ENGLISH

A. Answer the following questions in about 120 to 150 words.

1. Evaluate the story 'The Fun They had' to be a science fiction story.
2. Compare the two types of learning as we find in the story.
   Which one do you think is better and why? Discuss with reference to the incident from the story.
3. "Paperless book is ideal for saving trees, but do you think that paper books make a positive impact on the students"-Discuss
   the statement with reference to the story.
4. **Bring out the contrast and similarities between the two roads mentioned in the poem. [The Road Not Taken]**
5. **Bring out the symbolism in the poem "The Road Not taken".**
6. **Write a note on the theme of the story 'The Lost Child'.**
7. **The man who had rescued the child was compassionate and kind. Discuss.**
                                        Or
   What values of humanity are reflected through the character of the kind man?
8. **When does the child realise that he has lost his way? How have his anxiety and insecurity been described?**

B. Descriptive Paragraph Writing

1. Write a factual description about a famous personality (a celebrity or a leader) in about 200 words.
2. **Write a descriptive paragraph, in about 100-150 words, on 'Inspiring Teacher'. Take the information given below in the input.**
   Teacher in English literature — first person who has the highest knowledge of English linguistic — specialty in calligraphy and philosophy—excellent personality, speaking style, very friendly in teaching—didn't have many rules in his class — he let us feel and try the words—humble heart and persistence — always tried our best in the class – admired by his attitude towards his students
3. **Write a descriptive paragraph, in about 100-150 words, about your hometown. Take the information given below in the input**.
   Shimla — northern part of India — oak tree and green lawn —hills covered in pine trees — streets were going — snowy winters — smell wood burning in fireplaces — in summer — people walking dogs or jogging — secure and comfortable — visit Shimla once a year feel nostalgic

BIOLOGY

1. Draw neat labeled diagrams of animal cell, plant cell and bacterial cell.
2. Differentiate between DNA, chromatin and chromosomes.
3. Who discovered the following.
   i.   Cell-

ii. Nucleus-

iii. Cell theory given by-

iv. Coined the term protoplasm-

4. Differentiate the following with examples.

    i. Unicellular and Multicellular organism

    ii. Prokaryotic and Eukaryotic cell

CHEMISTRY

1. Name the process which occurs when a drop of Dettol is added to water.

2. Name the state of matter in which:

(i) Layers of particles can slip and slide over one another easily.

(ii) Particles just move around randomly because of very weak force of attraction.

3. In which of the following, the particles have highest forces of attraction?

Water, NaCl (solid), ice or, wax.

4. Why steam at 100°C is better for heating purposes than water at 100°C?

5. Why do the doctors advise to put strips of wet cloth on the forehead of a person having high fever?

6. Why do wet clothes dry quickly in the sun than in the shade?

7. Substance 'A' has high compressibility and can be easily liquefied. It can take up the shape of any container. Predict the nature of the substance. Enlist four properties of this state of matter.

8. Design an experiment to show that ammonium chloride undergoes sublimation.

9. Explain inter conversion of three states of matter with the help of flow chart. Name the process of each inter conversion.

IT

1. Write an informative note on Blue Eye Technology.
2. Write about Sustainable Development Goals (SDGs) 2030.

MATHS

1. Can we write 0 in the form of p/q? Justify your answer.
2. Write any three rational numbers between 3 and 4.
3. In between any two numbers there are:

    a. Only one rational number   b. Many rational numbers

    c. Infinite rational numbers   d. No rational number

4. Every rational number is:
   a. Whole number
   b. Natural number
   c. an Integer
   d. Real number

5. Between any two rational numbers
   (a) There is no rational number
   (b) there is exactly one rational number
   (c) There are infinitely many rational numbers
   (d) There is no irrationals number

6. Write a rational number between $\sqrt{2}$ and $\sqrt{3}$.

7. If $0.142857142857......$ express in the form of $\frac{m}{n}$, then find the value of $(2m+n)$.

8. If $x = 1 + \sqrt{2}$, then find the value of $\left(x - \frac{1}{x}\right)^2$.

9. Which of the following is an irrational?
   (a) $\sqrt{\frac{4}{9}}$
   (b) $\frac{\sqrt{12}}{\sqrt{3}}$
   (c) $\sqrt{7}$
   (d) $\sqrt{81}$

10. Which of the following is an irrational?
    (a) 0.14
    (b) $0.14\overline{16}$
    (c) $0.\overline{1416}$
    (d) $0.4014001400014....$

