

Dr. Virendra Swarup Education Centre, Panki, Kanpur
Holiday Home Work

Class IX

- **ENGLISH:** 1. Prepare a project file on 'Art, Craft and Culture' of Arunachal Pradesh/ Meghalaya. Paste related pictures.
2. Write an informal letter to your friend informing him about an interesting field-survey project you got for your holiday homework. (Do in your Language notebook)
3. Write an essay on the topic – 'Utility of studying English Literature.' (Do in your Language notebook)
- **HINDI:** 'क्षितिज' पाठ्यपुस्तक के किसी गद्य या काव्य रचनाकार का जीवन परिचय, साहित्य में योगदान एवं रचनाओं का चित्र सहित एक फाइल तैयार करें।
- **MATHS:** 1. Revise the chapters- Real Numbers, Polynomial, Heron's Formula and Linear Equations in two variables and do the questions of the given worksheet.
2. Label any four 3D shapes used in Maths and fill/colour with designs of both the states. (Arunachal Pradesh and Meghalaya)
3. Representation of the death rate (due to COVID 19) of male/ female population of Arunachal Pradesh and Meghalaya since the last three years. (Graphical representation / Pie Chart)
- **PHYSICS:** 1. Practise the given numericals of the chapter 'Motion'.
2. Write the uses of artificial and natural energy resources used in Arunachal Pradesh and Meghalaya. (Make a file)
- **CHEMISTRY:** 1. Practise the diagrams of chapter 1.
2. Prepare a chart on any one of the following:
a. Diffusion b. Brownian Motion c. Plasma (fourth state of matter)
d. Latent Heat (Diagram- Latent Heat of Fusion/ Vaporisation)
- **BIOLOGY:** 1. Prepare a model/ chart on any one of the following:
a. Plant Cell b. Animal Cell c. Mitochondria d. Chloroplast e. Nerve Cell
2. Prepare the chapter 'Cell' for the test.
3. Practise the diagrams of the chapter 'Cell' and 'Plant Tissues'.
- **HISTORY/CIVICS:** Learn and write the **PREAMBLE** in your notebook (in a proper format) and learn both the chapters for the test.
- **GEOGRAPHY:** Make a project file on 'Disasters and their Management' specific to Arunachal Pradesh and Meghalaya.
- **COMPUTER:** 1. Make a collage on the culture and tradition of Arunachal Pradesh or Meghalaya. (Use the software- open office writer)
2. Make a colourful chart on any latest technology.
3. Design an attractive front page / cover page of a newspaper. (Use the software- open office writer)

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Computer Revision [2022-23]

Class – 9

❖ **Answer the given Questions** →

1. What are the major strength and weakness of computer ?
2. How are computers categorized ?
3. Mr. Pranav is well connected dealer/distributor of computer peripherals. All types of hardware and software can be purchased through him. Five different people (listed below) have approached him to guide what type of computer should they buy for their respective work places and how would computer help them achieve their goals:
 - i) A Bank Employee
 - ii) A Surgery Professor
 - iii) A Housewife
 - iv) A Car Designer
 - v) A Choreographer
4. State the basic units of the computer. Name the subunits that makes up the CPU, give the function of each of the unit.
5. Which of the following is a soft copy and a hard copy?
 - i) Output on a monitor
 - ii) Output on a printer
6. What is a pointing device ? Name a popular pointing device .
7. When is a scanner used for input ? Discuss various types of scanner.
8. Discuss functioning of a light pen.
9. There are two types of internal memory in computer system. Name and discuss them.
10. Why is Auxiliary Memory required ?
11. What are advantages of word processor over typewriters ?

