



**YUVASHAKTI MODEL SCHOOL**



# **SUMMER BREAK HOMEWORK**



**Session 2026-2027**



**NAME - \_\_\_\_\_**

**ROLL NO. - \_\_\_\_\_**

**CLASS - IX**

**SECTION - \_\_\_\_\_**



## MATHEMATICS

1. Prepare a Mathematics Project (8-10 pages) on the topic:

Project on Mathematicians and Mathematics work in Rajasthan and Nagaland, comparing each other like geometric patterns, terrace farming and data analysis etc.

Your project should include following sections:

- (a) Cover Page
- (b) Acknowledgement
- (c) Index
- (d) Introduction
- (e) Comparative Analysis of Rajasthan and Nagaland
- (f) Conclusion
- (g) Bibliography

### Instructions:-

- The project should be handwritten neatly on A4 size sheets.
- Include relevant pictures, diagrams, maps and tables.
- Use colored headings and creative borders for attractive presentation.
- Explain scientific concepts clearly with examples from both states.
- Maintain proper page numbering and neatness.

## WORKSHEET

Solve this worksheet in separate notebook.

1. Prove that the following rational numbers are equal:

(i)  $\frac{5}{4}$  and  $\frac{10}{8}$                       (ii)  $-\frac{3}{5}$  and  $-\frac{6}{10}$

2. Solve: (i)  $\frac{2}{5} + \frac{3}{10}$                       (ii)  $-\frac{7}{9} - \left(-\frac{2}{3}\right)$

3. Find the quotient:  $\frac{7}{11} \div \frac{5}{8}$

4. Prove that  $\sqrt{2}$  is an irrational number.

5. Classify the following numbers as rational or irrational:

(i)  $\sqrt{81}$                       (ii)  $\sqrt{13}$                       (iii) 1.01001000100001.....                      (iv)  $2\pi$

6. Represent  $\sqrt{5}$  on number line.

7. The difference between two positive integers is 63. The ratio of two integers is 2 : 5. Find two numbers.

8. Find the degree of the polynomial: -9

9. Write a polynomial of degree 2.

10. Write coefficient of  $x^2$  in the polynomial:  $5x - 7x^2 + 2$ .

11. Find 6 rational numbers between 3 and 4.

12. Find 5 rational numbers between  $\frac{2}{5}$  and  $\frac{3}{5}$
13. If  $\frac{x}{3} + \frac{x}{5} = \frac{16}{15}$ , Find the rational number x.
14. A tailor has  $15\frac{3}{4}$  metres of fine silk. If making one kurta requires  $2\frac{1}{4}$  metres of silk, exactly how many kurtas can he make?
15. Draw the graphs of lines:  $y = 4x$ ,  $y = 2x$ ,  $y = x$ .
16. Draw the graphs of lines:  $y = -2x - 3$ ,  $y = -2x$ .
17. Suppose a plant has height 1.15 feet and it grows by 0.5 feet each month.
- (i) Find the height after 7 months.
- (ii) Make a table of values for t varying from 0 to 10 months and show how the height, h, increases every month.
18. A rally starts with 120 members. Each hour, 9 members drop out of the group. How many members will remain after 1, 2, 3, ... hours? Find a linear expression to represent the number of members at the end of the  $n^{\text{th}}$  hour.
19. Find the value of the quadratic polynomial  $7s^2 - 4s + 6$  if :
- (i)  $s=0$                       (ii)  $s = -3$
20. The present age of Salil's mother is three times Salil's present age. After 5 years, their ages will add up to 70 years. Find their present ages.
21. If the length of a rectangle is three more than twice its width and its perimeter is 24 cm, what are the dimensions of the rectangle?
22. What is the coefficient of z in the polynomial  $4z^3 + 5z^2 - 11$ .
23. Find the degrees of the polynomials:  $y^3 + 2y - 1$ .
24. Ruby has 3 times as many two-rupee coins as she has five rupee-coins. If she has a total Rupees 88, how many coins does she have of each type?
25. Write a polynomials of degrees 1, 2 and 4.

## ENGLISH WORKSHEET

### Short Answer Questions

Q-1) Why did the grandmother wait eagerly for the weekly magazine?

Q-2) Why was the grandmother upset when the narrator went to a wedding?

Q-3) How did the grandmother realize the importance of education?

Q-4) Why did the grandmother touch the feet of her granddaughter?

Q-5) What message does the story convey about education?