11. Write the number $1.999....$ in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.

12. Express $1.272727......$ in the rational form.

13. Simplify $\frac{2^{n+4} - 2(2^n)}{2(2^{n+3})}$.

14. Find the value of $2.\overline{6} - 0.\overline{9}$.

15. Simplify: $\sqrt[4]{\sqrt[3]{2^2}}$.

16. Simplify $\frac{1}{3+\sqrt{5}}$.

17. Divide $(\sqrt{3} + \sqrt{7})$ by $(\sqrt{3} - \sqrt{7})$.

18. Evaluate $\frac{6}{\sqrt{12} - \sqrt{3}}$.

19. Simplify the expression $(4\sqrt{5} - 3\sqrt{2})(3\sqrt{5} + 5\sqrt{2})$.

20. Find the value of $(256)^{0.16} \times (256)^{0.09}$.

21. Simplify $(25)^{1/3} \times (5)^{1/3}$.

22. Find the value of $\frac{\sqrt[4]{16}}{\sqrt[4]{81}}$.

23. Show that $\dfrac{1}{1+x^{a-b}}+\dfrac{1}{1+x^{b-a}}=1$.

24. Express $0.2\overline{35}$ in $\dfrac{p}{q}$ form.

25. If $a^x=b, b^y=c$ and $xyz=1$, then what is the value of c^z?

26. Prove that $\left(\dfrac{x^a}{x^b}\right)^c \times \left(\dfrac{x^b}{x^c}\right)^a \times \left(\dfrac{x^c}{x^a}\right)^b = 1$.

27. Prove that $\dfrac{(2)^n+(2)^{n-1}}{(2)^{n+1}-(2)^n}=3/2.$

28. Find the values of x in each of the following:
    (i) $(5)^{x-2} \times (3)^{2x-3} = 135$ (ii) $(5)^{x-4} \times (2)^{x-7} = 1250.$
    (iii) $(2)^{5x} \div (2)^x = \sqrt[5]{2^{20}}$ (iv) $\left(\dfrac{3}{5}\right)^x \times \left(\dfrac{5}{3}\right)^{2x} = \dfrac{125}{27}$

29. For any +ve real number x, find the value of $\left(\dfrac{x^a}{x^b}\right)^{a+b} \times \left(\dfrac{x^b}{x^c}\right)^{b+c} \times \left(\dfrac{x^c}{x^a}\right)^{c+a}.$

30. Simplify $\left[\left\{(625)^{1/2}\right\}^{-1/4}\right]^2.$

31. Locate $\sqrt{3}$ on the number line.

32. Locate $\sqrt{9.3}$ on the number line.

33. Which of the following is an irrational?

     (a) $\sqrt{\dfrac{4}{9}}$ (b) $\dfrac{\sqrt{12}}{\sqrt{3}}$ (c) $\sqrt{7}$ (d) $\sqrt{81}$

34. Which of the following is an irrational?
     (a) 0.14 (b) $0.14\overline{16}$ (c) $0.\overline{1416}$ (d) $0.4014001400014.....$

35. Evaluate: $\dfrac{2^{40}+2^{39}+2^{38}}{2^{41}+2^{40}-2^{39}}$.

36. If $a=\dfrac{2^{x-1}}{2^{x-2}}, b=\dfrac{2^{-x}}{2^{x+1}}$ and a-b=0, find the value of x.

37. The irrational number between 2022 and 2023 is

38. If abc=1, then P.T $\dfrac{1}{1+a+b^{-1}}+\dfrac{1}{1+b+c^{-1}}+\dfrac{1}{1+c+a^{-1}}=1.$

39. Find nine rational numbers between 0 and 0.1.

40. If $2^x = 3^y = 6^z$, prove that $\dfrac{1}{x}+\dfrac{1}{y}+\dfrac{1}{z}=0$ or $z=\dfrac{xy}{x+y}$

<p style="text-align:center">ACTIVITIES : (Do activity on A4 size paper)</p>

1. Represent $\sqrt{3}$ on the number line. (take 1 unit = 4cm)

2. Represent $\sqrt{5}$ on the number line. (take 1 unit = 3cm)

3. Represent $\sqrt{4.8}$ on the number line. (take 1 unit = 3cm)

4. 3. Represent $\sqrt{9.6}$ on the number line. (take 1 unit = 2cm)

Project :

1. Properties (mathematical relations) of different number systems.
   (Like, Even, odd, Prime, Composite etc...)
2. Contribution of Indian mathematician

(Odia)

