



# Delhi Public School

## Miyapur

# HOLIDAY HOMEWORK

Keep your child's brain active  
over break without them knowing they're doing

**GRADE - IX**



# ENGLISH



"Magazine" refers to a collection of written articles. The students of **Grade 9** will make a magazine. The magazine should have maximum ten pages of **A4** size on **five** given topics. It should also have one front page, one index page and one back page. The students have to decorate the front and back pages colorfully and creatively. Give a name to your magazine and write the topics in the index page with page numbers. The page numbers should be given at the **bottom** of each page along with a quote or proverb of your choice. The write-ups should be done on **single side** of each page.

Following are the parameters of assessment - content, creativity, presentation, accuracy and organization of the thoughts.

TOPIC	DESCRIPTION
1. Article (2 pages)	Write an article (200-250 words) on the grey shades of academics. (E.g.: how the pressure of academics affects the future of children, career wise, mental and physically as well)
2. Caricature (1 page)	Make a Caricature on the current political scenario. It can be a satirical take as well. (minimum 6 frames and maximum 10 frames)
3. Collage making/ Data Interpretation (1 page)	Make a collage on the adverse effects of social media. (A mix of pictures, online or newspaper articles, newspaper or cuttings) <b>OR</b> Collect data of the EXIT POLL and REAL POLL before and after the recent elections and interpret them in a paragraph.
4. A pictorial write up (1 page)	Top 5 interesting places to visit in Hyderabad/Telangana. (Pics, details, history, legends, why and when to visit, tourist info)
5. Miscellaneous page (2 pages)	A creative assortment of favourite recipe/ idioms/ jokes/DIY/ anecdotes/ scientific/ literary facts/ quizzes/ current affairs (Any <b>one</b> of the above)

## 2nd LANGUAGE HINDI

Learn **Rahim and Kabir Dohe** from sources other than text book for recitation. Evaluation will be done on the basis of **pronunciation, expression and meaning**.

## 2nd LANGUAGE TELUGU

పోతన భాగవతంలోని ప్రథమస్కంధం లోని క్రింద ఇవ్వబడిన పద్యములు నేర్చుకుని,  
తరగతి గదిలో పద్యమును రాగయుక్తంగా, భావయుక్తంగా పాడి మరియు భావమును వివరించుట.

- 1). శారద నీరదేందు ----- గానగ నెన్నడుకల్లు భారతీ!!
2. అమ్మలగన్నయమ్మ ----- నెన్నడు గల్లు భారతీ!!
3. పలికెడిది ----- గాధ పలుకగనేల !!

**సూచన -**

సూచన - <http://www.bhagavatamanimutyalu.org/ibamlist.php> - ఈ లింక్ ఆధారంగా లేదా IBAM app ను  
MOBILE లో DOWNLOAD చేయడం ద్వారా నేర్చుకొనవలెను.

## 2nd LANGUAGE SANSKRIT

Given below is the link for Geeta Chapter 12

<https://www.youtube.com/watch?v=l3XSk2JpvZc>

Please learn and remember all 20 shlokas. The best ways to do so is to sing along and learn also understand the meaning.

# SCIENCE



## **Biology:**

Make a PowerPoint Presentation on Diversity in living organisms.

1. Hierarchy of classification groups and need for classification (Roll No. 1-6, all the new students who haven't got their roll numbers)
2. Groups , subgroups and need for classification(7-12)
3. Basis of classification (13-18)
4. 2 kingdom and 5 kingdom classification(19-24)
5. Nomenclature (25-31)

Assessment Parameter	Marks Allotted
1.Concept/Viva	2m
2.Presentation	2m
3.Timely Submission	1m



# **SOCIAL STUDIES**



## **Investigatory Project:**

Read the link given below and make a project on the following topics:

["https://cbseportal.com/download/text-books/natural-hazards-disaster-management-class-xi"](https://cbseportal.com/download/text-books/natural-hazards-disaster-management-class-xi) (Chapter 1 only)

- 1) What is a Disaster?
- 2) What is a hazard? How is it classified?
- 3) What is Vulnerability?
- 4) What is Risk?
- 5) Disaster Management Cycle.