Q-6) Mention the natural features of India highlighted in the poem.

Q-7) What does the poet say about India's unity and culture?

Q-8) Why does the poet feel proud of India?

Q-9) Explain the significance of rivers and mountains in the poem.

Q-10) What difficulties did the pot maker face in his profession?

Q-11) How does the story highlight the dignity of labour?

Q-12) Why is pottery considered both useful and artistic?

Q-13) Why was the pot maker respected in the village?

### **Long Answer Questions**

Q-14) Describe the grandmother's determination to become literate.

Q-15) Explain how the story highlights the importance of education.

Q-16) Describe the relationship between the narrator and her grandmother.

Q-17) Explain how the poet praises India in the poem.

Q-18) How does the poem reflect India's cultural richness and unity?

Q-19) Discuss the theme and message of the poem.

Q-20) Why is the title "Bharat Our Land" suitable for the poem?

Q-21) Describe the character and qualities of the pot maker.

Q-22) Explain how the story highlights the importance of hard work and dedication.

Q-23) What moral values and life lessons does "The Pot Maker" teach readers?

Q-24) Describe the patriotic spirit shown in "Bharat Our Land."

Q-25) Explain how the poet praises India in the poem.

### **PROJECT WORK**

**TOPIC - How does the Ghoomar Dance of Rajasthan differ from the Bamboo Dance of Nagaland in terms of costumes, music, movements, and occasions of performance.**

- **How do such traditional folk dances promote cultural legacy and help preserve India's heritage for future generations?**

### **NOTES**

- **The worksheet is to be solved in a separate notebook.**
- **The project work should consist of 10 pages, including the Acknowledgement, Index, Introduction, and Bibliography.**

## S.ST Project

- Multidisciplinary Project - Rajasthan Paired with Nagaland

Traditional Attire :

1. Compare the traditional attire of Rajasthan and Nagaland. How do they reflect the culture and climate of each state.(Any two))

Art&Craft :

2. Describe the famous art and craft forms of Rajasthan and Nagaland. How do tribal handicrafts of Nagaland differ from the crafts of Rajasthan.(Any two)

## WORKSHEET

Q1.Why did early humans move from place to place ?

Q2.How was fire useful ?

Q3.What are " microliths"?

Q4.Which was the earliest civilization of the Indian Subcontinent?

Q5.How did civilisation end ?

Q6.What is the importance of opposition party in democracy ?

Q7.What is most common form of democracy in modern world?

Q8.Name the chinese parliament ?

Q9.Name the country where women do not have the right to vote till 2015.

Q10.Difference between Democracy and Dictatorship .

Q11.How far is it correct that no country has a perfect democracy?

Q12.Why has India not experiences a famine as severe as that of China in 1958-61?

Q13. What are sand dunes? Formation of Sandunes comes under which type windactivity .

Q14.What are glacier?

Q15.What are Glacier horn ?

Q16.What is the major factor behind Endogenic factors ?

Q17.Where deltas are formed ? Explain .

Q18.What is hydraulic action ?

Q19.What is deflation? Deflation is which type of activity .

Q20.Explain all three Tectonic waves .

Q21.How do rivers shape the earth's surface .

Q22.What role did wind play in shaping the land, especially in desert ?

Q23.What is Indus valley civilization?

Q24.Explain Endogenic forces and Exogenic forces.

Q25.Draw the diagram of Denudation and Erosion .

