

**NATIONAL VICTOR PUBLIC SCHOOL  
HOLIDAY HOMEWORK  
CLASS IX  
SESSION 2023-2024**



### General Instructions

- Follow the subject wise instructions carefully.
- Project work should be done creatively.
- Original work done by the child shall be acknowledged.
- Submit your work in a clear bag folder on 3th July 2023.

# ENGLISH

1. Reading is to the mind what Exercise is to the Body. Reading is fun when it is amalgamated with relaxation and leisure time. Utilize your summer vacation by reading any one of the books mentioned below and prepare a book review of it in the A4 size sheets.

- The Magic of the lost temple by Sudha Murty
- You are born to blossom by APJ Abdul Kalam
- Life is what you make it by Preeti Shenoy
- The Upside-Down King: Unusual Tales about Rama and Krishna by Sudha Murty

## Main components of Book Review:

INTRODUCTION	The introductory paragraph usually includes: information about the booktitle, author, publisher, place of publication, date of publication
BODY PARAGRAPHS	The body paragraphs must include: a brief summary of the book , details on characters, setting, and plot.
CONCLUSION	I liked the book because.... My favourite character/ part was..

## 2. BOOST UP YOUR BRAIN

Prepare a crossword puzzle on the basis of your understanding of the chapter mentioned below (Use content of all three chapters)

1. How I taught my grandmother to read
2. A dog named Duke
3. The Brook

## Practice Sheets

Do the following questions- (Kindly take Print out. If not possible do in an A4 size sheet)

1. The following passages have not been edited. There is an error in each line. Write the incorrect word and the correction as given in the example against the correct question number in your answer sheet.

	Incorrect	correct
He put them in the huge pot	a) _____	_____
and placed it on a fire to cook.	b) _____	_____
Next, he made some paste and added it to an	c) _____	_____

cooking vegetables. An tempting smell	d)_____	_____
started coming from a pot. Now he	e)_____	_____
whipped some curd and added it to an curry.	f)_____	_____
He also poured the few spoonfuls of	g)_____	_____
coconut oil and decorated a dish	h)_____	_____
With curry leaves. An new dish	i)_____	_____
Was ready!		

2. In the following passage one word is missing in each line. Write the omitted word along with the preceding and succeeding word in your answer sheet.

When I knocked at main door, (a) .....  
 there was reply. I (b) .....  
 waited for time.(c).....  
 I felt little annoyed (d) .....  
 with man. He had (e) .....  
 made requests to me (f) .....  
 ..... to visit house. (g) .....  
 .....  
 Suddenly old man appeared there. (h) .....

3.Complete the following letter with suitable words:

Dearest Rohit  
 I hope you are fine. I haven't heard (1)..... you (2).....a long  
 time. I am planning(3)..... go to Shimla (4)..... my  
 winter vacation.Hope it snows then. I love skiing. Playing (5)..... snowballs is  
 exciting .I'll come back a day(6)..... my school reopens.  
 Bye for now.  
 Arushi

4. You and your friend have been made the students-in- charge of your school.  
 What will you change? Use the verb forms for future time reference (will/ shall/  
 going to)

## 5. PROCESS WRITING

Read these instructions from a computer operating manual:

- Link up the monitor, keyboard and printer
- Plug in the main cable
- Switch on the monitor at the back
- When the light appears on the screen, place the Disk in Drive A
- Press the Drive button and the disk shoots out

Change these instructions into the past passive. The first sentence has been completed as an example.

Firstly, the monitor, keyboard and printer were linked up. Then the.....

- Change the following comic strip into a passage-



Uncle asked Suppandi what he was.....Suppandi replied that he was trying.....

## HINDI

### सामान्य निर्देश-

1. प्रश्न 1 उत्तरपुस्तिका में कीजिए व प्रश्न 3 ए-3 शीट पर कीजिए ।
2. लेख साफ़ व स्पष्ट होना चाहिए ।

### पठन व लेखन कौशल

1. महादेवी वर्मा हिंदी साहित्य में छायावादीकाल के चार स्तंभों में से एक हैं। उन्हें पशु-पक्षियों व प्रकृति से अत्यंत प्रेम था। अपनी रचनाओं में उन्होंने पशु-पक्षियों को स्थान दिया। महादेवी वर्मा द्वारा रचित किसी एक कहानी को पढ़िए तथा उस कहानी के दो पात्रों का लगभग 100-120 शब्दों में चरित्र-चित्रण कीजिए।