**\*Please follow the given Guidelines while making the project.**

- I. The project should be handwritten on A4 paper only.
- II. It should have the following format:
  - a) Cover Page
  - b) Acknowledgement
  - c) Introduction
  - d) Contents
  - e) Conclusion
  - f) Reference
- III. Use proper illustrations in the project such as labelled pictures, graphs, Diagrams etc.
- IV. It should not exceed 15 pages.
- V. You will be judged on the following parameters:
  - Content Accuracy, originality and Analysis
  - Presentation and Creativity
  - Viva Voce

# MATHEMATICS

I. Who am I? Plot the points on the graph sheet and find out.

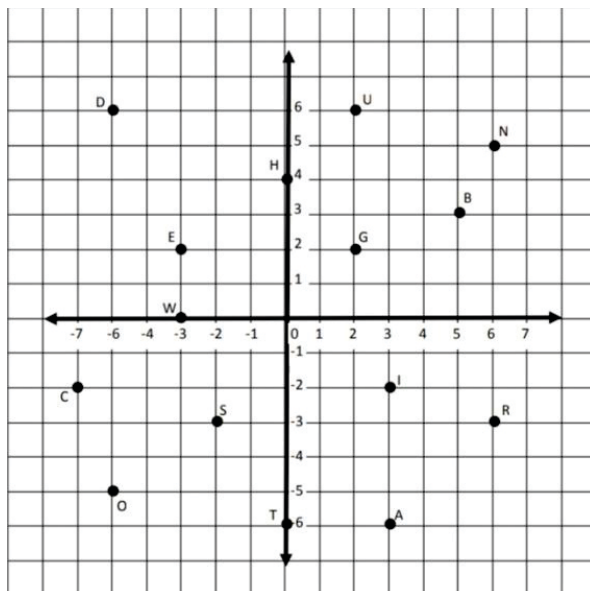
Directions: Plot the following points on the grid. Then, draw a straight line to connect from one to the next.

- |                    |                    |                    |
|--------------------|--------------------|--------------------|
| 1. (8,6) to (4,10) | 4. (2,4) to (4,4)  | 7. (4,2) to (2,4)  |
| 2. (4,2) to (8,2)  | 5. (4,6) to (4,10) | 8. (8,2) to (10,4) |
| 3. (4,4) to (10,4) | 6. (8,6) to (4,6)  | 9. (4,4) to (4,6)  |

II. Break the code:

**Question: Why did the teacher always wear sun glasses in her classroom?**

To find the answer, you must use the Cartesian plane below. Each coordinate on the grid represents a letter. You must use the activity sheet below which will give you a list of the coordinates. As you find each coordinate, you must write the corresponding letter beside it. When you have completed this, you will have cracked the code



Answer: (5,3) \_\_\_\_ (-3,2) \_\_\_\_ (-7,-2) \_\_\_\_

(3,-6) \_\_\_\_ (2,6) \_\_\_\_ (-2,-3) \_\_\_\_ (-3,2) \_\_\_\_ | (0,4) \_\_\_\_ (-3,2) \_\_\_\_ (6,-3) \_\_\_\_ |

(-2,-3) \_\_\_\_ (0,-6) \_\_\_\_ (2,6) \_\_\_\_ (-6,6) \_\_\_\_

(-3,2) \_\_\_\_ (6,5) \_\_\_\_ (0,-6) \_\_\_\_ (-2,-3) \_\_\_\_ |

(-3,0) \_\_\_\_ (-3,2) \_\_\_\_ (6,-3) \_\_\_\_ (-3,2) \_\_\_\_ |

(-2,-3) \_\_\_\_ (-6,-5) \_\_\_\_ | (5,3) \_\_\_\_ (6,-3) \_\_\_\_

(3,-2) \_\_\_\_ (2,2) \_\_\_\_ (0,4) \_\_\_\_ (0,-6) \_\_\_\_.

## Number System :

1. Are there two irrational numbers whose sum and product both are rational? Justify.
2. Find two rational and two irrational numbers between 0.15 and 0.16.
3. Give an example each, of two irrational numbers, whose : (i) difference is a rational number (ii) difference is an irrational number
4. Arrange the following in descending order :  $\sqrt[8]{90}$  ,  $\sqrt[4]{10}$  ,  $\sqrt{6}$
5. If  $a = 6 - \sqrt{35}$  , find the value of  $a^2 + \frac{1}{a^2}$
6. Simplify the following : i.  $(4\sqrt{3} - 2\sqrt{2})(3\sqrt{2} + 4\sqrt{3})$  ii.  $(\frac{2}{3}\sqrt{7} - \frac{1}{2}\sqrt{2} + 6\sqrt{11}) + (\frac{1}{3}\sqrt{7} + \frac{3}{2}\sqrt{2} - \sqrt{11})$
7. Simplify by rationalising :  $\frac{2\sqrt{6}}{\sqrt{2}+\sqrt{3}} + \frac{6\sqrt{2}}{\sqrt{6}+\sqrt{3}} - \frac{8\sqrt{3}}{\sqrt{6}+\sqrt{2}}$
8. Represent  $\sqrt{6}$  and  $\sqrt{7}$  on the number line.
9. Multiply  $5\sqrt{11}$  by  $3\sqrt{11}$
10. Without actual division find which of the following rationals are terminating decimals.  $\frac{13}{80}, \frac{7}{24}, \frac{5}{12}, \frac{8}{35}, \frac{16}{125}$ .
11. Convert each of the following into decimal form:  $\frac{5}{8}, \frac{9}{16}, \frac{11}{24}$
12. Express each of the following as a fraction:  $0.\overline{34}, 3.1\overline{4}, 0.1\overline{65}, 0.\overline{54}$
13. If  $\frac{\sqrt{3}-1}{\sqrt{3}+1} = a - b\sqrt{3}$  , find the values of a and b .
14. Evaluate :  $\frac{1}{\sqrt{2}+1} + \frac{1}{\sqrt{3}+\sqrt{2}} + \frac{1}{\sqrt{4}+\sqrt{3}} + \dots + \frac{1}{\sqrt{9}+\sqrt{8}}$
15. Represent the real number  $\sqrt{13}$  on the number line. (Hint :  $\sqrt{13} = \sqrt{3^2 + 2^2}$ )

