



BIRLA PUBLIC SCHOOL GANGANAGAR

SUMMER BREAK HOLIDAY HOMEWORK



CBSE AFFILIATION NO. 1730974

Session: 2025-26

Class: IX



“An upcoming vacation gives us something to eagerly anticipate.”

As the much-awaited summer break is at our doorsteps, I hope you have planned to spend time with family, explore new ideas, and add value to your household and community. While every child deserves their time to relax and recover from the stresses of school, it is also important not to let grains of time pass aimlessly. To keep your brain occupied, your teachers have created a homework pack incorporating activities that will help stretch your imagination, unravel creativity, and crystallize learnt concepts.

Welcome to your holiday homework plan! This plan is designed to keep you engaged and learning during the break while exploring various aspects of different subjects. Here are the instructions and guidelines for completing your holiday homework:

- Review the weekly tasks and instructions provided. Make what is expected of you for each assignment.
- Keep track of deadlines, materials needed for each task, and any additional resources provided. Organization will help you manage your time effectively and produce high-quality work.
- Approach each task with enthusiasm and creativity. Take the opportunity to explore new ideas, express yourself through writing, and analyse from different perspectives.
- If you have any questions or need clarification on any aspect of the homework plan, don't hesitate to reach out to your teacher or classmates for assistance.
- Take time to reflect on your progress and the skills you've developed throughout the holiday homework period. Consider what you've learned and how you can apply it in the future.
- Ensure that your final presentation is well-organized, clear, and reflects the effort you've put into each task. Pay attention to details such as spelling, grammar, and presentation format.

- Use this opportunity to deepen your understanding and appreciation of the subject.
- Creativity Counts: Feel free to use colors, illustrations, and decorative elements to make your assignments visually appealing.
- Presentation Matters: Pay attention to neatness and organization when completing your tasks. Present your work with pride and attention to detail.
- Reflect and Share: Take time to reflect on your experiences and share your creations with family, friends, or classmates. Discuss what you've learned and how you've grown through the process.
- The Holiday Homework is to be done in the Subject Notebooks only. For Art Integration, use Office file (cover it with chart) and use it as instructed in the class.

SUBJECT- Science

General instructions:

- Complete all the work in the respective portion of the class work notebook.
- Maintain cleanliness and avoid spelling mistakes.
- Write in good handwriting.
- Complete the work neatly with proper numbering.
- Use your own creativity to make it look attractive.

Art Integration Project Topics

<u>Roll No.</u>	<u>Topic No.</u>
01 to 04	01 (Interactive Particle Playground)
05 to 08	02 (Mystery Mixture Challenge)
09 to 12	03 (Periodic Table Portrait)
13 to 16	04 (Particle Poetry)
17 to 20	05 (Phase Change Painting)
21 to 24	06 (Kinetic Sculpture)
25 to 28	07 (Interactive Simulation)
29 to 32	08 (Research Project)
33 to 37	09 (Virtual Lab)

- 1. Interactive Particle Playground:** Design a board game where players move around a board representing different states of matter. The game mechanics can involve challenges or actions based on the properties of each state (e.g., bouncing in the gas zone, slow movement in the solid zone).
- 2. Mystery Mixture Challenge:** Create a blindfolded taste test challenge where participants have to identify mixtures based on their senses of taste and smell. Design a scorecard with artistic elements representing different types of mixtures.
- 3. Periodic Table Portrait:** Choose an element from the periodic table and create a portrait of a personified version of that element. Use colors and textures to represent its properties and common uses.
- 4. Particle Poetry:** Write a poem on an A3 sheet (paste on cardboard) using metaphors and similes to describe the behavior of particles in solids, liquids, and gases.
- 5. Phase Change Painting:** Create a painting depicting a natural phenomenon involving a change of state (e.g., sunrise with water evaporating, snowman melting). Use different brushstrokes and colors to represent the different states of matter.
- 6. Kinetic Sculpture:** Build a wind chime or mobile that demonstrates different types of motion (oscillatory, circular) with hanging objects.
- 7. Interactive Simulation:** Use online simulations or apps to explore various aspects of motion like uniform motion, circular motion etc. Analyze the factors affecting the motion through simulation.
- 8. Research Project:** Use the internet to research different types of mixtures (suspensions, colloids, etc.).

Prepare a presentation highlighting their properties, separation techniques, and real-world examples.

9. **Virtual Lab:** Use online simulation tools to explore the behavior of particles in different states of matter. Websites like PhET Interactive Simulations offer simulations.

