

**Summer Assignment**

**ENGLISH**

**CLASS - IX**

(STM)

(S) *Summa*

**Q1.** Create your own magazine of minimum 15 pages. Use pictures, photographs, drawings etc. to make an attractive cover page. Give it an interesting and creative name. Your magazine must contain the following:-

1 st page – Editorial (written by you and of minimum 100 words.). Paste your own photograph on this page.

2 nd page - Index (table of contents)

3 rd page – Interesting and current news items along with relevant pictures.

4 th page – Interview of any interesting person (your friend / relative / neighbour etc) along with photographs (about their hobbies, aim, achievements etc.)

5 th page – information about the festivals celebrated during the Summer-break. Do mention which ones you celebrated and how)

6<sup>th</sup> page - Depict any one of the following poems from NCERT Book- Beehive in a creative manner as an artistic representation and present it in the class. (1. The Road Not Taken 2. Rain on the Roof 3. Wind)  
How to do - Use your imagination to convert the poem in an artistic representation i.e collage making with pictures from magazine or newspapers to be presented in the class. The presentation should be self- explanatory.

Do it on the A3 Size sheets

Parameters for Assessment:- Relevance to content, creativity and presentation

7<sup>th</sup> page - Convert the prose of NCERT Book 'The Sound of music' – Evelyn Glennie or Bismillah Khan into a creative poem  
How to do - The poem should include all the aspects of Evelyn's or Bismillah Khan's journey from being a non- entity to an epitome of inspiration for all. It should be of atleast 4 stanzas. Do it on A4 Size sheets  
Parameters for Assessment:- Originality, creativity and imagery

8<sup>th</sup> to 12<sup>th</sup> page – Stories, articles, poems, jokes, cartoons, drawings etc.

13<sup>th</sup> page - Solve this interesting puzzle based on the poem 'The Road Not Taken' using the clues given.

ACROSS

2. The poet kept this road for some other day.

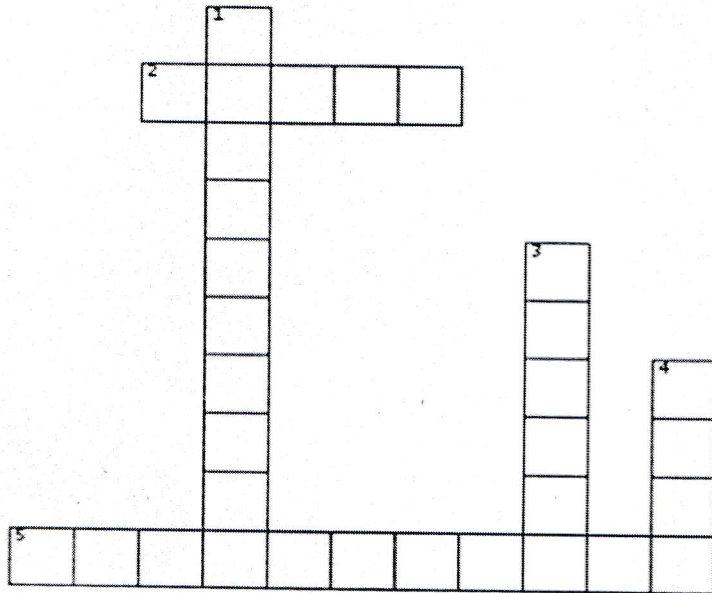
5. The roads bent under it.

DOWN

1. The poet's choice early in life has made all the..... .

3. The colour of the leaves in autumn.

4. The poet will be telling his story with a..... .



NOTE :- Your magazine must be hand written or digitally made.

Q2. Read the chapters 1 to 4 from 'Moments' Supplementary Reader and write the answers for the questions followed by in the class work copy.

Q3. Write atleast 15 archaic words and write their meanings.

**Note:- Q2,3 should be done in your grammar copy.**

Q4. Prepare a table or a wall calendar based on the various poets and authors of Nagaland and Rajasthan. The calendar must be for 12 months. It can be hand made or digitally made. The work should be done creatively.