1-ମଣିଷର ବ୍ୟକ୍ତିଗତ ଜୀବନ ଅପେକ୍ଷା ଜାତୀୟ ଜୀବନର ମହତ୍ତ୍ୱ ଅଧିକ-ଆଲୋଚ୍ୟ "ଜାତୀୟ ଜୀବନ" ପ୍ରବନ୍ଧ ମାଧମରେ ସଯୁକ୍ତିକ ଦର୍ଶାଅ ।

2-ତୁମ ଅଞ୍ଚଳରେ ବାରମ୍ବାର ବିଦ୍ୟୁତ ବିଭ୍ରାଟ ଜନିତ ସମସ୍ୟାର ସମାଧାନ ନିମନ୍ତେ ବିଦ୍ୟୁତ ବିଭାଗୀୟ ମୁଖ୍ୟ ଅଧିକାରୀଙ୍କ ନିକଟକୁ ଏକ ଦରଖାସ୍ତ ଲେଖ ।

3-ସନ୍ଧି କାହାକୁ କୁହାଯାଏ ? ବିଭିନ୍ନ ବର୍ଗର ସନ୍ଧି ସମ୍ପର୍କରେ ସଉଦାହରଣ ବୁଝାଇ ଲେଖ ।

4- ସମାସ କାହାକୁ କୁହାଯାଏ ? ବିଭିନ୍ନ ପ୍ରକାରର ସମାସ ବିଷୟରେ ଉଦାହରଣ ସହ ବୁଝାଇ ଲେଖ ।

PHYSICS

Q.1. The direction of acceleration is the same as the direction of _____.
(a) Displacement
(b) Change in velocity
(c) Velocity
(d) all of these

Q.2. The area under a velocity-time graph gives _____.
(a) Distance
(b) Acceleration
(c) Speed
(d) Displacement

Q.3. _____can be added algebraically.
(a) Accelerations
(b) Velocities
(c) Distances
(d) Any physical quantities

Q.4. A physical quantity which has both magnitude and direction is called a _____.
(a) Scalar quantity
(b) Vector quantity
(c) Neither (a) nor (b)
(d) Either (a) or (b)

Q.5. The distance-time graph of a body moving along a straight path in a single direction with uniform speed will be _____.
(a) Along X-axis
(b) A line with positive slope
(c) Parallel to X-axis
(d) None of these

Q.6. If a body travels unequal distances in equal intervals of time along a _____ path, the body is said to be in _____.
(a) curved, uniform motion
(b) pentagonal, uniform motion
(c) rectangular, uniform motion
(d) straight, non-uniform motion

Q.7. A freely falling body is said to be moving with _____.
(a) Constant non-zero acceleration
(b) Non-uniform motion
(c) Zero velocity
(d) Non-uniform acceleration

Q.8. A body travels along a straight path from its initial position to a point 20 m away and then returns back to its initial position. The change in the position of the body is ____ and the distance travelled is _____.
(a) 20 m, 40 m
(b) 0 m, 40 m
(c) 40 m, 40 m
(d) 0 m, 0 m

Q.9. The slope of a velocity-time graph gives _____.
(a) distance
(b) speed
(c) acceleration
(d) displacement
Q.10. The position-time graph of a body is parabolic, then the body is _____.
(a) in non-uniform motion
(b) in uniform acceleration
(c) at rest with some initial distance covered
(d) at rest with zero initial distance covered

Q.11. A body travelling equal distances in equal intervals of time is said to be moving with uniform velocity if the body moves along a _____ path.
(a) straight
(b) rectangular
(c) circular
(d) hexagonal

Q.12. The slope of a distance-time graph gives _____.
(a) displacement
(b) acceleration

(c) velocity
(d) speed

Q.13. If a body travels equal distances in equal intervals of time, then_____.
(a) the body is moving with uniform velocity
(b) the body is moving with uniform acceleration
(c) the body may be moving with uniform velocity
(d) the body is moving with uniform deceleration

Q.14. The distance-time graph of the motion of a body is parallel to X-axis, then the body is _____.
(a) at rest with zero initial distance covered
(b) at rest with some initial distance covered
(c) in non-uniform motion
(d) uniform acceleration

Q.15.The numerical ratio of displacement to distance for a moving object is
(a) always less than 1
(b) always equal to 1
(c) always more than 1
(d) equal or less than 1

Directions: **In each of the following questions, a statement of Assertion is given and a corresponding statement of Reason is given just below it. Of the statements, given below, mark the correct answer as:**
(a) Both assertion and reason are true and reason is the correct explanation of assertion.
(b) Both assertion and reason are true but reason is not the correct explanation of assertion.
(c) Assertion is true but reason is false.
(d) Both Assertion and Reason are false.