Hindi

### कार्यपत्रिका

1. गया के घर से भागकर जब हीरा और मोती कांजीहौस पहुँचे, तो वहाँ उन्होंने अन्य जानवरों की मदद किस प्रकार की?
2. प्रेमचंद ने गधे को 'ऋषि-मुनियों' की श्रेणी में क्यों रखा है? उसकी किन विशेषताओं के कारण उसे बेवकूफ समझा जाता है?
3. हीरा और मोती के स्वभाव में क्या अंतर था? उदाहरण देकर स्पष्ट कीजिए कि दोनों एक-दूसरे का साथ कैसे निभाते थे।
4. झूरी के साले 'गया' ने हीरा और मोती के साथ कैसा व्यवहार किया और बैलों ने उसका विरोध किस तरह किया?
5. उत्पत्ति के आधार पर शब्द के कितने और कौन-कौन से भेद होते हैं?
6. 'महान' शब्द का भाववाचक संज्ञा रूप क्या होगा?
7. 'यमक' और 'श्लेष' अलंकार के बीच मुख्य अंतर क्या है? उदाहरण सहित स्पष्ट करें।
8. 'घोड़ा बहुत तेज़ दौड़ता है' – इस वाक्य में 'प्रविशेषण' शब्द कौन सा है?
9. योजक चिह्न ( - ) का प्रयोग किन परिस्थितियों में किया जाता है? कोई दो उदाहरण दीजिए।
10. 'नीलकंठ' शब्द रचना के आधार पर रूढ़, यौगिक और योगरूढ़ में से किस श्रेणी में आता है?
11. 'पुरुषवाचक सर्वनाम' के तीनों प्रकारों के नाम और उनके लिए एक-एक शब्द लिखिए।
12. "आसमान से बातें करना" मुहावरे का अर्थ लिखकर वाक्य में प्रयोग कीजिए।
13. 'परिमाणवाचक विशेषण' और 'संख्यावाचक विशेषण' में उदाहरण देकर अंतर स्पष्ट कीजिए।
14. "जैसी करनी वैसी भरनी" – यह मुहावरा है या लोकोक्ति? इसका अर्थ भी बताइए।
15. विस्मयादिबोधक चिह्न ( ! ) का प्रयोग वाक्य में कब किया जाता है?
16. 'रचना' के आधार पर वाक्य के तीन भेद कौन-कौन से हैं?
17. "तरनि तनूजा तट तमाल तरुवर बहु छाए" – इस पंक्ति में कौन सा अलंकार है और क्यों?
18. 'निजवाचक सर्वनाम' का प्रयोग करते हुए एक मौलिक वाक्य बनाइए।
19. 'अर्थ' के आधार पर वाक्य के कितने भेद होते हैं? केवल नाम लिखिए।
20. 'अल्प विराम' और 'अर्द्ध विराम' के प्रयोग में क्या अंतर है?

21. “पाँच किलो दूध” – इस पद में विशेषण का कौन सा उप-भेद है?
21. मिश्रित वाक्य की परिभाषा दीजिए और एक उदाहरण लिखिए।
22. “ईट से ईट बजाना” मुहावरे का सही अर्थ क्या है?
23. ‘रूढ़’ शब्द किसे कहते हैं? एक उदाहरण देकर स्पष्ट करें।

### परियोजना कार्य-: लोक कथाओं का रूपांतरण

छात्र राजस्थान की एक प्रसिद्ध लोक कथा तथा नागालैंड की एक लोक कथा का चयन करेंगे।

दोनों लोक कथाओं को खोजकर हिंदी भाषा में सुंदर एवं सरल रूप में अनुवादित करेंगे।

इसके पश्चात छात्र इन कथाओं को आकर्षक सजावट, चित्रों एवं रचनात्मक प्रस्तुति के साथ परियोजना कार्य के रूप में तैयार करेंगे।

### drawing

- Make a detailed Folk Art Painting based on Rajasthan or Nagaland culture.
- Prepare a 3D Best Out of Waste Craft representing either state.
- Create a Mandala or Tribal Pattern Artwork.

### SCIENCE

1. Define:
  - a. Homogeneous mixture
  - b. Heterogeneous mixture
2. Differentiate between homogeneous and heterogeneous mixtures with two examples each.
3. Which method of separation would you use for:
  - a. Sand and water
  - b. Salt and water
  - c. Iron filings and sulphur powder
4. What is filtration? Name one everyday life application of filtration.
5. Explain the process of evaporation with one example.
6. Why is a magnet used to separate iron filings from a mixture? Name the type of mixture involved.
7. What is sedimentation and decantation? Explain with an example.
8. Name the method used to separate:
  - a. Cream from milk
  - b. Different colours in ink
  - c. Kerosene from water
9. Explain the principle of distillation. Which type of mixture can be separated by this method?
10. A mixture contains sand, common salt and iron filings. Describe the steps used to separate all three components from the mixture.
11. Differentiate between (i) distance and displacement (ii) speed and velocity.
12. A car travels 120 km in 3 hours. Calculate its speed.