**CLASS-IX MATHEMATICS ASSIGNMENT CHAPTER - 1**  
**REAL NUMBERS**

**SECTION-A**

1. Find an irrational number between  $\frac{1}{7}$  and  $\frac{2}{7}$ . Given that  $\frac{1}{7} = 0.\overline{0.142857}$ .
2. Simplify  $\sqrt{72} + \sqrt{800} - \sqrt{18}$ .
3. Simplify  $64^{\frac{-1}{3}} [ 64^{\frac{1}{3}} - 64^{\frac{2}{3}} ]$
4. In the following equations, examine whether x, y and z represents rational or irrational number  
i)  $x^3 = 27$     ii)  $y^2 = 7$     iii)  $z^2 = 0.16$
5. If  $2^x \times 4^x = 8^{\frac{1}{3}} \times 32^{\frac{1}{5}}$ , then find the value of x.

**SECTION-B**

6. Find the value of  $\sqrt{\frac{2+\sqrt{3}}{2-\sqrt{3}}}$ , if  $\sqrt{3} = 1.73$ .
7. Represent on number line: i)  $\sqrt{2}$     ii)  $\sqrt{7}$
8. If  $x = 3+2\sqrt{2}$ , then find whether  $x + \frac{1}{x}$  is rational or irrational.
9. Express the following in the form of  $\frac{p}{q}$ , where p and q integers and  $q \neq 0$ :  
i)  $3.\overline{2}$     ii)  $18.\overline{48}$
10. If  $\sqrt{2} = 1.414, \sqrt{3} = 1.732$ , then find the value of  $\frac{4}{3\sqrt{3}-2\sqrt{2}} + \frac{3}{3\sqrt{3}+2\sqrt{2}}$ .

**SECTION-C**

11. Find the value of a and b, if  $\frac{\sqrt{3}-1}{\sqrt{3}+1} = a + b\sqrt{3}$
12. Represent  $\sqrt{10.5}$  on then number line.
13. Simplify  $\sqrt[4]{81} - 8(\sqrt[3]{216}) + 15(\sqrt[5]{32}) + \sqrt{225}$ .
14. Which is greatest amongst  $\sqrt{2}, \sqrt[3]{4},$  and  $\sqrt[4]{3}$  ?
15. Prove that  $\frac{2^{30}+2^{29}+2^{28}}{2^{31}+2^{30}-2^{29}} = \frac{7}{10}$

**SECTION-D**

16. If  $x = \frac{\sqrt{2}+1}{\sqrt{2}-1}$  and  $y = \frac{\sqrt{2}-1}{\sqrt{2}+1}$ , find the value of  $x^2 + y^2 + xy$ .
17. Prove that  $\frac{2^{36} + (\frac{1}{4} \times 2^{35}) + (\frac{1}{8} \times 2^{37})}{(\frac{1}{16} \times 2^{39}) + (\frac{1}{8} \times 2^{38})} = \frac{11}{8}$
18. If  $x = \frac{5-\sqrt{21}}{2}$ , then prove that  $(x^3 + \frac{1}{x^3}) - 5(x^2 + \frac{1}{x^2}) + (x + \frac{1}{x}) = 0$
19. Prove that  $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2} = 5$
20. Rationalise the denominator of  $\frac{4}{2+\sqrt{3}+\sqrt{7}}$

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**CLASS-IX**  
**MATHEMATICS ASSIGNMENT-2**  
**CHAPTER - 2**  
**POLYNOMIALS**

**SECTION-A**

- Write the degree of the given polynomials :
  - $(2x + 4)^3$
  - $(t^3 + 4)(t^3 + 9)$
- Write the coefficient of  $x^4$  and  $x$  in  $4x^3 - 5x^4 + 2x^2 + 3$ .
- Find the zeroes of  $f(z) = z^2 - 2z$ .
- Find the product using suitable identities:  $(4 + 5x)(4 - 5x)$ .
- What is the value of  $k$  in polynomial  $x^2 + 8x + k$ , if  $-1$  is a zero of the polynomial?

