SUMMER VACATION HOLIDAY HOMEWORK(2021-22)

CLASS IX

TOPIC : NUMBER SYSTEM AND POLYNOMIAL

INSTRUCTIONS : STUDENTS YOU HAVE TO SOLVE ALL EXAMPLES OF CHAP 1 (NO. SYSTEM) , CAHP 2 (POLYNOMIAL) FROM NCERT BOOK AND FOLLOWING 25 QUESTIONS BASED ON CHAP 1 AND CHAP 2 ON YOUR ONLINE REGISTER .ALONG WITH 5 LAB MANUAL ACTIVITIES (ACTIVITY NO 1 TO 5) ON PRACTICAL NOTEBOOK TOPICS OF WHICH ARE ALSO MENTIONED IN THE LAST.

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

2.Factorise $x^3 + 3x^2 y + 3xy^2 + y^3 - 8$.

3.Factorise $27\,p^3 - 1/216 - 9/2\,p^2 + 1/4\,p$.

4.If $z^2 + 1/z^2 = 11$,find the value of $z^3 - 1/z^3$.

5.By actual division find the quotient and remainder when $3x^4 - 4x^3 - 3x - 1$ is divided by x +1 .

6.Factorise $25/4\ x^2 - y^2/9$.

7.Evaluate by using suitable identity a) $(99)^3$ b) $(104)^3$ c) 105 X 108 d) 96 X 104 e) $(998)^2$ f) 104 X 95

8.Factorise $5\sqrt{5}\,x^2 + 30x + 8\sqrt{5}$.

9.Factorise $2x^3 - 3x^2 - 17x + 30$.

10.Evaluate $(999)^3$ by using identity.

11.Factorize $x^{12} - y^{12}$.

12.if $a + b + c = 0$ and $a^2 + b^2 + c^2 = 16$,find the value of ab + bc + ca.

13. Factorize $1 - 27x^3$.

14. Factorise : $x^3 + 13x^2 + 32x + 20$.

15.Without actual calculation Evaluate $(42)^3 - (18)^3 - (24)^3$.

16.Factorize $x^3 - 8y^3 + 27z^3 + 18xyz$.

17.Let p and q are 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.

18.If $9^{x+2} = 720 + 9^x$, find the value of $(4x)^{1/x}$.

19..Simplify $(1/4)^{-2} - 3 \times 8^{2/3} \times 4^0 + (9/16)^{-1/2}$.

20.Simplify $\dfrac{1}{1 + x^{a-b}} + \dfrac{1}{1 + x^{b-a}}$

21.If $2^x = 3^y = 12^z$, show that $1/z = 1/y + 2/x$.

22.If $3^{x-1} = 9$ and $4^{y+2} - 64$, what is the value of x/y .

23. If $\dfrac{5 + 3\sqrt{3}}{7 + 4\sqrt{3}} = a + b\sqrt{3}$ then find the values of a and b.

24. If $1176 = 2^a \times 3^b \times 7^c$, find a, b and c.

25.Write 5 rational and 5 irrational number between 5 and 6.

LAB MANUAL ACTIVITIES

NOTE : YOU HAVE TO COMPLETE 5 ACTIVITIES ON PRACTICAL NOTEBOOK (ONE SIDED BLANK)ACTIVITES NUMBERS AND TOPICS ARE MENTIONED FOLLOWING.

ACTIVITY 1. TO DIVIDE LINE SEGMENT INTO GIVEN NUMBER OF EQUAL PARTS.

ACTIVITY 2.SQUARE ROOTS OF NATURAL NUMBERS .

ACTIVITY 3.USE OF GEOBOARD.

ACTIVITY 4.FORMING A PARALLELOGRAM

ACTIVITY 5.SIDES AND ANGLES OF A TRIANGLE

SUBJECT : SOCIAL SCIENCE
CLASS : IX
HOLIDAY HOMEWORK

Summer Vacation Home Work
1. Project Work as discussed in class.
2. Revision of all the three Chapters (History, Geography and Civics) along with homework questions.
3. Map work :--- In Political Map of India -
States and their Capitals, Map of first chapter of Geography.

SUBJECT : ENGLISH
CLASS : IX
HOLIDAY HOMEWORK

Q.I. Make a format of diary entry.
Q.2 Write a diary entry narrating your experience on Online Teaching.
Q.3 Write a biography of a musician from Arunachal Pradesh and Meghalaya.
Q.4 Write the poem "The Road Not Taken" beautifully using colors.. (use pencil colors)
Q.5 Draw and color the picture of Toto- the Monkey.
Q.6. Learn and Revise all the lessons taught and complete all your work in your notebooks.