Riddles

10. A few friends are enjoying their sea voyage in a boat full of apples. On the way, they feel hungry and decide to eat the apples. Together, they eat two dozen apples. When they have eaten the apples, will there be any change in the water level?
11. How can you throw a ball as hard as you can and have it come back to you even if it does not hit anything, there is nothing attached to it, and no one else catches and throws it?
12. Many have heard it, but nobody has ever seen it. It will not speak until spoken to. What is it?
13. What is green but not a leaf: copies others but not a monkey?
What sleeps through the day and cries through the night? The more it cries, the more it creates light.

Physics

1. A car travels 250 km in 5 hours. Calculate its average speed in km/h and m/s.
2. A body starts from rest and accelerates uniformly to a velocity of 15 m/s in 3 seconds. Calculate its acceleration.
3. A train is moving at a speed of 72 km/h. If it is brought to rest in 4 seconds, calculate its retardation.
4. A car accelerates uniformly from 18 km/h to 72 km/h in 5 seconds. Calculate its acceleration in m/s^2 .
5. A body is moving with an initial velocity of 5 m/s and accelerates uniformly at 1.5 m/s^2 for 4 seconds. Calculate its final velocity.

Critical Thinking Questions

1. Can an object have zero displacement but non-zero distance traveled? Explain.
2. Is it possible for an object to have a constant speed but changing velocity? Explain.
3. What happens to the acceleration of an object if its velocity is constant? Explain.

Conceptual Questions

1. What is the difference between distance and displacement? Explain with examples.
2. Define velocity and speed. How are they related?
3. What is acceleration? Explain the concept with examples.

Chemistry

Critical Thinking Questions

1. A substance 'X' has a fixed melting point and boiling point, but it can be separated into two components by chromatography. What type of substance is 'X' likely to be? Explain.
2. A mixture of two substances, 'A' and 'B' has a different boiling point than the individual substances. What type of mixture is 'A' and 'B' likely to be? Explain.
3. A substance 'Y' changes directly from solid to gas on heating, but it can be liquefied under high pressure. What type of substance is 'Y' likely to be? Explain.

Analytical Questions

4. Analyze the following data:
 - Substance 'P' melts at 100°C and boils at 200°C .
 - Substance 'Q' is a mixture of two substances with different boiling points.
5. What separation technique would you use to separate the components of 'Q', and why?
6. Compare and contrast the properties of pure substances and mixtures.

Problem-Solving Questions

7. A mixture of sand, salt, and water is given. Design a step-by-step process to separate the components of the mixture, and explain the principle behind each step.

विषय -हिंदी

प्रश्न-1 निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़कर दिए गए प्रश्नों के उत्तर दीजिए।

साहित्य को समाज का प्रतिबिंब माना गया है अर्थात् समाज का पूर्णरूप साहित्य में प्रतिबिंबित होता रहता है। अनादि काल से साहित्य अपने इसी धर्म का पूर्ण निर्वाह करता चला आ रहा है। वह समाज के विभिन्न रूपों का चित्रण कर एक ओर तो हमारे सामने समाज का यथार्थ चित्र प्रस्तुत करता है और दूसरी ओर अपनी प्रखर मेधा और स्वस्थ कल्पना द्वारा समाज के विभिन्न पहलुओं का विवेचन करता हुआ यह भी बताता है कि मानव समाज की सुख-समृद्धि, सुरक्षा और विकास के लिए कौन-सा मार्ग उपादेय है? एक आलोचक के शब्दों में- “कवि वास्तव में समाज की व्यवस्था, वातावरण, धर्म-कर्म, रीति-नीति तथा सामाजिक शिष्टाचार या लोक व्यवहार से ही अपने काव्य के उपकरण चुनता है और उनका प्रतिपादन अपने आदर्शों के अनुरूप करता है।”

साहित्यकार उसी समाज का प्रतिनिधित्व करता है। जिसमें वह जन्म लेता है। वह अपनी समस्याओं का सुलझाव, अपने आदर्श की स्थापना अपने समाज के आदर्शों के अनुरूप ही करता है। जिस सामाजिक वातावरण में उसका जन्म होता है, उसी में उसका शारीरिक, बौद्धिक और मानसिक विकास भी होता है। अतः यह कहना सर्वथा असंभव और अविवेकपूर्ण है कि साहित्यकार समाज से पूर्णतः निरपेक्ष या तटस्थ रह कर साहित्य सृजन करता है। वाल्मीकि, तुलसी, सूर, भारतेन्दु प्रेमचंद आदि का साहित्य इस बात का सर्वाधिक सशक्त प्रमाण है कि साहित्यकार समाज से घनिष्ठ रूप से संबंध रखता हुआ ही साहित्य सृजन करता है। समाज की अवहेलना करने वाला साहित्य क्षणजीवी होता है।

