

**ROTARY PUBLIC SCHOOL**  
**SUMMER HOLIDAYS HOME WORK (2019-20)**  
**CLASS IX**

**ENGLISH**

**1. Do the following worksheets in bbc Compacta**

- **MODULE ONE (Unseen Passages) (Page no. 4 to 9)**
- **MODULE TWO and THREE (Writing) (Page no. 72, 77, 113, 114 ,115)**
- **MODULE SEVEN (Integrated Grammar) (Page no. 254, 255, 260, 261)**
- **MODULE EIGHT (Literature) (Page no. 289, 301, 336,**

**2. Literary Devices-** Simile, Metaphor Personification, Alliteration, Repetition

- Simile and Metaphor (Roll no. 1-10)
- Personification and Alliteration (Roll no. 11-20)
- Repetition and Refrain (Roll no. 21 onwards)

- Write the definitions of each **Literary Device** with 3 examples.

**3. Letter / Application Writing**

- Write an application to the principal of your school asking to grant you sick leave / urgent work leave. (Roll no. 1-15)
- Write a letter to the editor of daily national newspaper expressing your views on **thoughtless imitation of fashion by the young generation of today.** (Roll no. 16 onwards)

**NOTE:**

- Questions 1(all parts) to be done in bbc.
- Questions 2 and 3 to be done on A4 size sheets and put them in a folder.
- The work should be neat and presentable.

**HINDI**

**विज्ञापन लेखन ( शीट का प्रयोग कीजिए A 4)**

- 1) रियल लेदर शू हेतु विज्ञापन तैयार कीजिए। (अनुक्रमांक-1-10)
- 2) मोहक अगरबत्ती एवं धूपबत्ती के लिए विज्ञापन तैयार कीजिए। (अनुक्रमांक-11-20)
- 3) आकर्षण चश्मों के विक्रेता हेतु विज्ञापन तैयार कीजिए । (अनुक्रमांक-21-30)
- 4) कड़क चाय का विज्ञापन तैयार कीजिए। (अनुक्रमांक-31-40)

**अनुच्छेद लेखन ( शीट का प्रयोग कीजिए A4)**

- 1) मेरा स्मरणीय प्रवास
- 2) भ्रूण हत्या : सामाजिक कलंक
- 3) क्षमा : एक साहसिक कदम
- 4) दुर्लभ होता है अच्छा मित्र
- 5) संयुक्त परिवार - आज की आवश्यकता

**नोट : सभी कार्य एक फाइल में कीजिए ।**

**पठित पाठ्यक्रम की दोहराई कीजिए ।**

# MATHEMATICS

Do the following sums in a separate note book.

## CHAPTER – 1: NUMBER SYSTEMS

### ASSIGNMENT - 1

1. Find three rational numbers between  $-1/5$  and  $4/7$ .
2. Represent  $\sqrt{15}$  on number line.
3. Represent  $\sqrt{3.6}$  on number line.
4. Express  $0.696969\dots$  in the form of  $p/q$  where  $p$  and  $q$  are integers and  $q \neq 0$
5. Express  $0.5434343\dots$  in the form of  $p/q$  where  $p$  and  $q$  are integers and  $q \neq 0$
6. Rationalise the denominator of  $\frac{7}{\sqrt{5}}$  (ans  $\frac{7\sqrt{5}}{5}$ )
7. Rationalise the denominator of  $\frac{1}{\sqrt{7}-\sqrt{6}}$  (ans  $\sqrt{7} + \sqrt{6}$ )
8. Rationalise the denominator of  $\frac{1}{7+3\sqrt{2}}$  ( $\frac{7-3\sqrt{2}}{31}$ )
9. Find the values of  $a$  and  $b$  if  $\frac{\sqrt{2}+\sqrt{3}}{3\sqrt{2}-2\sqrt{3}} = a - b\sqrt{6}$  (ans  $a=2, b=-5/6$ )
10. If  $x = 2+\sqrt{3}$ , find the value of  $x^2 + \frac{1}{x^2}$  (ans = 14)
11. If  $x = 1 - \sqrt{2}$ , find the value of  $(x - \frac{1}{x})^3$  (ans = 8)
12. If  $x = \frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$  and  $y = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$  find the value of  $x^2 + y^2 + xy$  (ans=99)
13. Rationalise the denominator of  $\frac{1}{\sqrt{7}+\sqrt{6}-\sqrt{13}}$  (ans  $\frac{7\sqrt{6}+6\sqrt{7}+\sqrt{546}}{84}$ )
14. Prove that  $(\frac{2^a}{2^b})^{a+b} \times (\frac{2^b}{2^c})^{b+c} \times (\frac{2^c}{2^a})^{c+a} = 1$
15. Simplify  $(\frac{x^b}{x^c})^{b+c-a} \times (\frac{x^c}{x^a})^{c+a-b} \times (\frac{x^a}{x^b})^{a+b-c}$  (ans = 1)