12. Expand the term WYSIWYG. Why is writer called a WYSIWIG program ?
13. What are non-printing characters? What are the different marks that writer uses for displaying non-printing characters?
14. Define margins. How can you set these margins in OOO writer?
15. What is meant by indentation? What are the different types of indent available?
16. What are header and footer in writer? Where do they appear in a document?
17. What is a clipboard? How is it useful?
18. What are the advantages of find or replace feature of word processor?
19. What are the advantages of spell check?
20. Why do you think, Grouping of graphic objects is useful?
21. What are the lists? How are they useful?
22. What is the utility of find and replace in a word processors?
23. In what sense, Print Preview is a useful tool in a word processor?
24. Words that are misspelled appeared with a blue WAVY line under them as you type.
 - i) True
 - ii) False

Chapter 1. The Story of Village Palampur

- Q1. Is Palampur a developed village? Justify your answer.
- Q2. "Investment in human capital yields a return just like investment in physical capital." Justify the statement.
- Q3. Explain the basic constraint (limitation) in raising farm production in Palampur.
- Q4. State any three advantages of multiple cropping.
- Q5. Explain the difference between rabi and kharif crops. Give suitable example.
- Q6. How can the use of chemical fertilizers be harmful?
- Q7. How is green revolution associated with the loss of soil fertility?
- Q8. State any two advantages and three disadvantages of Green Revolution.
- Q9. What are the sources for irrigation?
- Q10. How is land distributed amongst the farmers of Palampur?
- Q11. Explain any three features of labour as a factor of production?
- Q12. Explain the historical and cultural reasons for division of labour for men and women.
- Q13. Who are farm labourers? Why are the wages of farm labourers in Palampur less than the prescribed minimum wages? Describe the work of a small farmer who owns one hectare of land.
- Q14. "Capital is a basic need in agriculture." How is it arranged by Indian farmers? Explain
- Q15. Describe the utilization of surplus farm products by the different type of farmers.
- Q16. Mention four non-farm activities at Palampur.
- Q17. Why dairy is a popular activity in the village of Palampur?
- Q18. Name the economic activities at Palampur.
- Q19. How did Japan emerge as a developed country inspite of its poor natural resources? Explain.
- Q20. Why has improvement in health status of population been the priority of the country? Give any three reasons.

Chapter 1 India: Size and Location (Geography)

- Q1 How is the latitudinal spread of India advantageous to her?
- Q2. Explain the latitudinal and longitudinal extent of India.
- Q3. Explain why Ahmedabad and Kolkata are able to see the noon sun exactly overhead once in a year but not Delhi?
- Q4. "India is neither a giant nor a pygmy in the world." Comment.
- Q5. How have the ancient land routes contributed to exchange of ideas and goods?
- Q6. Distinguish between local time and standard time.
- Q7. Why do we need a standard meridian? Where is it located? What is its significance?
- Q8. The Tropic of Cancer runs almost half way through the country. What does this imply?
- Q9. Why is India denoted as a sub-continent? Explain.
- Q10. Why is the Central location of India at the head of the Indian ocean considered as important? Explain.

Chapter 2 Physical Features of India (Geography)

- Q1. "The land of India displays great physical variations" Justify the statement by giving suitable examples.
- Q2. Name six major physical divisions of India.
- Q3. Describe the three main ranges of the Himalayas.
- Q4. Differentiate between Western Himalayas and Eastern Himalayas.
- Q5. Explain the relief diversities found in India with special emphasis on Northern plains.
- Q6. Explain the two major divisions of Peninsular Plateau.
- Q7. Describe the coastal Plains.
- Q8. Why are the Himalayas called the young fold mountains?
- Q9. Explain how the Himalayas act as boon for India?
- Q10. Name the main mountain and hill ranges in India.

Chapter 4 People as Resource (Economics)

- Q1. What is human capital? What is human capital formation? How does population become human capital? Explain.
- Q2. Why is human resource important for development?
- Q3. "Investment in human resource via education and medical care can give high rates of return in the future." Support the statement with any three suitable arguments.
- Q4. What measures should be adopted to increase the share of women employment in the organized sector?
- Q5. Mention three points to explain the importance of education as an input for growth of an individual as well as the society?
- Q6. Mention any three measures taken by the government to improve literacy condition in India.
- Q7. Mention three differences between working condition of educated and uneducated women.
- Q8. What is meant by unemployment? Name the types of unemployment that exist in rural as well as in urban areas.
- Q9. Describe the employment scenario in the three sectors of India.
- Q10. How is defective educational system also responsible for unemployment?