हिन्दी

ग्रीष्मकालीन अवकाश कार्य कक्षा 9
2021-22

*** 2 अनुछेद**

1. कोरोना: एक महामारी

2. इंटरनेट की दुनिया

*** 2 अनौपचारिक पत्र**

1. अपने छोटे भाई को सदाचार के महत्व को समझाते हु एपत्र लिखिए।

2. ग्रीष्मावकाश में घर पर समय बिताने हेतु अपने मित्र को पत्र लिखिए।

*** कोरोना बीमारी से बचाव हेतु एक नारा लिखिए और उसे सजाइए।**

*** जो भी कार्य करा दिया गया है, उसे उत्तर पुस्तिका में लिखें और याद करें।**

*** रोज़ समाचार पत्र पढ़ें।**

SUBJECT : SCIENCE

CLASS : IX

HOLIDAY HOMEWORK

Class IX Bio (holiday homework)

1. Draw diagram and indicate role of different parts of Microscope.
2. Importance of plasma membrane in cell.
3. Difference between Diffusion and osmosis by designing activity for each.
4. Why cell is called unit of structure and function?
5. Write a essay on "Division of labour"

INSTRUCTIONS:

A. All work will done on A4 Sheets (use both side)

B. Single PDF file of all pages will be uploaded here in classroom.

C.Hard copies of HHW will be submitted in school after summer vacation threfore keep hardcopies safe until you are given a specific date for submission

CHEMISTRY

HOMEWORK FOR SUMMER VACATION

CLASS – IX

1 Complete notes of chapter 1 in chemistry notebook.

2. Answer the following:
   a. Compare solids, liquids and gases.
   b. Explain an activity to prove that matter has discontinuous nature.
   c. State characteristics of particles of matter.
   d. Explain effect of temperature and pressure on states of matter.
3. Read chapter 1.
4. Collect information and make a project on BEC or Plasma.

PHYSICS

HOLIDAY HOME WORK

CLASS IX

1) Revise the Chapter 'Motion'.
2) Learn all the definitions in the chapter.
3) Answer the following questions:

(i) An airplane lands at 216 km/h and stops after covering a runway of 2km. Calculate the acceleration and time, in which it comes to rest.

(ii) A motor bike running at 90km/h is slowed down to 18km/h in 2.5s.Calculate retardation and the distance covered in the time it slows down.

(iii) An electric train is moving with a velocity of 120km/h. How much distance will it cover in 30 s?

(iv) A person travelling in a bus noted the timings and the corresponding distances as indicated on the km stones.

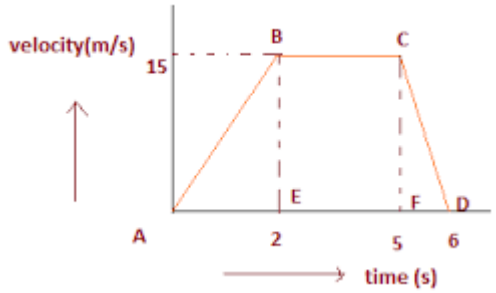
Time	8.00am	8.15am	8.30am	8.45am	9.00am	9.15am	9.30am
Distance	10km	20km	30km	40km	50km	60km	70km

Draw a distance time graph for the above. From the graph draw the conclusion about the motion of the bus.

(v) The odometer of a car reads 2000km at the start of a trip and 2400 km at the end of the trip. If the trip took 8 h, calculate the average speed.

(vi) A train is moving some distance with the speed of 30km/h and returns with the speed of 45km/h. Find its average speed.

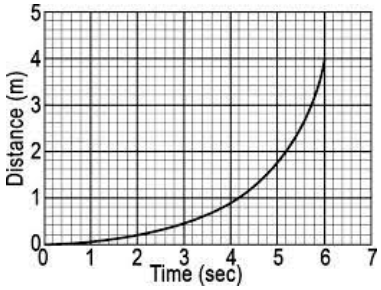
(vii) The velocity-time graph of a body is given below:



Calculate from the graph: (a) Distance covered by the body from 2 s to 5 s.

(b)It's acceleration during first two seconds.

(viii) After going through the distance-time graph given below, answer the questions followed:



(a)Name the type of motion.

(b)How much distance is covered by the body in 6 s?

(c)Calculate its speed at 4 s.

(ix) Draw velocity-time graph for a body moving with (a)uniform acceleration and (b)uniform velocity

(x) Derive the three equations of motion by graphical method.