## CHAPTER – 2 : POLYNOMIALS

### ASSIGNMENT - 2

1. If  $x+1$  is a factor of the polynomial  $2x^2 + kx$ , then find the value of  $k$  (ans 2)
2. Find the remainder when the polynomial  $x^2 - 7x + 11$  is divided by  $x-1$  (ans 5)

3. If the polynomial  $3x^3 + kx^2 + 2x - 3$  leaves a remainder 5 when divided by  $x-2$ , find the value of  $k$ , using remainder theorem. (ans  $k = -5$ )
4. Find the value of  $m$  if  $x^3 - 2mx^2 + 16$  is divisible by  $x+2$  (ans  $m=1$ )
5. If the polynomial  $x^4 - 2x^3 + 3x^2 - ax + 8$  is divided by  $x-2$ , it leaves a remainder 10. Find the value of (ans  $a = 5$ )
6. If the polynomial  $f(x) = px^3 + 4x^2 + 3x - 4$  and  $g(x) = x^3 - 4x + p$  are divided by  $(x-3)$  then the remainder in each case is same. find the value of  $p$  (ans  $p = -1$ )
7. Divide  $x^3 + 4x^2 - 3x - 10$  by  $x + 1$  and verify your remainder by remainder theorem.
8. Divide  $3x^3 - 8x^2 + 3x + 2$  by  $x^2 - 3x + 2$  and verify the division algorithm.
9. Factorise  $x^3 - 2x^2 - x + 2$  (ans  $(x-1)(x-2)(x+1)$ )
10. Factorise  $x^3 + 13x^2 + 32x + 20$  ans  $(x+1)(x+10)(x+2)$
11. Factorise  $12x^2 - 7x + 1$  ans  $(3x-1)(4x-1)$
12. Show that  $p-1$  is a factor of  $p^{10} + p^8 + p^6 - p^4 - p^2 - 1$
13. Factorise  $4a^2 - 9b^2 - 2a - 3b$  ans  $(2a + 3b)(2a - 3b - 1)$
14. If  $x-a$  is a factor of  $3x^2 - mx - na$  then prove that  $a = (m+n)/3$
15. If  $(3x-2)$  is a factor of  $13x^3 + x^2 - 20x + 12$ , find its other factors. ans  $(x+3)(x-2)$
16. Factorise  $2x^3 + 7x^2 - 3x - 18$  ans  $(x+2)(x+3)(2x - 3)$
17. If  $x + 1/x = \sqrt{5}$  find the value of  $x^2 + 1/x^2$  (ans 3)
18. If  $9x^2 + 25y^2 = 181$  and  $xy = -6$ , find the value of  $3x + 5y$  (ans 1, -1)
19. If  $a + b = 12$ , and  $ab = 32$  find the value of  $a^2 + b^2$  (ans 80)
20. If  $2x + 3y = 8$  and  $xy = 2$ , find the value of  $4x^2 + 9y^2$  (ans 40)

## **CHAPTER – 4 : LINEAR EQUATIONS IN TWO VARIABLES**

### **ASSIGNMENT - 3**

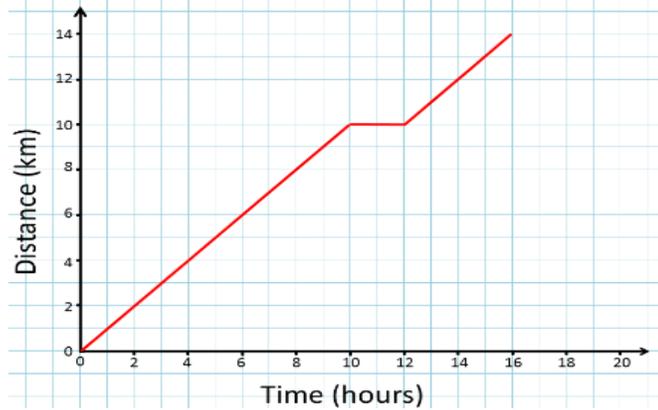
1. Find the value of  $B$ , so that  $x = 1$  is a solution of the equation  
 $5Bx + 30Bx = 70$ . [B = 2]
2. If  $(2, 0)$  is a solution of the linear equation  $2x + 3y = k$ , then find the value of  $K$  [k = 4]