Chapter 1 The French Revolution (History)

1. What do you understand by the term "Reign of Terror'?
2. Explain three causes that led to the outbreak of French Revolution?
3. State three ways in which the French Revolution affected the daily life of the people.
4. State two factors which led to Napoleon's downfall and name the battle in which he was finally defeated.
5. Discuss three ways in which the French Revolution affected the world .
6. Who were the Jacobins? Explain two ways in which they contributed to the French Revolution.
7. Explain five achievements of the French National Assembly from 1789 to 1791.
8. How was French Society organized? What were the privileges that certain sections of the society enjoyed?
9. What were the causes for the empty treasury in France under Louis XVI? Any three causes.

10. What was Marseillaise? What led to the formation of Marseillaise?

Chapter 1 CIVICS

1. What was the 'Drafting Committee'?
2. What kind of inspiration do we get from South Africa?
3. "Democracy is considered the best form of government." Explain.
4. Explain the dirty tricks used by PRI to win election in Mexico.
5. What is the role of free and fair elections in a democracy?
6. How did Parvez Musharraf establish rule in Pakistan?
7. What are the main functions of a constitution?
8. Why Preamble is called the preface of the Indian constitution?
9. What does segregation mean in South Africa?
10. How was apartheid practiced in South Africa?

DR. VIRENDRA SWARUP EDUCATION CENTRE, PANKI, KANPUR
Work Sheet- 2 (May-June)
SUB: MATHEMATICS
CLASS- IX

1- Write all possible factors of the following:

- (i) $8x^2$ (ii) $17xy^2$ (iii) $33y^2z$ (iv) $5pq$
(v) $-6ab$

2- Write common factors of the following:

- (i) $14x^2, 35xy, 42xy^2$ (ii) $4p, +16pq^2, 20p^2q$
(iii) $-15a^2, -45a^3, -75a^4$ (iv) $2a^2b^3, 8a^3b^2, 12a^2b^2$

3- Find the HCF of the terms in each of the following algebraic expressions.

- (i) $5a^2 + 15a^3 - 20a$ (ii) $2xy^2 + 4yx^2 + 6xy$
(iii) $3pq - 5p - 2p^2a$ (iv) $-12ab^2 - 15a^2b - 18a^2b^2$

4- Factorize the following expressions:

- (i) $4x - 12x^2$ (ii) $6x(x-2y) + 5y(x-2y)$
(iii) $(x+2y)^2 - 4x - 8y$ (iv) $15xy + 10y - 6x - 4$
(v) $ax^2 + by^2 + bx^2 + ay^2$ (vi) $ab - a - b + 1$

5- Factorize the following by using identities:

- (i) $9a^2 - 25b^2$ (ii) $48p^2 - 27q^2$
(iii) $36x^2 + 60xy + 25y^2$ (iv) $(2a - b)^2 - 9c^2$
(v) $x^2 + 4y^2 - 4xy - 9z^2$ (vi) $xy^5 - yx^5$

6- Factorize the following by using $(x+a)(x+b) = x^2 + (a+b)x + ab$

- (i) $x^2 + 14x + 45$ (ii) $x^2 - 22x + 120$
(iii) $y^2 + 5y - 36$ (iv) $a^2 + 3a - 88$
(v) $x^2 - 4x - 21$

7- Divide as directed:

- (i) $18a^2b^3$ by $6ab^2$ (ii) $72a^3b^4$ by $(-8a^2b^2)$
(iii) $(-4a^3 + 12a^2 - 16a)$ by $4a$ (iv) $(x^2 - 5x + 6)$ by $(x - 3)$
(v) $(ax^2 - ay^2)$ by $(ax + ay)$ (vi) $(y^2 + 8y + 12)$ by $(y+6)$

8- State whether true or false (also give reason):

(i) $\frac{2x-5}{2x} = -5$

(ii) $3(y-2) = 3y-2$

(iii) $4x + 3y = 7xy$

(iv) $(3x)^2 + 4(3x) + 5 = 3x^2 + 12x + 5$

(v) $a(5a+2) = 5a^2 + 2a$

9- If the polynomials $az^3 + 4z^2 + 3z - 4$ and $z^3 - 4z + a$, leave the same remainder when divided by $z - 3$, find the value of a .