**SECTION-B**

- Show that  $x + 1$  and  $2x - 3$  are factors of  $2x^3 - 9x^2 + x + 12$ .
- If  $a^2 + b^2 + c^2 = 20$  and  $a + b + c = 0$ , find  $ab + bc + ca$ .
- If  $9x^2 + 25y^2 = 181$  and  $xy = -6$ , find the value of  $3x + 5y$ .
- Evaluate using identities:
  - $\frac{7.83 \times 7.83 - 1.17 \times 1.17}{6.66}$
  - $29^3 - 11^3$
- Simplify:  $(x^2 + y^2 - z^2)^2 - (x^2 - y^2 + z^2)^2$

**SECTION-C**

- Evaluate using identities:
  - $(0.99)^2$
  - $117 \times 83$
  - $(a^2b - b^2a)^2$
- Simplify :
$$\frac{(a^2 - b^2)^3 + (b^2 - c^2)^3 + (c^2 - a^2)^3}{(a - b)^3 + (b - c)^3 + (c - a)^3}$$
- Let  $P$  and  $Q$  be the remainders when the polynomials  $x^3 + 2x^2 - 5ax - 7$  and  $x^3 + ax^2 - 12x + 6$  are divided by  $x + 1$  and  $x - 2$  respectively. If  $2P + Q = 6$ , find the value of  $a$ .
- If  $f(x) = 5x^2 - 4x + 5$ , find  $f(1) + f(-1) + f(0)$ .
- By remainder theorem, find the remainder when  $p(y)$  is divided by  $g(y)$ 
  - $p(y) = 4y^3 - 12y^2 + 5y - 4$  and  $g(y) = 2y - 1$
  - $p(y) = y^3 - 4y^2 - 2y + 6$  and  $g(y) = 1 - \frac{3}{4}y$ .

**SECTION-D**

16. Factorise:

i)  $2x^2 - \frac{5}{6}x + \frac{1}{12}$

ii)  $a^3 - 0.216$

iii)  $a^3 - \frac{1}{a^3} - 2a + \frac{2}{a}$

iv)  $x^3 - 12x(x - 4) - 64$

17. Factorise each of the following polynomials:

i)  $x^3 + 13x^2 + 31x - 45$  given that  $x + 9$  is a factor.

ii)  $4x^3 + 20x^2 + 33x + 18$  given that  $2x + 3$  is a factor.

18. Let  $R_1$  &  $R_2$  are the remainders when the polynomials  $f(x) = 4x^3 + 3x^2 - 12ax - 5$  and  $g(x) = 2x^3 + ax^2 - 6x - 2$  are divided by  $(x-1)$  and  $(x-2)$  respectively.

If  $3R_1 + R_2 - 28 = 0$ , find the value of  $a$ .

19. If  $2x + 3y = 12$  and  $xy = 6$ , find the value of  $8x^3 + 27y^3$ .

20. i) Simplify:  $\frac{1}{1+x^{b-a}+x^{c-a}} + \frac{1}{1+x^{a-b}+x^{c-b}} + \frac{1}{1+x^{a-c}+x^{b-c}}$

ii) Factorise: a)  $25x^2 + 16y^2 + 4z^2 - 40xy + 16yz - 20xz$ .

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

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**Project: SUSTAINABILITY COUNTS! ENERGY CHALLENGE**

**What to do:**

Comparative study of consecutive electric bills.

**How to do:**

1. Examine your electricity bill of pre summer break.
2. List the various electrical appliances used in your home.
3. Find out the power consumption, duration for the device in use. Do estimate calculation your bill as per power consumption.
4. Make an energy reduction plan and determine how far you could implement it.
5. Re-examine your electricity bill of post summer break with all calculations.
6. Paste both bills with calculations. Write your reduction plan and change in the bill.

**Where to do:** On A- 4 size sheet

Birla Shishu Vihar

Class – IX

Subject – Physics (H A)

(VP)

### Holidays Homework (2023-24)

1. Solve the given assignment.
2. Solve NCERT book exercise of chapter: Motion.
3. Write and learn all formulae and key points of the completed chapter.
4. Prepare a project file on (i) Position -Time graph for an object at rest, uniform motion, non-uniform motion (ii) Velocity- Time graph for uniform motion, non-uniform motion, uniform acceleration.

### HIGHER ORDER THINKING SKILLS BASED QUESTIONS

1. An object goes from point X to Y and then come back from Y to X. What is the displacement and average velocity?
2. Four Cyclists A,B,C & D starts at the same point & at the same time and move in a straight line to reach the destination .They all move with uniform velocity. They reach the destination in the following order :  
C→A→B→D  
Answer the following questions:
  - a) If the displacement-time graph is plotted for each cyclist, which will be having highest slope ?
  - b) Arrange the cyclists in decreasing order of velocity.
3. What happens to speed, velocity & acceleration when an object moves in a circle with uniform speed?
4. When an object is thrown upwards, what will be the velocity and acceleration at the highest point of motion of the object?
5. Under what conditions is the magnitude of average velocity of an object equal to its average speed?
6. What is the numerical ratio of average velocity to average speed of an object when it is moving along a straight path?