3. Determine the point on the graph of the linear equation  $2x + 5y = 19$ , whose ordinate is  $\frac{3}{2}$  times its abscissa [2, 3]
4. For what value of  $y$  if the value of  $x$  is 4 for the linear equation  
 $3x - 2y = 12$  [y = 0]
5. If the point (4, 3) lies on the linear equation  $3x - ay = 6$ , find whether (-2, -6) also lies on the same line ?
6. Find the coordinate of the point lies on above line  
 (a) abscissa is zero (b) ordinate is zero [(0,-3)(2,0)]
7. Draw the graph of each of the following linear equation in two variable  
 (a)  $x + 2y = 4$  (b)  $y = x$  (c)  $y = -x$  (d)  $y = 5x$  (e)  $15 + 3x + y = 0$
8. Find the solution of the linear equation  $x + 2y = 8$  which represents a point on the  
 (i) x-axis (ii) y-axis [(8, 0)(0, 4)]
9. Draw the graph of the linear equation whose solutions are represented by the point having the sum of coordinates as 10 units.
10. Find the value of  $a$ , if the line  $5y = ax + 10$ , will pass through  
 (i) (2, 3)  
 (ii) (1, 1) [5/2, -5]
11. Find the value of  $a$  and  $b$ , if the line  $6bx + ay = 24$  passes through (2, 0) and  
 (0, 2). (12, 2)
12. Show that the points A(1, 2), B(-1, -16) and C(0, -7) lie on the graph of the linear equation  $y = 9x - 7$ .
13. Represent the following equation on the number line :  
 (i)  $x = 5$  (ii)  $y = 2y - 4$  (iii)  $1 + x = 2(x + 5)$  (iv)  $2y - 1 = 11$
14. Give the geometric representation of the following equation in one variable.  
 (i)  $3(2x + 5) = 5$  (ii)  $\frac{2}{3}(3x - 5) = 2(2x + 1) - 11$
15. Give the geometric representation of  $6x + 24 = 0$  as an equation  
 (i) in one variable. (ii) in two variable

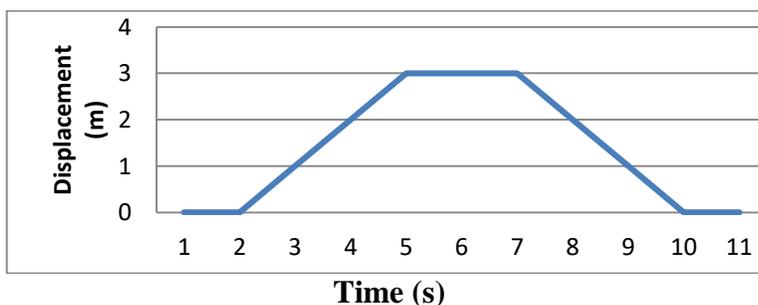
# SCIENCE

## PHYSICS

1. An electron is moving in a circular orbit, what will be its displacement after completing one revolution?
2.  $54 \text{ km/h} = \underline{\hspace{2cm}} \text{ m/sec}$
3.  $75 \text{ m/s} = \underline{\hspace{2cm}} \text{ km/h}$
4.  $100 \text{ km/h} = \underline{\hspace{2cm}} \text{ m/min}$
5. A bus decreases its speed from  $100 \text{ km/h}$  to  $72 \text{ km/h}$  in  $5 \text{ s}$ . Find the acceleration of the bus. ( $- 14/9 \text{ m/s}^2$ )
6. Observe the distance time graph given here and then answer.



