomial  $3x^2 - 8x + 2k + 1$  is seven times the other find the zeroes and k
23. If  $\alpha$  and  $\beta$  are the zeroes of  $x^2 + x - 2$ , find a polynomial whose zeroes are  $2\alpha + 1$ , and  $2\beta + 1$
24. Find the remaining zero of ;  
 $P(x) = 2x^4 - 3x^3 - 3x^2 + 6x - 2$  if two zeroes are  $\sqrt{2}, -\sqrt{2}$
25. If the polynomial  $f(x) = 3x^4 - 9x^3 + x^2 + 15x + k$  is completely divisible by  $3x^2 - 5$ , find k and the zeroes.

**Activity: Linear equations (graph activity)**

**Project: Pascals triangle and fibonacci series**

### BIOLOGY

1. Prepare a diet chart for different age groups. Also write about basic steps involved in digestion of different components of food.
2. Make poster or a collage on any one topic given below with catchy slogans.
  - Say no to junk food, bring awareness about healthy food habits.
  - Various food culture in India.
  - Feel great with your plate.
  - Change of food tradition in India.
3. Paste pictures of different types of nutrition in different organisms and explain each type of nutrition.  
NOTE: Holiday Homework to be done in Biology note book in assignment section.

### SOCIAL SCIENCE

1. Draw a map of India and locate the states and the Union Territories along with their capitals. (Sheet)
2. Mention ten current affairs along with relevant cuttings from newspapers. Out of which, there should be 4 national affairs, 4 international affairs and 2 state affairs. Make it in the form of a newspaper and also give a suitable name to your newspaper. (Newspaper form-handwritten)
3. Vidhan Sabha Election which took place in Punjab, Uttar Pradesh, Uttarakhand, Manipur and Goa. Write a report emphasising following points:

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- Date
- Manifesto of different parties
- Campaigning strategies of different parties
- Results
- Malfunctioning during election and role of Election Commission

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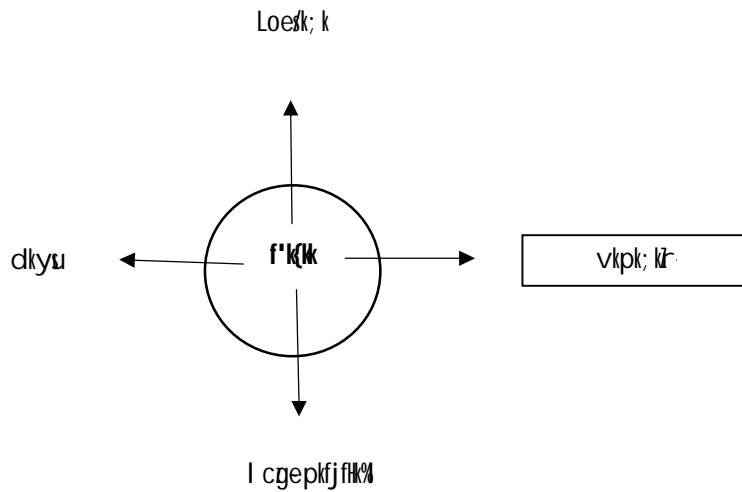
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