10- The polynomial $p(x) = x^4 - 2x^3 + 3x^2 - ax + 3a - 7$ when divided by $x + 1$ leaves the remainder 19. Find the values of a . Also find the remainder when $p(x)$ is divided by $x + 2$.

11- If both $x - 2$ and $x - \frac{1}{2}$ are factors of $px^2 + 5x + r$, show that $p = r$.

12- Without actual division, prove that $2x^4 - 5x^3 + 2x^2 - x + 2$ is divisible by $x^2 - 3x + 2$. [Hint: Factorise $x^2 - 3x + 2$]

13- Simplify $(2x - 5y)^3 - (2x + 5y)^3$.

14- Multiply $x^2 + 4y^2 + z^2 + 2xy + xz - 2yz$ by $(-z + x - 2y)$.

15- If a, b, c are all non-zero and $a + b + c = 0$, prove that $\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab} = 3$.

16- If $a + b + c = 5$ and $ab + bc + ca = 10$, then prove that $a^3 + b^3 + c^3 - 3abc = -25$.

17- Prove that $(a+b+c)^3 - a^3 - b^3 - c^3 = 3(a+b)(b+c)(c+a)$.

18- If $x = -2, y = 6$ is a solution of the equation $3ax + 2by = 6$, then find the values of a and b from $2(a-1) + 2(3b-4) = 4$.

19- Find four solutions for the equation: $2(x-1) + 3y = 4$

20- Draw the graph of the equation $4x + 3y = 18$. Find the coordinates of the points where the graph meets the two axes.

21- Draw the graph of the equation $x-y=1$ and $2x+y=8$ shade the area bounded by these two lines and y axis.

22- Solve $5x - 2 = 3x - 8$ and represent the solution.

(i) On a number line. (ii) In the Cartesian plane

23- A person invested some amount at the rate of 10% simple interest and some amount at the rate of 12% simple interest. He received yearly interest of Rs. 130. Write a linear equation in two variables and represent graphically.

24- Factorise each of the following expressions.

(i) $25x^2y^2 - 20xy^2z + 4y^2z^2$

(ii) $4x^2 - 4\sqrt{7}x + 7$

(iii) $\frac{a^2}{b^2} + 2 + \frac{b^2}{a^2}$

(iv) $4a^2 + 12ab + 9b^2 - 8a - 12b$

25- Factorise the expressions.

(i) $4x^2 - 12xy + 9y^2$

(ii) $36x^2 - 84xy + 49y^2$

(iii) $9a^2 + 42ab + 49b^2$

(iv) $(3a - 5b)^2 + 2(3a - 5b)(2b - a) + (2b - a)^2$

(v) $36x^2 - 36x + 8$

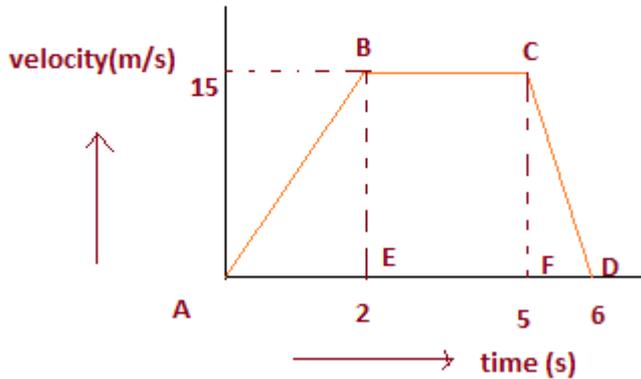
(vi) $4a^4 + b^4$

26- If $ab+bc+ca=0$ then find the value of $\frac{1}{a^2 - bc} + \frac{1}{b^2 - ac} + \frac{1}{c^2 - ba}$

MOTION

Question 1

The velocity-time graph of SUV is given below. The mass of the SUV is 1000 kg.



