DAV PUBLIC SCHOOL, BAGHPAT

Holiday Homework

CLASS -9
SESSION
2022-23

'Summers are fun'

The wonder ful activities of summer,
Surfing and swimming
playing in the sun,
and oh the wonder foods of summer,
Shakes and ice-cream
we, ve barely begun.
Having a lot of fun.

विषय -हिन्दी

कुल अंक -20

स्पर्श से पाठ 4 और 5 पढिए। कठिन शब्द लिखिए । दोनों पाठों से 5- 5 प्रश्न बनाइए और उनके उत्तर भी लिखिए। (5)

निम्नलिखित विषयों पर लगभग 120 से 150 शब्दों में अनुच्छेद लिखिए -

आप ने हाल ही में कोई मैच देखा है । उस मैच का आँखों देखा वर्णन कीजिए। (3)

आपको कौन सी जगह बहुत पसंद है। उससे संबंधित कोई चित्र बनाइये और उसके विषय में एक अनुच्छेद भी लिखिए। (3+3=6)

पत्र लेखन - व्यायाम का महत्व बताते हुए अपने छोटे भाई को पत्र लिखिए । (3)

वाद विवाद प्रतियोगिता में प्रथम आने पर अपने मित्र को बधाई पत्र लिखिए। (3)

English :-

1 Write two descriptive paragraphs in 100 - 150 words on the topics mentioned below:

(I) The area I would like to see 4

(II) My perfect space. 4

2. You saw a 3D film. Write a diary entry in about 100 to 150 words about the experience. 4

3.Today you woke up late, reached school very late and got badly scolded. Write a diary entry describing how you felt and what will you do in the future to avoid such conditions. 3

4.Prepare a portfolio on Meghalaya and Arunachal Pradesh (Traditions, Languages, Attire, Food, Dance etc.) 3

SCIENCE:-

Make a project on **one** of the topic given below as per the guidelines-

- Prepare the project on the topic which have been assigned to you (according to class roll no.)
- Project needs to be hand written in A4 sheets.
- It should be creative and **cost effective** , you are permitted to use images/diagrams (from news paper and magazines (whatever available to you) , colours, coloured sheets etc .
- **Above content not to exceed 8 to 9 pages.**
- Project must include the followings-

Cover page, Index, Introduction of topic, Content, Conclusion , Bibliography (Refer NCERT chapter 14, NATURAL RESOURCES)

(Rollno-1 to 10)

1.The Breath of Life: Air

- The role of Atmosphere in climate control
- The movements of Air: Winds
- Air pollution (Causes impacts and control)

(Rollno-11 to 20)

2. Water: a wonder liquid

- Rain
- Water pollution (causes, impacts and control)

(Rollno-21 to 30)

3. Minerals riches in the soil

- Factors and processes which make the soil
- Quality of topsoil is an important factor
- Modern farming practices destroying the structure of soil,how ?

(Rollno-31 to 40)

4.Biogeochemical cycles

- The water cycle
- The Nitrogen Cycle

(Rollno-41 to 50)

5. Biogeochemical cycles

- The Carbon cycle
- Green House effect
- The Oxygen Cycle
- Ozone layer

5

PHYSICS:-

1. Write and learn 5 vector and 5 scalar quantities.
2. Write and learn derivation of equations of motion by graphical method.
3. Revise 10 numerical problems from chapter 'Motion'.

4. Write and learn following practicals (without observation readings) from NCERT lab manual.
   (i) Determination of melting point ice and boiling point of water.
   (ii) Determination of density of a solid (denser than water) by using a spring balance and a measuring cylinder.
   (iii) Establishing the relation b/w the loss of weight of a solid when fully immersed in water.
5. Write 2 observations from your surroundings showing-
   (i) Uniform motion
   (ii) Uniformly accelerated motion
   (iii) Retardation
   (iv) Uniform circular motion

MATHS:-

CHAPTER 1- NUMBER SYSTEM

1. Write five rational numbers equivalent to $\frac{3}{7}$.

2. Find nine rational number between 0.1 and 0.2.

3. Find four rational number between 3 and 4..

4. Represent $\sqrt{3}, \sqrt{5}, \sqrt{6}, and\ \sqrt{7}$ on the number line.

5. Express the following in the form $\frac{p}{q}$, *where p and q are* integers and $q \neq 0$,

$(i)\, 18.\overline{48}$ $(ii)\, 1.4191919.....$ $(iii)\, 0.2\overline{104}$ $(iv)\, 0.\overline{588}$

6. Find an irrational number between $\frac{1}{7}$ *and* $\frac{2}{7}$ *when it is given that* $\frac{1}{7} = 0.\overline{142857}$.