## Polynomials

1. If  $p(x) = 5 - 4x + 2x^2$  , find  $p(0)$  ,  $p(3)$  ,  $p(-2)$
2. If  $f(t) = 4t^2 - 3t + 6$  , find  $f(0)$  ,  $f(4)$  ,  $f(-5)$
3. Find the zero of the polynomials.
  - i.  $p(x) = x - 7$
  - ii.  $q(x) = 3x - 4$
  - iii.  $p(t) = 4t - 8$
  - iv.  $h(y) = 5y$
  - v.  $g(a) = 3a + 1$

4. Use long division method to find the quotient and remainder:

- i.  $(x^3 - 6x^2 + 9x + 3)$  is divided by  $(x-1)$
- ii.  $(3x^4 - 6x^2 - 8x + 2)$  is divided by  $(x-2)$
- iii.  $(4x^2 - 12x^2 + 11x - 5)$  is divided by  $(2x-1)$ .

5. Find the remainders using Remainder theorem.

- i.  $x^3 - 3x^2 + 4x + 50$  is divided by  $(x+3)$ .
- ii.  $f(x) = 12x^3 - 13x^2 - 5x + 7$  is divided by  $(3x+2)$ .

6. The polynomials  $(ax^3 + 3x^2 - 3)$  and  $(2x^3 - 5x + a)$  when divided by  $(x-4)$  leave the same remainder. Find the value of  $a$ .

7. The polynomial  $f(x) = x^4 - 2x^3 + 3x^2 - ax + b$  when divided by  $(x-1)$  and  $(x+1)$  leaves the remainders 5 and 9 respectively. Find the values of  $a$  and  $b$ . Hence, find the remainder when  $f(x)$  is divided by  $(x-2)$ .

8. State factor theorem and show that,

- i.  $(x+2)$  is a factor of  $(x^4 - x^2 - 12)$ .
- ii.  $(x-3)$  is a factor of  $(2x^3 + 7x^2 - 24x - 45)$ .
- iii.  $(x + \sqrt{2})$  is a factor of  $(2\sqrt{2}x^2 + 5x + \sqrt{2})$

9. Find the value of  $k$  for which  $(x-1)$  is a factor of  $(2x^3 + 9x^2 + x + k)$

10. Find the values of  $a$  and  $b$  so that  $(x^3 - 10x^2 + ax + b)$  is exactly divisible by  $(x-1)$  as well as  $(x-2)$ .

11. Factorise

- i.  $ab + bc + ax + cx$
- ii.  $6ab - b^2 + 12ac - 2bc$
- iii.  $(2x-3)^2 - 8x + 12$
- iv.  $a(a-2b-c) + 2bc$
- v.  $a^2 + ab(b+1) + b^3$

12. Factorise using identities:

i.  $25x^2 - 64y^2$

ii.  $a^2 - b^2 - 4ac + 4c^2$

iii.  $1 + 2ab - a^2 - b^2$

13. Factorise by splitting the middle term:

i.  $x^2 + 5x - 24$

ii.  $x^2 - 4x - 21$

iii.  $6x^2 + 7x - 3$

iv.  $2x^2 - 7x - 39$

v.  $9x^2 - 22x + 8$

14. Expand :

i.  $(2a - 5b - 7c)^2$

ii.  $(\frac{1}{2}a - \frac{1}{4}b + 2)^2$

iii.  $(3a + \frac{1}{4b})^3$  iv.  $27x^3 + 125y^3$

15. Factorise :

i.  $125a^3 + b^3 + 64c^3 - 60abc$

ii.  $x^3 + y^3 - 12xy + 64$

iii.  $2\sqrt{2}a^3 + 8b^3 - 27c^3 + 18\sqrt{2}abc$

16. Without actually calculating the cubes, find the value of  $48^3 - 30^3 - 18^3$

17. Factorise:

i.  $2x^3 - 3x^2 - 17x + 30$

ii.  $x^3 - 6x^2 + 11x - 6$

iii.  $3x^3 - x^2 - 3x + 1$

18. By actual division, find the quotient and the remainder when the first polynomial is divided by the second polynomial :  $x^4 + 1$  ;  $x - 1$