### वाचनकौशल

2. हिंदी साहित्य में भक्तिकालीन कवियों जैसे कबीर, गुरु नानक देव जी, तुलसीदास, नामदेव, रहीमदास तथा मीराबाई आदि कवियों में से किसी भी एक भक्तिकालीन कवि / कवयित्री द्वारा रचित कविता को कंठस्थ कीजिये जिसका प्रस्तुतीकरण ग्रीष्मावकाश के बाद कक्षा में करवाया जाएगा।



## विचाराभिव्यक्ति व रचनात्मक कार्य

3. भारतीय इतिहास में ऐसे कई पर्यावरण संरक्षण आन्दोलन हुए हैं, जिनमें अनेक पर्यावरणविदों ने सुधार और पर्यावरण की दृष्टि से हानिकारक मानव गतिविधियों में परिवर्तन के माध्यम से प्राकृतिक पर्यावरण की गुणवत्ता की रक्षा की है। एक पर्यावरणवादी पूरी तरह से पर्यावरण की रक्षा के लिए समर्पित होता है और यही उसका धर्म होता है कुछ प्रमुख पर्यावरणविदों वंदना शिवा, गौरा देवी, सुनीता नारायण आदि हैं। अतः आपको ऐसे ही एक भारतीय पर्यावरणविद के बारे में जानकारी इकट्ठी करनी है। तत्पश्चात ए-3 साइज़ शीट पर चित्रों की सहायता से किसी एक पर्यावरणविद की जानकारी एक साक्षात्कार के रूप में प्रस्तुत करनी है।

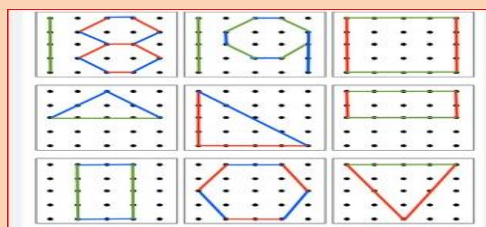


## MATHEMATICS

### Activity –I : Maths With Geo-board

#### About Geo-board:

A geo-board is a mathematical manipulative used to explore basic concepts in plane geometry such as perimeter, area and the characteristics of triangles and other polygons. It consists of a physical board with a certain number of nails half driven in, around which are wrapped geo bands that are made of rubber.

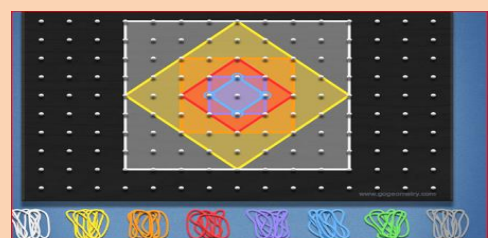


**What to do:** To prepare a Geo-board.

#### **How to do:**

##### **A. (Even Roll No.): Square Geo-board**

1. On a square wooden board of 8"X 8".
2. Make marks on every inch on all sides.



3. Fix nails with small heads using hammer on every point (7 X 7=49 nails.)

### B. (Odd Roll No): Circular Geo-board



1. Take a square wooden board of 8"X 8".
2. Take a centre and draw a circle of suitable radius on the board.
3. Fix nails with small heads using hammer on centre and 12 nails on the circumference at equal distance (Eg:- like No. on a clock)

**Where to do:** On wooden board

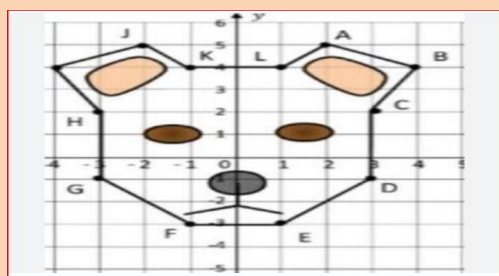
#### Parameters:

- (i) Content
- (ii) Accuracy

### Activity-2: Coordinate Geometry Art

**What to do:** Draw a design /object/creature.

#### How to do:



1. Take a graph paper and draw two perpendicular lines to obtain four quadrants.
2. Draw any one design /object/creature of your choice using straight lines only to cover all quadrants.
3. Write the coordinates of each point of intersection of line segments.
4. Colour the art work obtained.