7. Express $1.3\overline{2} + 0.\overline{35}$ as a fraction in simplest form.

8. Find two irrational numbers between $\sqrt{2}$ *and* $\sqrt{3}$.

9. Visualise $4.\overline{26}$ on the number line, up to 4 decimal place.

10. Visualise 2.766 on the number line, using successive magnification.

11. Add: $(i)\left(4\sqrt{3}+7\sqrt{2}\right) and \left(\sqrt{3}-5\sqrt{2}\right)$ $(ii)\left(\sqrt{5}+2\sqrt{3}\right) and \left(2\sqrt{5}-5\sqrt{3}\right)$.

12. Multiply: $(i)\, 2\sqrt{3}\ by\ 5\sqrt{27}$ $(ii)\ 3\sqrt{28}\ by\ 2\sqrt{7}$ $(iii)\ 3\sqrt{8}\ by\ 3\sqrt{2}$.

13. Simplify: $(i)\left(5+\sqrt{3}\right)\left(7+\sqrt{5}\right)$ $(ii)\left(3+\sqrt{2}\right)\left(4+\sqrt{3}\right)$ $(iii)\left(\sqrt{5}+\sqrt{2}\right)\left(\sqrt{2}+\sqrt{3}\right)$.

14. Rationalise the denominator of each of the following:

$(i)\dfrac{2}{\sqrt{5}}$ $(ii)\dfrac{1}{\sqrt{18}}$ $(iii)\dfrac{\sqrt{3}+\sqrt{5}}{\sqrt{2}}$

$(iv)\dfrac{6-4\sqrt{2}}{6+4\sqrt{2}}$ $(v)\dfrac{\sqrt{7}-\sqrt{6}}{\sqrt{7}+\sqrt{6}}$ $(vi)\dfrac{7\sqrt{3}-5\sqrt{2}}{\sqrt{48}-\sqrt{18}}$.

15. If $x=3+2\sqrt{2}$, then find the value of $x^2+\dfrac{1}{x^2}$.

16. Find the value of a and b in each of the following:

$(i)\dfrac{\sqrt{3}-1}{\sqrt{3}+1}=a+b\sqrt{3}$ $(ii)\dfrac{3-\sqrt{5}}{3+2\sqrt{5}}=a\sqrt{5}-b$ $(iii)\dfrac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}}=a+b\sqrt{15}$.

17. Evaluate: $(i)\left(64\right)^{1/6}$ $(ii)\left(81\right)^{-1/4}$ $(iii)\left(\dfrac{256}{625}\right)^{-1/4}$ $(iv)\left(32\right)^{1/5}$ $(v)\left(9\right)^{3/2}$ $(vi)\left(16\right)^{3/4}$

CHAPTER 2- POLYNOMIALS

1. Which are the following expressions are polynomials? Justify your answer

$(i)\ x^4-4x+7$ $(ii)\ x^3+3x+5$ $(iii)\ 3\sqrt{x}+5$.

2. Write the coefficients of:

$(i)\ x^2$ *in* x^4-4x+7 $(ii)\ x^3$ *in* x^3+3x+5 $(iii)\ x^4$ *in* $\dfrac{x^4+x+7}{5}$.

3. Classify the following as linear, quadratic and cubic polynomials:

$(i)\ x^3-5x+9$ $(ii)\ x^2+3x+5$ $(iii)\ 5x+3$.

4. Find the value of $p(x)=x^3+2x^2-7x+3$ *at* $(i)\ x=2$ $(ii)\ x=-3$ $(iii)\ x=5$.

5. Find zero(es) of the polynomial in each of the following cases:

$(i)\ p(x)=x-8$ $(ii)\ p(x)=2x$ $(iii)\ p(x)=(x+2)(x+3)$.