13. A boy walks 100 m east and then 60 m west. Find:  
(a) Total distance travelled  
(b) Net displacement
14. Why is velocity considered a vector quantity while speed is a scalar quantity.
15. A body moving with a velocity of 20 m/s comes to rest in 4 seconds. Calculate retardation.
16. A stone is dropped from the top of a tower and reaches the ground in 5 seconds. Calculate its final velocity.
17. A car accelerates uniformly from 18 km/h to 36 km/h in 5 seconds. Calculate the acceleration.
18. Draw distance–time graphs for:  
(a) Uniform motion  
(b) Non-uniform motion
19. Draw a velocity–time graph for a body moving with uniform acceleration. What does the slope of the graph represent?
20. Derive the first and second equation of motion. Also explain the meaning of each symbol used in it.
21. What is a cell? Why is it called the basic structural and functional unit of life?
22. Name the scientist who discovered cells for the first time. Which instrument did he use?
23. Differentiate between plant cells and animal cells on the basis of:
- Cell wall
  - Shape
  - Vacuoles
  - Plastids
24. Draw and label a neat diagram of a plant cell.
25. What is the function of the following cell organelles?
- Nucleus
  - Mitochondria
  - Ribosomes
  - Vacuole
26. Explain the structure and functions of the plasma membrane.
27. Why are mitochondria called the “powerhouse of the cell”?
28. Write short notes on:
- Cytoplasm
  - Chromosomes
  - Endoplasmic Reticulum
29. State three differences between prokaryotic and eukaryotic cells.
30. Observe the following and answer:
- Which cell organelle controls all activities of the cell?
  - Which organelle is responsible for photosynthesis?
  - Which organelle helps in storage of water and food in plant cells?

#### Project

Prepare a science project comparing the states of Rajasthan and Nagaland.

Students should include the following points:

1. Location of both states on the map of India.
2. Climate and weather conditions.
3. Important plants, crops, and wildlife found in the states.
4. Comparison between flora and fauna of both states.
5. One scientific or environmental issue related to each state.
6. Paste pictures or draw diagrams to make the project attractive.
7. The project should consist of 10 pages.

The project should be neat, colourful, and written in your own words. Use three different notebooks each for Physics, Chemistry and Biology for worksheet questions.

## (COMPUTER)

### Project Topic

### “Digital Heritage of Rajasthan and Nagaland”

#### ❖ General Instructions

- Prepare the project using MS Word / PowerPoint.
- Use proper formatting, headings, and pictures.
- Project should be creative and informative.
- Project should contain atleast 10 slides.

#### ❖ Project Work Details:

- Design an attractive cover page including:
    - Project Title, Student Name, Class & Section, Roll Number, School Name
    - Decorate with pictures related to Rajasthan forts and deserts, Nagaland tribal culture and festival
  - Write about:
    - Rajasthan and Nagaland
    - Importance of Indian heritage
    - Cultural diversity of India
    - Role of technology in promoting tourism and heritage
  - Collect information and insert pictures of:
    - Jaipur, Udaipur, Jaisalmer, Kohima, Dimapur, etc. Write 4–5 lines about each tourist place.
  - Explain how technology helps tourists:
    - Online hotel booking
    - Digital maps and GPS
    - Online ticket booking
    - Tourism websites
    - Social media promotion
- Also write “Advantages of Smart Tourism”
- Conclusion & Bibliography
  - **NOTE:** Kindly send the project to the given mail id (sweetanjali66@gmail.com)

#### Worksheet – COMPUTER

**Solve these questions in a thin note book and submit it with the project file before 08/07/2026**

- Q1. What do you mean by communication?
- Q2. What are the disadvantages of verbal communication?
- Q3. Describe communication cycle with suitable example.
- Q4. How oral communication different from written communication ?
- Q5. What does the term S.M.A.R.T stands for?
- Q6. What do you mean by self management?
- Q7. List any 4 reasons behind the lack of self confidence.
- Q8. Describe any two factors that influence our perspective in communication.
- Q9. What is encoding?
- Q10. Which is the most costly mode of communication?
- Q 11. What is the importance of time management?
- Q12. What do you mean by goal and target?
- Q13. What is the full form of OS?
- Q13. What do you mean by computer?

Q14. Describe any two communication barriers.

Q15. What is the full form of HTML?

Q16. Which shortcut key is used to find and replace a text?

Q17. Which drives the person towards its goal?

Q18. What is a time bound target?

Q19. What do you mean by time table?

Q20. Which shortcut key is used to select all the contents of a file?

Q21. How can you keep your emotional balance?

Q22. What do you mean by input device?

Q23. What do you mean by primary memory?

Q24. What is the full form of CPU?

Q25. Why self management is important for us?