### QUESTIONS based on Graphs

7. Draw a velocity –time graph of a stone thrown vertically upwards and then coming downwards after attaining the maximum height.
8. Consider a car being driven along a straight road. The velocity of the car in m/s at different instants of time is shown in the following table.

Time(s)	0	10	20	30	40	50
Velocity(m/s)	0	5	10	15	20	25

Draw velocity –time graph for motion of the car. Obtain the value of acceleration of the car from the graph.

9. What do you infer if ?

a) Distance –time graph is a straight line .

b) Velocity –time graph is curved .

10. What can you say about motion of an object whose distance time graph is a straight line parallel to the time axis?

11. What can you say about motion of an object if its velocity-time graph is a straight line parallel to the time axis?

### NUMERICAL BASED QUESTIONS

12 Kiara hired a taxi and noted the initial reading of its odometer as 24803 km. After the journey, she noted the final reading of the odometer as 25118 km. If the journey took 4 hours 40 minutes, calculate the average speed of the taxi during the entire journey.

13. A marble rolling on a smooth floor has an initial velocity of 0.4m/s. If the floor offers a retardation of  $.02\text{m/s}^2$ , calculate the time it will take to come to rest.

14. A scooter travelling at 10 m/s speed up to 20 m/s in 4 sec. Find the acceleration of scooter.

15. A car start from rest and acquire a velocity of 54 km/h in 2 sec. Find

(i) the acceleration

(ii) distance travelled by car assume motion of car is uniform?



# HOLIDAY HOMEWORK

(SUMMER VACATION)

SCIENCE(Chemistry) (SSM) (SK) A

CLASS- IX

1. Which state of matter has definite shape and volume? Why
2. In which of the three physical states the constituent particles has maximum kinetic energy and maximum molecular space?
3. What is the melting and boiling point of ice in degree Celsius and kelvin?
4. Water kept in as earthen pot during summers become cool. Why?
5. The temperature remains constant during melting of ice, though heat is being supplied continuously. Why?
6. If the pressure of the gas will increased then what will be happen to its inter molecular force and state ?
7. Identify the physical state of A, B & C at 25 degree Celsius.

Substances	Melting Point	Boiling Point
A	-38.9	356
B	97.9	883
C	-218.2	-182

8. Define any two factors which influence the physical state of matter.
9. Describe any three factors which effect the evaporation process. (How)
10. Is evaporation endothermic or exothermic process. Explain
11. Explain any six properties of matter and compare in solids, liquids and gas state.
12. What is latent heat? Define latent heat of fusion and latent heat of vaporisation with the help of suitable examples.
13. The molecules of water have more energy as compare to the molecules of ice at same temperature. Justify the statement.
14. Can matters inter change their physical states? Define, how do matters changes their physical state?
15. Give reason for the following statement,
  - a. Evaporation is a surface phenomenon.
  - b. The temperature remains constant during boiling of a liquid.
  - c. Naphthalene balls disappear after few days ,when expose to air.
  - d. We feel cool while putting few drops of sanitizer on our palm.
16. Ravi pour a drop of safranine(coloured liquid) into beakers A and B, having 50 ml. water each .Beaker A contains warm water and B has chilled water. Now he poured 5ml.solution in a test tube and 5 ml in a China dish (saucer) from beaker B.
  - a. In which of the beaker safranine will mix quickly in water and why?
  - b. Name the phenomenon takes place in the above activity.
  - c. Which water (test tube/China dish) will be evaporate faster and why?

# HOLIDAY HOMEWORK

(SUMMER VACATION)

SCIENCE(Biology)

CLASS- IX

(SK) Q ✓ (HJ)

1. Arya made a temporary slide of onion peel cells and Aadi made slide of human cheek cell under the supervision of their teacher in Bio. Lab.

Answer the following question on their observations.