- (a) What is the distance covered by object in 2 hours? (2km)
  - (b) If the vehicle applies brakes in which direction the graph will turn?
  - (c) Calculate the average speed of vehicle shown in the graph given here. ( $13/16 \text{ km/h}$ )
7. A car travels  $30 \text{ km}$  at a uniform speed of  $40 \text{ km/h}$  and the next  $30 \text{ km}$  at a uniform speed of  $20 \text{ km/h}$ . Find its average speed. ( $80/3 \text{ km/h}$ )
  8. A vehicle acquired a velocity of  $36 \text{ km/h}$  in  $10 \text{ seconds}$  just after the start. It takes  $20 \text{ seconds}$  to stop. Calculate the acceleration in the two cases. ( $1\text{m/s}^2, -0.5\text{m/s}^2$ )
  9. A motorcycle moving with a speed of  $5\text{m/s}$  is subjected to an acceleration of  $0.2 \text{ m/s}^2$ . Calculate the speed of motorcycle after  $10 \text{ seconds}$  and the distance travelled in that time. ( $7\text{m/s}, 60 \text{ m}$ )
  10. A car acquired a velocity of  $72 \text{ km/h}$  in  $10 \text{ seconds}$  starting from rest. Find
    - a) the acceleration
    - b) average velocity
    - c) the distance travelled in this time ( $2\text{m/s}^2, 10\text{m/s}, 100\text{m}$ )
  11. The given displacement time graph shows the position of an object at different times. Calculate the velocity of the object as it moves during
    - a) 2 to 5 sec.
    - b) 5 to 7 sec.
    - c) 7 to 10 sec. ( $1\text{m/s}, 0, -1\text{m/s}$ )



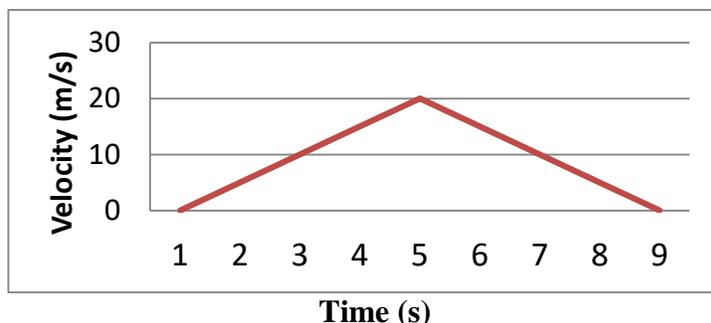
12. Which physical quantities are represented by

- a) Slope of displacement – time graph
- b) Slope of velocity- time graph
- c) Area under the velocity- time graph

13. Study the velocity time graph given in figure and calculate

- a) The acceleration during 1 to 5 sec.
- b) The acceleration during 5 to 9 sec.
- c) The distance covered in 9 sec.
- d) Average velocity between 5 to 9

( $5\text{m/s}^2$ ,  $-5\text{m/s}^2$ ,  $80\text{m}$ ,  $10\text{m/s}$ )



14. In the above graph find out distances covered in

- a) 2<sup>nd</sup> second
- b) Last two seconds

(2.5 m, 10m)

15. An object is moving on a circular track of radius 35 cm. Calculate its distance and displacement after

- a)  $\frac{1}{2}$  round
- b) 4 rounds
- c) 2.5 rounds

(0.7m, 8.8m, 5.5m)

## CHEMISTRY

1. Why is dry ice stored under high pressure?
2. Ordinary water boils at  $100^{\circ}\text{C}$ . Can it be made to boil at  $95^{\circ}\text{C}$  or  $105^{\circ}\text{C}$ ?
3. In a severe cold weather, a family burnt wood in the room during the night by keeping the windows closed. After some time they felt suffocated. They immediately opened windows and felt relief. What did actually happen?
4. Of three states of matter, only gases are said to have no open surface. Explain.
5. Small amount of water and ether are placed in the palm of both the hands. Which will experience more cooling and why?
6. Both boiling and evaporation convert a liquid into vapours. What is the difference between two processes?
7. How is heating of sugar and heating of ammonium chloride different from each other? Explain your answer
8. You want to wear your favourite shirt to a party, but the problem is that it is still wet after a wash. What steps would you take to dry it faster?
9. It is a hot summer day, Priyanshi and Ali are wearing cotton and nylon clothes respectively. Who do you think would be more comfortable and why?
10. What is the relation between boiling point and intermolecular forces of attraction between the particles of a liquid?
11. Sidak was making tea in a kettle. Suddenly she felt intense heat from the puff of steam gushing out of the kettle. She wondered whether the temperature of the steam was higher than that of the water boiling in the kettle. Comment.
12. What happens to the heat energy which is supplied to the solid once it has started melting?
13. How will you check the purity of a pure chemical compound in the solid state?
14. Carbon dioxide is a gas. Justify the statement by two reasons.