- What is the distance travelled by the SUV in first 2 seconds?
- What is the braking force at the end of 5 seconds to bring the SUV to a stop within one second?

Question 2:

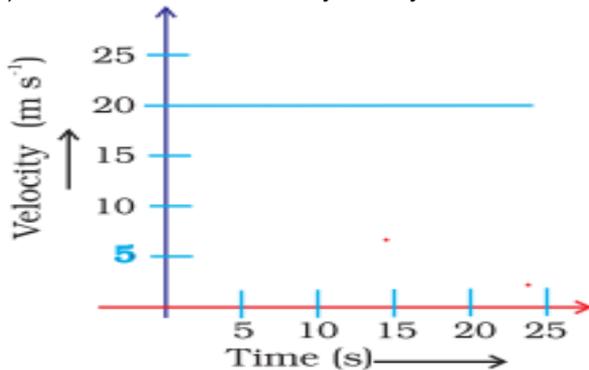
An electron moving with a velocity of $5 \times 10^3 \text{ m/s}$ enters into a uniform electric field and acquires a uniform acceleration of 10^3 m/s^2 in the direction of initial velocity.

- Find out the time in which electron velocity will be doubled.?
- How much distance electron would cover in this time.?

Question 3:

The velocity-time graph shows the motion of a cyclist. Find

- its acceleration
- its velocity
- the distance covered by the cyclist in 15 seconds



Question 4:

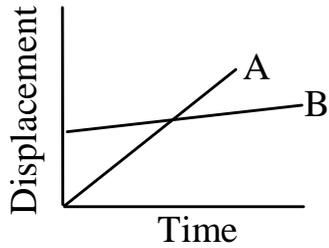
An object starting from rest travels 20 m in first 2 s and 160 m in next 4 s. What will be the velocity after 7 s from the start

Question 5:

An object travels 20 m in 2 s and then another 16 m in 2 s. What is the average speed of the object?

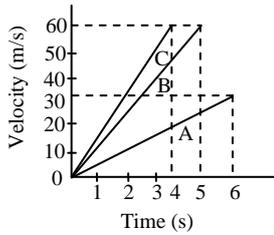
Question 6:

Time-displacement graphs of two bodies A and B are shown in the Figure. Which one has larger velocity?



Question 7:

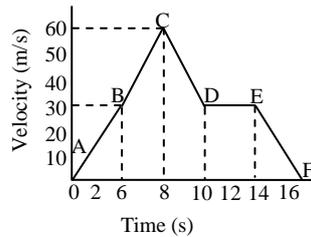
Figure shows the time velocity graphs for three bodies A, B and C.



- (i) Which body has minimum acceleration ?
- (ii) Which body has maximum acceleration ?

Question 8:

Time velocity graph of a moving body is shown in figure Calculate the following :



- (i) Change in velocity during $t = 6\text{s}$ to $t = 8\text{s}$
- (ii) Average acceleration during $t = 10\text{s}$ to $t = 12\text{s}$.
- (iii) In which time interval acceleration will be zero.
- (iv) Acceleration during $t = 14\text{s}$ to $t = 16\text{s}$.

Question 9:

A car travels $\left(\frac{1}{4}\right)^{th}$ of a circle with radius r . The ratio of the distance to its displacement is-

- (A) $1 : \frac{\pi}{2\sqrt{2}}$
- (B) $\frac{\pi}{2\sqrt{2}} : 1$
- (C) $2\sqrt{2} : \pi$
- (D) $\pi 2\sqrt{2} : 1$