- a. The component of the cell which would be seen in human cheek cell are
- |                                       |   |
|---------------------------------------|---|
| I. Cell wall, Cytoplasm and Nucleus   | II. Plasma membrane, Nucleus Cytoplasm  |
| III. Cell wall, Mitochondria, Nucleus | IV. Plasma membrane, cell wall, nucleus |
- b. In a compound microscope the slide is first focused at
- |                  |                    |
|------------------|--------------------|
| I. Low power 10X | II. High power 40X |
| III. 100 X       | IV. None of these  |
- c. A cover slip is placed over the specimen to
- |   |                                    |
|---|------------------------------------|
| I. Crush the cell to see the organelles | II. Remove extra stain and water   |
| III. Prevent cell from drying           | IV. Prevent glycerine from leaking |
- d. Arya was observing an onion peel stained with safranin under the microscope. The colour of the cell wall appeared
- |           |                 |
|-----------|-----------------|
| I. Deep   | II. Black       |
| III. Pink | IV. Transparent |
- e. Which stain you will prefer to prepare mount of cheek cell
- |                     |             |
|---------------------|-------------|
| I. Safranin         | II. Iodine  |
| III. Methylene blue | IV. Acetone |
2. Write the consequences and reason for the following.
- Cell containing higher water concentration than the surrounding medium.
  - Cell having low water concentration as compared to surrounding medium.
  - Cell having equal water concentration to its surrounding medium.
3. Give reason for the following
- Mitochondria is known as the power house of the cell.
  - Chloroplast are kitchen of the cell.
  - Lysosome is the suicidal bag.
  - Nucleus is known as the brain of the cell.
  - Vacuoles are called as stores of the cell.
4. How do cell intake essential material like O<sub>2</sub>, CO<sub>2</sub>, water and remove waste from the cell define the processes.
5. Write differences between (5 differences)
- Prokaryotic and eukaryotic cell
  - Plant and animal cell
  - Nucleus and nucleoid

6. Write the major function of the following

- a. Nucleus
- b. Mitochondria
- c. Cell wall
- d. Chloroplast
- e. Lysosome
- f. Plasma membrane
- g. Leucoplast
- h. Vacuole
- i. Ribosome
- j. Golgi body
- k. Endoplasmic reticulum
- l. DNA
- m. RNA

**BIRLA SHISHU VIHAR, PILANI**

SUMMER VACATION HOLIDAY

SESSION 2023-24

SOCIAL SCIENCE (MF)

Class-IX

Homework Based On INQUIRY, APPLICATION, SKILL, RESEARCH, AND ICT

Sr.No.	TOPIC	Activity	Skills Enhanced / Learning Outcomes
1	<b>India size and location</b>	Draw a political map of India mentioning all 1. India - States with Capitals 2. Tropic of Cancer, Standard Meridian (Location and Labelling) 3. Neighbouring countries  This should be done Geo notebook.	<ul style="list-style-type: none"><li>• Analysis</li><li>• Understanding</li><li>• Observation</li><li>• Application</li></ul>
2.	<b>Disaster Management</b>	Prepare a <b>project file</b> on any one natural disaster and one human induced disaster (HID). The project should include the following: <ul style="list-style-type: none"><li>• Minimum 8 pages</li><li>• Clear, related and coloured pictures</li><li>• Problems faced by victims</li><li>• Helping guidelines Post disaster</li><li>• Your opinion on how to control HID</li></ul>	<ul style="list-style-type: none"><li>• Observation</li><li>• Organization</li><li>• Critical Thinking</li><li>• Thinking</li><li>• Application</li><li>• Decision making</li></ul>
3	<b>French revolution</b>	What is the chronological order of the stages of the French Revolution?  At least 15-20 key moments of FR.(IN HISTORY NB)	<ul style="list-style-type: none"><li>• Understanding</li><li>• Creativity</li><li>• Thinking</li><li>• Application</li><li>• Analysis</li></ul>
4.	<b>What is Democracy? Why Democracy?</b>	Write an essay on "Democracy is the power of majority which respects minority"  Word limit 200-250 words (POLITICAL SCIENCE)	<ul style="list-style-type: none"><li>• Observation</li><li>• Organization</li><li>• Critical Thinking</li><li>• Thinking</li><li>• Application</li><li>• Decision making</li></ul>

5.

**Art Integrated Project**

Prepare an AIP based on Nagaland state at least in 8-10 page.