(1) साहित्य समाज का प्रतिबिंब है क्योंकि यह-

- (A) समाज की वास्तविकता का द्योतक है (B) समाज में लोक व्यवहार का समर्थक है।
(C) व्यक्ति की समस्याओं का निदान करता है (D) साहित्य को दिशा प्रदान करता है।

(2) साहित्य की क्षणभंगुरता का कारण होगा-

- (A) सामाजिक अवज्ञा (B) सामाजिक समस्या (C) सामाजिक सद्भाव (D) सामाजिक समरसता

(3) निम्नलिखित कथन (A) तथा कारण (R) को ध्यानपूर्वक पढ़िए। उसके बाद दिए गए विकल्पों में से कोई एक सही विकल्प चुनकर लिखिए।

कथन (A) – कवि अपने काव्य के उपकरणों का प्रतिपादन अपने आदर्शों के अनुरूप करता है।

कारण (R) कवि हृदय अत्यधिक संवेदनशील होता है एवं सदैव देशहित चाहता है।

(A) कथन (A) तथा कारण (R) दोनों गलत हैं।

(B) कथन (A) गलत है लेकिन कारण (R) सही है।

(C) कथन (A) सही है लेकिन कारण (R) उसकी गलत व्याख्या करता है।

(D) कथन (A) तथा कारण (R) दोनों सही हैं तथा कारण (R) कथन (A) की सही व्याख्या करता है।

(4) साहित्य को समाज का प्रतिबिंब क्यों माना गया है?

(5) साहित्यकार किस प्रकार के साहित्य का सृजन करता है ?

प्रश्न 1. निम्नलिखित शब्दों में उपसर्ग तथा मूलशब्द अलग कीजिए।

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|----------------|--------------|---------------|---------------|
| 1. अधिपति | 2. अध्यक्ष | 3. अध्ययन | 4. अध्यापन |
| 5. अनुक्रम | 6. अनुताप | 7. अनुज | 8. अनुकरण |
| 9. अनुमोदन | 10. अपकर्ष | 11. अपमान | 12. अभिनय |
| 13. अपकार | 14. अभिनंदन | 15. अभिलाष | 16. अभिमुख |
| 17. अभ्युत्थान | 18. अभ्युदय | 19. अवगणना | 20. अवतरण |
| 21. अवकृपा | 22. अवगुण | 23. आकंठ | 24. आजन्म |
| 25. आगमन | 26. दुरुक्ति | 27. दुश्चिन्ह | 28. दुष्कृत्य |

प्रश्न 2. निम्नलिखित उपसर्गों से दो-दो शब्द बनाइए।

1. आ 2. उ 3. उप 4. दुर् 5. प्र 6. निर् 7. वि 8. अनु 9. प्रति 10. स्व

प्रश्न 3. निम्नलिखित शब्दों में प्रत्यय तथा मूलशब्द अलग कीजिए।

1. डाकिया 2. बनिया 3. लेखक 4. नायक

5. गायक	6. पाठक	7. धावक	8. पढ़नेवाला
9. तैराक	10. झगड़ालू	11. पढ़ाकू	12. लड़ाकू
13. खिलाड़ी	14. अनाड़ी	15. खिलौना	16. मित्रता
17. बिछौना	18. लगान	19. चढ़ान	20. सिलाई
21. कढ़ाई	22. जुताई	23. लिखाई	24. पाण्डित्य
25. माननीय	26. दर्शनीय	27. पूजनीय	28. श्रवणीय
29. सिलाई	30. पढ़ाई		

प्रश्न 4. निम्नलिखित शब्दों में उचित स्थान पर अनुस्वार व अनुनासिक का प्रयोग करते हुए शब्दों का मानक रूप लिखिए।

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|-----------|---------------|------------|-----------|-----------------|-----------|--------------|
| 1. नालदा | 2. जाच | 3. टाग | 4. अतर | 5. सक्षिप्त | 6. बटवारा | 7. सकरा |
| 8. आख | 9. अबर | 10. हसमुख | 11. अगड़ा | 12. चद्रमा | 13. सघर्ष | 14. नितात |
| 15. भाति | 16. यन्त्र | 17. सस्कार | 18. अक | 19. सम्बन्ध | 20. गङ्गा | 21. दीनबन्धु |
| 22. अन्दर | 23. मन्त्रालय | 24. खण्डित | 25. छन्द | 26. हिन्दुस्तान | 27. अगली | 28. |
| आचल | 29. सास | 30. तगी | | | | |