**Where to do:** Paste the graph paper on an A-4 size sheet. Note : All

A-4 size sheets should be submitted in one folder. **Parameters:**

- (i) Content
- (ii) Accuracy
- (iii) Presentation

### 3. PRACTICE TIME

1. Insert 5 rational numbers between  $\frac{1}{5}$  and  $\frac{3}{2}$ . How many more can you insert between them?
2. Simplify  $0.\overline{36} + 0.\overline{57}$
3. Factorise the following

$$\begin{array}{ll} \text{(i)} 4x^2 + 20x + 25 & \text{(ii)} 9y^2 - 66yz + 121z^2 \\ \text{(iii)} \left(2x + \frac{1}{3}\right)^2 - \left(x - \frac{1}{2}\right)^2 & \end{array}$$

4. Expand the following

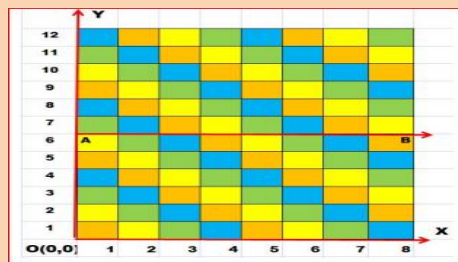
$$\begin{array}{lll} \text{(i)} (3a - 2b)^3 & \text{(ii)} \left(\frac{1}{x} + \frac{y}{3}\right)^3 & \text{(iii)} \left(4 - \frac{1}{3x}\right)^3 \end{array}$$

5. Represent  $\sqrt{5.2}$  on a number line.
6. Show that  $0.3\overline{47}$  can be expressed as rational in the form of  $\frac{p}{q}$ , where  $p$  and  $q$  are integers and  $q \neq 0$ .
7. Represent the point on the Cartesian plane which is 4 units away from the  $y$  axis and 8 units away from the  $x$ -axis. Join the point with the origin.
8. Find all the coordinates of a rectangle formed by both the axes and  $(a, b)$ .
9. Plot  $A(-4, 0)$  and  $B(0, 3)$  on the Cartesian plane. Join  $AB$ . Which type of a triangle do you get?

10. Find the points which are equidistant from the points P(-3,0) and Q(3,0) using the Cartesian plane. How many such points are possible?
11. Factorise:  $25x^2 - 10x + 1 - 36z^2$
12. If  $a - b = 3$  and  $ab = 10$ , then find the value of  $a^2 + ab + b^2$
13. Resolve into factors:  $x^4 - 81$ .
14. Find  $p(0)$ ,  $p(1)$  and  $p(-2)$  for the following polynomials  
(i)  $p(x) = 10x^2 - 4x - 3$  (ii)  $p(y) = (y + 2)(y - 2)$
15. Find the value of  $a$  and  $b$  if  $\frac{7+3\sqrt{5}}{7+\sqrt{5}} - \frac{7-3\sqrt{5}}{7-\sqrt{5}} = a + b\sqrt{5}$

### Case –Study-I

Read the Source/Text given below and answer any four questions:



Roshan decorated one of his bathroom wall with tiles as shown in the picture. He was having tiles of four colours orange, yellow, green and blue. He fitted the tiles in 8 columns and 12 rows. The size of one tile was 1 foot  $\times$  1 foot and the area of each tile is 1 foot<sup>2</sup>. He arranged the tile in such a way that colour of tiles in each row and column were in the pattern: Orange- $\rightarrow$  Yellow- $\rightarrow$  green- $\rightarrow$ Blue- $\rightarrow$ Orange- $\rightarrow$ ..... and so on.

Now answer the following questions:

- Which colour tile was fitted at the point with coordinates (5, 3)?  
a. Orange    b. Yellow    c. Green    d. Blue
- Which colour tile was fitted at the point with coordinates (7, 7)?  
a. Orange    b. Yellow    c. Green    d. Blue
- Which colour tile was fitted at the point with coordinate (2,5)?  
a. Orange    b. Yellow    c. Green    d. Blue
- What is the area of the tiles fitted in the rectangular part OABX?  
a. 50 foot<sup>2</sup>    b. 24 foot<sup>2</sup>    c. 12 foot<sup>2</sup>    d. 48 foot<sup>2</sup>

### Case –Study-II

Beti Bacho, Beti Padho (BBBP) is a personal campaign of the Government of India that aims to generate awareness and improve the efficiency of welfare services intended for girls.