Mentioning

1. Dances
2. Cuisine
3. Geography
4. Fair and festivals
5. Tradition dress  
(SEPARATE FILE)

- Observation
- Organization
- Thinking
- Application

*Handwritten signature*

बिरला शिशु विहार 2023-24

ग्रीष्मकालीन गृहकार्य

कक्षा 9 हिंदी (STS) (JP)

नोट : - सभी लेखन कार्य व्याकरण की उत्तर पुस्तिका में करें -

1. निम्नलिखित विषयों पर 60 से 80 शब्दों में संवाद लिखिए -

- भविष्य की योजनाओं पर दो छात्रों के मध्य
- स्वच्छता अभियान के विषय में दो जागरूक बच्चों के मध्य
- देश की सीमा पर तैनात दो फौजी के मध्य

2. निम्नलिखित विषयों पर लगभग 80 से 100 शब्दों में अनुच्छेद लिखिए -

- दया धर्म का मूल है
- बालश्रम : एक सामाजिक कलंक
- युवा पीढ़ी और देश का भविष्य
- प्रगति और विकास की ओर बढ़ता भारत

3. दुर्घटनाग्रस्त हो जाने पर अपने मित्र को सांत्वना देते हुए पत्र लिखिए।

4. पिता को ट्रेकिंग कैंप की उपयोगिता समझाते हुए कैंप में जाने की अनुमति माँगते हुए पत्र लिखिए।

5. दूरदर्शन के महानिदेशक को पत्र लिखकर राष्ट्रभक्ति वाले कार्यक्रम प्रसारित करने का आग्रह कीजिए।

6. नगर में बढ़ती आपराधिक गतिविधियों की ओर ध्यान आकृष्ट करते हुए पुलिस अधीक्षक को पत्र लिखिए।

7. निम्नलिखित परियोजना कार्य फ़ाइल में कीजिए -

1. लेखिका महादेवी वर्मा एवं राहुल सांकृत्यायन के विषय में जानकारी एकत्र कर उनकी रचनाओं तथा उपलब्धियों का वर्णन कीजिए।

2. नागालैण्ड तथा राजस्थान की पाँच ऐतिहासिक धरोहरों के महत्त्व को बताते हुए सचित्र जानकारी एकत्र कीजिए।

3. आधुनिक काल के किन्हीं दस कवियों तथा उनकी रचनाओं के विषय में जानकारी एकत्रित कीजिए।

बिरला शिशु विहार 2023-24

ग्रीष्म कालीन गृहकार्य

कक्षा 9 Sanskrit (SDR)

नोट- निम्नलिखित कार्य कीजिए--- \*CLASS NOTE BOOK में ( प्रश्न 1 और 2 )

\*परियोजना कार्य फाइल में करें (प्रश्न 3,4,5,6,)

1. पुरुषार्थ, विद्या, सुपुत्र महत्त्वं, सत्संगति पर श्लोक सहित अनुच्छेद लेखन कीजिए | (CLASS NOTE BOOK )
2. संकेत आधारित किन्हीं दो कथाओं का लेखन कीजिए | (CLASS NOTE BOOK )
3. दश सूक्तियों का लेखन रचनात्मक रूप से A 4 SIZE सीट पर (अलग- अलग 5-5) कीजिए |
4. नागालैंड की संस्कृति व परम्परा के विषय में सचित्र जानकारी एकत्र कीजिए | (A 4 SIZE सीट पर)
5. श्रीमद्भगवद्गीता के अध्याय 4 से पञ्च श्लोकों का संकलन सार्थ कीजिए व याद कीजिए | (A 4 SIZE सीट पर)
6. कतिपय पञ्च प्रहेलिकाओं का सचित्र संकलन कीजिए | (A 4 SIZE सीट पर)
7. महर्षि सुश्रुत के जीवन एवं उपलब्धियों पर जानकारियाँ एकत्र कर लिखिए | (A 4 SIZE सीट पर)

BIRLA SHISHU VIHAR , PILANI

Summer-break assignment

Class-IX (C.S.) (KY)

(AN)

Q1. Program to print whether a given character is an uppercase, lowercase, or a digit.

Q2. Find a given number is even or odd..

Q3. Find the grade of following:-

81 to 100 =A

61 to 80 =B

41 to 60 = C

21 to 40 =D

0 to 20 =E

Q4. Calculate simple interest where:

P=20000

R=2

T=3

Q5. Find the largest number between three numbers.

Q6. Find the given number is negative, positive or zero.