Q.16. Assertion : An object may acquire acceleration even if it is moving at a constant speed.
Reason : With change in the direction of motion, an object can acquire acceleration.

Q.17.Assertion : Displacement of an object may be zero even if the distance covered by it is not zero.
Reason : Displacement is the shortest distance between the initial and final position.

Q.18.Assertion : Velocity versus time graph of a particle in uniform motion along a straight path is a line parallel to the time axis.
Reason : In uniform motion the velocity of a particle increases as the square of the time elapsed.

Q.19.Assertion : An object may have acceleration even if it is moving with uniform speed.
Reason : An object may be moving with uniform speed but it may be changing its direction of motion.

Q.20. Assertion : The displacement of an object can be either positive, negative or zero.
Reason : Displacement has both the magnitude and direction.

Q.21. During an experiment, a signal from a spaceship reached the ground station in five minutes. What was the distance of the spaceship from the ground station? The signal travels at the speed of light, that is, $3 \times 10^8 \text{m s}^{-1}$.

Q.22. A bus decreases its speed from 80km h^{-1} to 60km h^{-1} in 5 s. Find the acceleration of the bus.

Q.23. A bus starting from rest moves with a uniform acceleration of 0.1 m s^{-2} for 2 minutes. Find (a) the speed acquired, (b) the distance travelled.

Q.24. A racing car has a uniform acceleration of 4 m s^{-2}. What distance will it cover in 10 s after start?

Q.25. Differentiate between distance and displacement?

Q.26. Calculate the acceleration of a body which starts from rest and travels 87.5m 5 sec?

Q.27. The driver of a car traveling along a straight road with a speed of 72KM ph observes a signboard which give the speed limit to be 54KM ph. The signboard is 70m ahead when the driver applies the brakes₀ calculate the acceleration of the car which will cause the car to pass the signboard at the stated speed limit?

Q.28. A farmer moves along the boundary of a square field of side10 m in 40 s. What will be the magnitude of displacement of the farmer at the end of 2 minutes20 seconds?

Q.29. A stone is thrown in a vertically upward direction with a velocity of 5 m s^{-1}. If the acceleration of the stone during its motion is 10 m s^{-2} in the downward direction, what will be the height attained by the stone and how much time will it take to reach there?

Q.30. Derive all the three equation of motion by graphical method.

Sanskrit

1. पाथेयं पाठस्य श्लोकानां अन्वयं लिखन्तु |page no-20-21

2. तरवे नस्मोस्तु पाठस्य श्लोकान् लिखन्तु |

3. यणसंधि ,अयादि संधेः पञ्च-पञ्च उदाहरणानि लिखन्तु |

4. विसर्गसंधेः नियमान् लिखन्तु |

5.धातुरुपाणि -नम, प्रच्छ,अस् (पञ्चलकारेषु) रूपाणि लिखन्तु |

आत्मनेपदी - सेव् धातोः लट् ,लृट लकारं लिखन्तु |

6.अधोलिखित अव्ययपदानि प्रयुज्य वाक्यरचनां कुर्वन्तु |

(अन्यत्र ,उभयत्र ,एकदा ,पुरा ,श्वः ,कति ,कुतः,च,अद्य ,ह्यः)

7. 1-100 संस्कृते संख्यां लिखन्तु |

SOCIAL SCIENCE

1. The sun rises two hours earlier in Arunachal Pradesh as compare to Gujarat in the west but the watches show the same time. How does this happen? (Geo)

 2. The central location of India at the head of the Indian Ocean is considered of great significance. Why? (Geo)

3. On a political map of India, label all the states and union territories with their capitals. (Geo)

4. On a political map of India, mark and label latitudinal and longitudinal extent, tropic of cancer and standard meridian and our neighboring countries. (Geo)

5. What are the different ways of increasing production on the same piece of land? Use examples to explain. (Eco)

6. What are the non-farm production activities taking place in your region? Make a short list. (Eco)

7. Make file on the causes of French Revolution.

8. Recite the preamble.

9. Write and explain the Fundamental Rights with article.

HINDI

1) Apni pasand ki ek swarachit kavia /kahanee likho

2) 'Dukh kaa adhikaar ' path ki PPT banao

3) Mahadevi Verma dwaaraa rachit kisi aur kahani ko padhkar SAMEEKSHAA LIKHO