In a school, a group of  $(x + y)$  teachers,  $(x^2 + y^2)$  girls and  $(x^3 + y^3)$  boys organised a campaign on Beti Bacho, Beti Padho.

- Which mathematical concept is used here?  
a) Polynomials b) Area c) Linear equations d) Triangles
- Which is the correct identity?  
a)  $(a + b)^2 = a^2 + b^2 - 2ab$  b)  $(a + b)^2 = a^2 + b^2 + 2ab$



c)  $(a + b)^2 = a^2 - b^2 - 2ab$  d) All are correct

(iii) If in the group, there are 10 teachers and 58 girls, then what is the number of boys?

a) 370      b) 360      c) 300      d) 350

(iv) Using part (iii), find  $(x^2 - y^2)$  if  $x - y = 23$ .

a) 200      b) 230      c) 120      d) 330

## SCIENCE

### SECTION A: ACTIVITY

#### PART I

**Aim: Measuring Daily Temperature in Kelvin and Celsius.**

**Instructions:**

During your holidays, use a thermometer to measure the temperature at the same time each day (e.g. morning, afternoon, or evening). Record the date, time, and temperature. (For 15 days)

Convert the temperature readings into Kelvin or Celsius scale. You can use the conversion formula provided.

**Celsius to Kelvin**

**$K = ^\circ C + 273.15$**

**$30\ ^\circ C \rightarrow K$**

$K = ^\circ C + 273.15$   
 $K = 30 + 273.15$   
 $K = 303.15\ K$  or  $303\ K$

no degree symbol

sciencenotes.org

Create a table or chart to display your data. Label the columns with the date, time of day, and the temperature in Kelvin or Celsius.

Analyse your data and answer the following questions:

1. What was the highest and lowest temperature from your recorded observation?
2. Did the temperature change significantly over the course of your holidays?
3. What factors do you think contributed to the changes in temperature?
4. Write a short paragraph reflecting on what you learned from this activity. (50 words)
5. Submit your file with the recorded temperature readings, the conversion calculations, the table or chart, and your written reflection on an A4 size sheet in a folder.

#### PART II

**Instructions:**

Collect the following articles— a pen, a book, a needle and a piece of wooden stick.

1. Sketch the shape of the above articles in your notebook by moving a pencil around them.
2. Do all these have a definite shape, distinct boundaries and a fixed volume?
3. What happens if they are hammered, pulled or dropped?
4. Are these capable of diffusing into each other?
5. Try compressing them by applying force. Are you able to compress them?





Give Explanation of the following questions: -

- ❖ Do all these have a definite shape, distinct boundaries and a fixed volume?
- ❖ What happens if they are hammered, pulled or dropped?
- ❖ Are these capable of diffusing into each other?
- ❖ Try compressing them by applying force. Are you able to compress them?

### PART III

- ❖ A car is moving on a straight road with uniform acceleration. The velocity of the car varies with time as follows:
- ❖ Draw the velocity time graph choosing a convenient scale.

Time(s)	5	10	15	20	25	30
Velocity(m/s)	4	8	12	16	20	24

- ❖ Determine from it (i) the acceleration of the car (ii) the displacement travelled by the car in 30 sec.
- ❖ NOTE: Attempt on A-4 size sheets and prepare separate folders for Part I, II & III.