## **BIOLOGY**

1. What characteristics of plasma membrane enable cells for osmosis and for endocytosis.
2. Why do cells have different shape?
3. Enlist functions of vacuoles.
4. How is endoplasmic reticulum important for membrane biogenesis?
5. Write one key difference between:
  - i) Cell wall and cell membrane.
  - ii) Nucleus and nucleolus
  - iii) Plant cell and animal cell
  - iv) chromatin and chromosome
6. What is meristem?
7. Name two specialized kinds of parenchyma.
8. Name the term for the cells having shape & size like parenchyma cells but can do photosynthesis.
9. What is the difference between apical, lateral & intercalary meristem?
10. Why tissues are important in multicellular animals?
11. Which chemical is deposited in cork cells & sclerenchyma also write their importance.
12. What is the common name of xylem & phloem?
13. Name the cells which are attached to lateral sides of sieve tube cell & what function do they perform?
14. Give one word for the following-
  - i) Plant tissue that consists of all similar cells
  - ii) Plant tissue in which cells do not divide
  - iii) Animal tissue having widely spaced cells
  - iv) Tissue giving buoyancy to plant parts
  - v) Tissue used in making fabrics
15. Explain the following
  - a) Division of labour is seen in cell organelles.
  - b) Mitochondria are semi-autonomous bodies.

## **SOCIAL SCIENCE**

**Do the assignments in their respective subject registers**

### **TOPIC – PHYSICAL FEATURES OF INDIA**

- Q1. Name three types of rocks. Give examples of each type.
- Q2. What are tectonic plates?
- Q3. Distinguish between convergence and divergence of tectonic plates.
- Q4. Which continents of today were parts of the Gondwanaland?
- Q5. Describe the formation of the Himalayas?
- Q6. Describe the formation of the Northern Plains?
- Q7. Name the oldest land mass of India. Which types of rocks are found there?
- Q8. Why the Himalayas are called-“Young fold mountains”?
- Q9. Name six major physiographic divisions of India.
- Q10. Describe the shape and size of the Himalayas.
- Q11. Describe the latitudinal division of the Himalayas?

**OR**

Give main characteristics of the three parallel ranges of the Himalayas.

- Q12. Name the division of Himalayas demarcated by river valleys. (West to East)
- Q13. Give main characteristics of Purvanchals.
- Q14. Which three river systems form the Northern Plains?
- Q15. Why the Northern Plains are called the depositional plains?
- Q16. What is the extent of the Northern Plains?
- Q17. What is the significance of the Northern Plains?

Q18. How are the riverine islands formed? Which is the largest riverine island in the world?

Q19. What are distributaries?

Q20. What is meant by the term -“DOAB”?

### **TOPIC –THE FRENCH REVOLUTION**

Q:1 When did the French Revolution Break out?

Q.2 Name the classes which formed the privileged estates?

Q.3 Who belonged to the Third estate?

Q.4 Name the Direct tax collected by the state in eighteenth century France.

Q.5 Name the books written by the following philosophers:

a. John Locke

b. J.J.Rousseau

c..Montesquieu

Q.6 Who were the leaders of the Third Estate in Versailles on 20<sup>th</sup> June 1789?

Q.7 What did the red cap worn by dock workers symbolize?

Q.8 What was the slogan of the French Revolution

Q.9 What was The Tennis Court oath?

Q.10 What was the Triangular slave Trade in Eighteenth century France?

### **PROJECT WORK**

#### **DEMOCRACY: THE BEST FORM OF GOVERNMENT**

1. The total length of the project report should not be more than 15 written pages of foolscap size (A-4 size) sheet.
2. The project report should be handwritten and credit will be awarded to original drawings, illustrations and creative use of eco-friendly material.
3. The project report should be presented in a neatly bound simple folder. □
4. Democracy v/s Dictatorship’.
5. Do the case study of six different countries.

**Revise all the chapters done in the class.**

### **ART & CRAFT**

Paint a T-Shirt / Table Cloth on any suitable topic for environment.

Block Printing technique may be used.