6. Find the remainder when the polynomial $p(x)=x^3+x^2+x+1$ *is divided by* $(x-1)$.

7. Find the remainder when the polynomial

$p(x)=2x^4-6x^3+2x^2-x+2$ *is divided by* $(x+2)$.

8. Find the remainder when the polynomial $p(x)=x^3-6x^2+3x-3$ *is divided by* $(3x-1)$.

9. Show that $(x-2)$ is a factor of the polynomial $p(x)=2x^3-6x^2+5x-2$.

10. Show that $(x+3)$ is a factor of the polynomial $p(x)=x^4+x^3-7x^2-x+6$.

11. Show that $(x-1)$ is a factor of the polynomial $p(x)=x^{20}-1$.

12. Factories:

$(i)\ 12x^2-7x+1$ $(ii)\ 2x^2+7x+3$ $(iii)\ 6x^2+5x-6$

$(iv)\ x^3-2x^2-x+2$ $(v)\ x^3-3x^2-9x-5$ $(vi)\ x^3+13x^2+32x+20$.

13. Evaluate each of the following by using identities:

$(i)\ (x+2)(x+2)$ $(ii)\ (2y-5)(2y-5)$ $(iii)\ 108\times108$ $(iv)\ 105\times98$

$(v)\ (99)^3$ $(vi)\ (102)^3$ $(vii)\ (998)^3$

14. Factorise the following, using appropriate identities:

15. $(i)\ 9x^2+6xy+y^2$ $(ii)\ 4y^2-4y+1$ $(iii)\ x^2-\frac{y^2}{81}$.

16. Expand each the following, using sutable identities:

$(i)\ (x+2y+3z)^2$ $(ii)\ (2x-y+z)^2$ $(iii)\ (3a-7b-c)^2$.

17. Factorise:

$(i)\ 4x^2+9y^2+16z^2+12xy-24yz-16xz$

$(ii)\ 2x^2+y^2+8z^2+2\sqrt{2}xy+4\sqrt{2}yz-8xz$

$(iii)\ 8a^3+b^3+12a^2b+6ab^2$

$(iv)\ 8a^3-b^3-12a^2b+6ab^2$

$(v)\ 64a^3-27b^3-144a^2b+108ab^2$

18. Write the following cubes in expanded form:

$(i)\ (2x+1)^3$ $(ii)\ (2a-3b)^3$ $(iii)\ (x-\frac{2}{3}y)^3$.

19. Verify that:

$(i)\ x^3+y^3+z^3-3xyz=\frac{1}{2}(x+y+z)\left[(x-y)^2+(y-z)^2+(z-x)^2\right]$

$(ii)\ \left(x^3+y^3\right)=(x+y)\left(x^2-xy+y^2\right)$

$(iii)\ \left(x^3-y^3\right)=(x-y)\left(x^2+xy+y^2\right)$.

20. Factories: $27x^3+y^3+z^3-9xyz$.

CHAPTER 3- COORDINATE GEOMETRY

1. In which quadrants do the following points lie?

$(i)\ (3,5)$ $(ii)\ (-5,-4)$ $(iii)\ (6,-7)$ $(iv)\ (-2,2)$.

2. On which axes do the following points lie?

$(i)\ (3,0)$ $(ii)\ (0,-4)$ $(iii)\ (-7,0)$ $(iv)\ (0,2)$.

3. Name the quadrants in which the graph of the point P(x,y) lies when

$(i)\ x>0,\ y>0$ $(ii)\ x<0,\ y<0$.

SUBJECT –S.St.

Note: Work is to be done in practical file.

1. Learn the following chapters:

(i). India- Size and location

(ii). Physical features of India

(iii). Drainage

2. Frame 5 MCQS and 5 Fill in blanks each the following chapters:

3. Map Skill:

Fill 3 maps of the following and paste them in your Home Work note book:

(•) Map of India

- 10 Important Rivers
- 05 Lakes
- 10 Mountain Ranges

4. Find out about life and achievement of Nepolean and what was his contribution to the world history ?

5. Read the chapter 'what is democracy, why democracy' and prepare 10 M.C.Q.

6. Write down three merits and three de-merits of

COMPUTER:-

Collect Information and Prepare Presentation about Following

i) Social Networking Ethics
ii) Cyber Security (Reasons & Objectives)
iii) Cloud Computing and Mobile Computing