### SECTION B

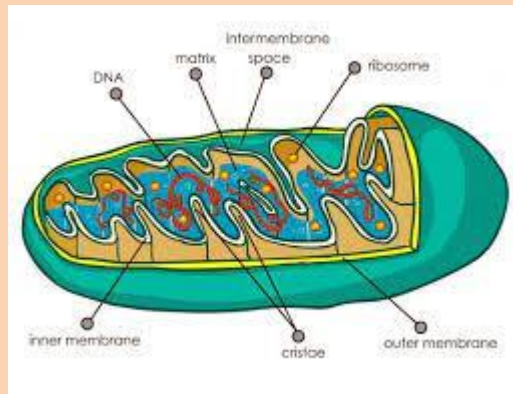
#### WORKSHEET

#### (MATTER IN OUR SURROUNDINGS)

- Q1. How does evaporation cause cooling?
- Q2. Which state of matter is present in the sun?
- Q3. Why should we avoid wearing synthetic clothes in summer?
- Q4. Sania was making tea in a kettle. Suddenly she felt intense heat from the puff of steam gushing out of the spout of the kettle. She wondered whether the temperature of the steam was higher than that of the water boiling in the kettle. Comment.
- Q5. A sample of water under study was found to boil at  $102^{\circ}\text{C}$  at normal temperature and pressure. Is the water pure? Will this water freeze at  $0^{\circ}\text{C}$ ? Comment.
- Q6. Riddhima was using a liquid for removing nail polish from her nails. To her surprise the moment she poured liquid on her nails she felt a cooling sensation on her skin.
- (a) Name the liquid which Riddhima was using.
- (b) Explain why she felt cooling sensation when liquid was poured on her skin
- Q7. Explain why:
- i. A gas fills a vessel completely.
  - ii. Camphor disappears without leaving any residue.
  - iii. The temperature does not rise during the process of melting and boiling, though heat energy is constantly supplied.
- Q8. Liquid nitrogen is used as a commercial refrigerant to flash freeze foods. Nitrogen boils at  $-196^{\circ}\text{C}$ . What is this temperature on the Kelvin temperature scale?
- Q9. Explain interconversion of states of matter.
- Q10. Explain the factors affecting the rate of evaporation.

#### (FUNDAMENTAL UNIT OF LIFE :CELL)

- Q11. Draw the diagram of an animal cell as seen through an electron microscope. Label the parts that carry out the following functions: -Respiration, Secretion of enzymes, Protein synthesis, Storage of material.
- Q12. Write the contribution of
- a) Robert Hooke,
  - b) Leeuwenhoek
  - c) Robert Brown
- Q13. Based on following diagram and your knowledge, answer the given questions –



I. Name the cell organelle shown in the figure?

II. The given cell organelle is also known as the “Powerhouse of the cell”. Why?

Q14. In brief state what happens when

I. The plasma membrane of a cell breaks down?

II. A Red Blood Cell is kept in concentrated saline solution?

Q15. Answer the following questions -

I. Define the following terms - (a) Plasmolysis b) Endocytosis c) Membrane biogenesis

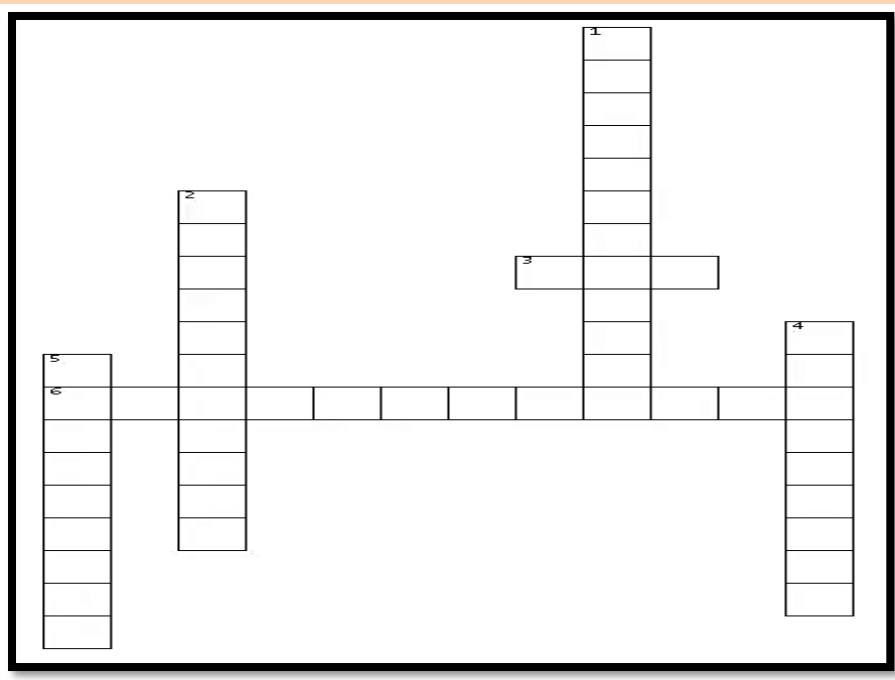
II. State one feature that is similar and one feature that is dissimilar with respect to mitochondria and plastids.

Q16. What happened?

If Dry apricot is placed in pure water?

Plasma membrane ruptures or breakdown?

Q17. Fill crossword



ACROSS

3. \_\_\_ stands Deoxyribonucleic Acid

6. These are important for photosynthesis in plants

DOWN

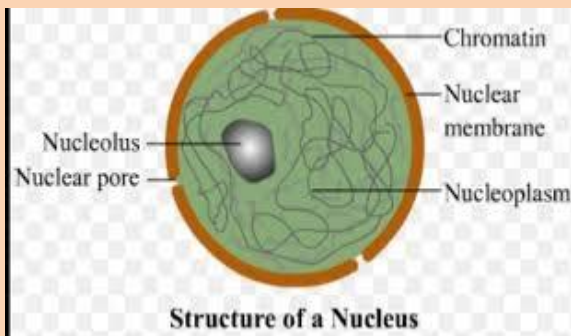
1. They are the powerhouses of the cell

2. Paramecium is a \_\_\_\_\_ organisms

4. It is a kind of waste disposal system of the cell

5. One of the Biologist who presented the cell theory

Q18. Look at the diagram carefully



- Which part of the above diagram can carry the 'hereditary material'?
- Who discovered the nucleus for the first time?
- Why is it called the 'control centre' of the cell?

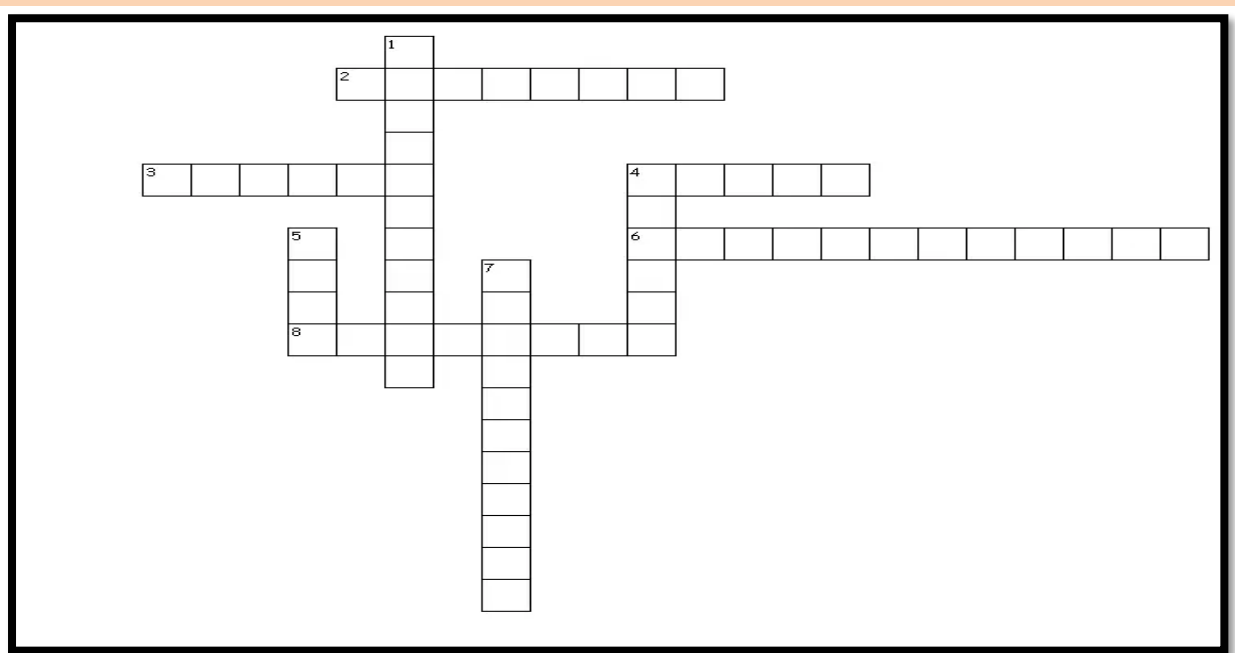
Q19. Diagrammatically explain process of endocytosis.\

Q20. If you are provided with some vegetables to cook, you generally add salt into the vegetables during the cooking process.

- What happens to the vegetables after adding salt?
- Which mechanism is responsible for the changes? Explain.

( MOTION)

Q21. Fill crossword



Across

- Physical quantity obtained by dividing displacement with time taken
- A quantity having both magnitude and direction
- This remains constant in uniform circular motion
- It is the slope of speed -time graph
- This measure the distance travelled by the car

Down

- This is the other name for negative acceleration
- The speed is said to be a

5. This is the acceleration of the body with uniform velocity  
7. This measure the speed of the car

Q23.The velocity changes from 45m/s to 60m/s in three seconds. What is its acceleration?

Q24.A body covered a distance of  $z$  metre along a Semi-Circular path. Calculate the magnitude of displacement of the body, and the ratio of distance to displacement?

Q25.A particle is pushed along a horizontal surface in such a way that it starts with a velocity of 12m/s. Its velocity decreases at a uniform rate of  $0.5\text{m/s}^2$ .

(a) Find the time it will take to come to rest.

(b) Find the distance covered by it before coming to rest?

Q26.What would be the acceleration of a body if its velocity-time graph is a line parallel to the time axis?

## SOCIAL SCIENCE

### ACTIVITY: PROJECT FILE

#### TOPIC: Urban Floods

**OBJECTIVE:** The main objectives of giving a project on Urban Floods disaster management to students are to:

- Create awareness in them about a less explored disaster, its consequences and management.
- Prepare them in advance to face such situations.
- Ensure their participation in disaster mitigation plans.
- Enable them to create awareness and preparedness among the community.

#### **THE PROJECT FILE SHOULD COVER THE FOLLOWING POINTS:**

- i. Introduction to Human-made disaster
- ii. What are Urban Floods?
- iii. Factors responsible/Causes of Urban floods
- iv. Effects of Urban floods
- v. Prevention and mitigation strategies
- vi. On a political map of India, mark at least 5 cities/regions with frequent urban floods
- vii. Urban floods in India, a case study on **any one**
  - Mumbai Floods
  - Chennai Floods
  - Delhi Floods

*NOTE- The students need to choose any one of the cities as a case study for urban floods in India among the above mentioned, and write about it in detail using pictures, data and newspaper articles.*

#### **GUIDELINES:**

- i. This project has to be completed in A-4 size sheets.
- ii. It should be completely handwritten.
- iii. Support the project with relevant pictures, illustrations, maps, caricatures, and newspaper articles.
- iv. The content should be accurate, original and based on relevant sources.

#### **SOURCES:**

National Disaster Management Authority (NDMA), Government of India

<https://vikaspedia.in/social-welfare/disaster-management-1/natural-disasters/urban-floods>

Google, Wikipedia, YouTube, Online awareness magazine forums like- Down to Earth (DTE), World Wide Fund for Nature (WWF), Geography and You, NRDC.org etc. and other newspaper forums.

## Information Technology

Aim: To give a dimension and edge to the learners to hold on to their career goals and shape their identities and overall outlook towards this competitive life.

Objective:

- ✓ To find the accuracy of typing in keyboard.
- ✓ To develop practical knowledge of digital documentation and to recognize different menus in Writer.
- ✓ To learn how to increase the typing speed in the computer system.
- ✓ To answer some application oriented questions.

## QUESTIONS

Type the following paragraph using Rapid Typing Software. Keep an account of the total number of words typed, total time taken (in minutes) to type and the total number of words that contain errors.

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.



Figure: Interface of Rapid Typing software

Calculate the following on the basis of your data:

- Gross typing speed
- Net typing speed
- Accuracy percentage
- Error percentage

2. Design a poster on the topic '**G20 India**' in Writer application.

- What to do: Make poster on G20 India



- Where to do: Take Printout of the Poster and paste it in your IT register.
- Parameters: Creativity, Originality. Overall Presentation.

2. Application based questions (rite the answers in IT register) :

- Rahul wants to share his birthday pictures with his aunt in the USA. Which apps or platforms can he use?
- Manisha's mother always visits service centres regarding the problems in her home appliances. Mention any three services that can be easily resolved using call centres.
- Rohan's father is a cardiologist who uses different types of machines to diagnose ailments related to heart. Name any two such machines
- Aryan is preparing for a declamation contest. Help him to prepare a list of all the elements of non-verbal communication that he should consider while giving his speech.
- You want to get a pet dog, but your elder brother told you that no matter how much you try to convince your parents, they will not allow you to get a dog. What factor do you think contributed to his perspective?
- Mr. Sushant is a new manager, and he wants to share his ideas and working protocol with his team. Compare the advantages and disadvantages of oral and written communication and suggest him which form of communication would be more effective.
- Mr Sharma is often seen quarrelling with others. He has complaints about everyone in the neighbourhood. Which life-position is influencing his behaviour?
- Smriti walked into your school and came across your Science teacher, who generally comes well-dressed and looks very confident. Smriti assumed that he is the principal of the school. What factor is affecting her perspective?