प्रश्न 5. निम्नलिखित विषयों पर 100-120 शब्दों में अनुच्छेद लिखिए।

(क) आधुनिक विज्ञान और मानव जीवन —

संकेत बिंदु: 1. स्वास्थ्य क्षेत्र में क्रांति: (नई दवाइयाँ, टीकाकरण, और रोगों का इलाज)

2. संचार में सुधार: (मोबाइल फोन, इंटरनेट, सोशल मीडिया)

3. यातायात में प्रगति: (तेज़ रेलगाड़ियाँ, वायुयान, इलेक्ट्रिक वाहन)

4. शिक्षा क्षेत्र में विकास: (ई-लर्निंग, डिजिटल क्लासरूम, वर्चुअल लैब्स)

5. कृषि में योगदान: (उन्नत बीज, सिंचाई तकनीक, स्मार्ट खेती)

6. औद्योगिक क्षेत्र का विकास: (रोबोटिक्स, ऑटोमेशन, उत्पादन में तेजी)

7. पर्यावरणीय चेतना: (अक्षय ऊर्जा (सौर, पवन ऊर्जा) के प्रयोग)

8. अंतरिक्ष अनुसंधान: (सैटेलाइट, अंतरिक्ष मिशन, पृथ्वी की निगरानी)

9. रोजमर्रा के जीवन में सुविधा: (स्मार्ट उपकरण, होम ऑटोमेशन, आर्टिफिशियल इंटेलिजेंस)

10. चुनौतियाँ भी: प्रदूषण, साइबर क्राइम, बेरोजगारी (तकनीकी बदलाव के कारण)

(ख) विद्यार्थी जीवन और अनुशासन-

संकेत बिंदु: 1. विद्या और अनुशासन का अटूट सम्बन्ध 2. अनुशासन छात्रों के लिए लाभदायक

3. अनुशासन और विद्यालय

प्रश्न 6. निम्नलिखित विषयों पर 80-100 शब्दों में संवाद लिखिए।

(क) कोचिंग सेंटर में दाखिला लेते समय विद्यार्थी और संचालक के बीच संवाद

(ख) दो सहपाठियों के बीच विज्ञान प्रदर्शनी की तैयारी पर बातचीत

प्रश्न 7. निम्नलिखित विषयों पर 80-100 शब्दों में पत्र लिखिए।

(क) आपके चाचा जी ने आपके लिए कुछ पुस्तकें भेजी हैं। उन पुस्तकों की उपयोगिता एवं आवश्यकता बताते हुए उन्हें धन्यवाद देते हुए पत्र लिखिए।

(ख) अपने चाचा जी को पत्र लिखकर बताइए कि आपके विद्यालय में खेल-दिवस किस प्रकार मनाया गया तथा उसमें आपने कैसे अपनी भागीदारी निभाई।

प्रश्न 8. राजस्थान की कला एवम् संस्कृति का आसाम की कला एवम् संस्कृति साथ तुलनात्मक अध्ययन करते हुए पी.पी.टी. बनाइए।

अनौपचारिक-पत्र का प्रारूप

प्रेषक का पता

.....

.....

दिनांक

संबोधन

अभिवादन

पहला अनुच्छेद

दूसरा अनुच्छेद(विषय-वस्तु-जिस बारे में पत्र लिखना है).....

तीसरा अनुच्छेद (समाप्ति).....

प्रापक के साथ प्रेषक का संबंध

प्रेषक का नाम

3. पुस्तक खरीदने के लिए रुपये भेजने का अनुरोध करते हुए अपने पिता जी को पत्र लिखिए।
- कमरा नं. 127
सुभाष चंद्र छात्रावास,
कोलकाता (प. बंगाल)
9 अगस्त, 20 . .
पूज्य पिता जी,
सादर चरण स्पर्श।
मेरी प्रथम सत्र की परीक्षा समाप्त हो चुकी है। सभी विषयों के अंक प्राप्त हो गए हैं। मुझे लगभग 75% अंक मिले हैं। मुझे और परिश्रम करना होगा। मुझे और अधिक अंक प्राप्त करने हैं।
आपने इस माह जो रुपये भेजे थे, वे परीक्षा शुल्क जमा कराने में खर्च हो गए। मुझे कुछ सहायक पुस्तकें खरीदनी हैं, इसलिए आपसे निवेदन है कि इस पत्र के मिलते ही 1000 रुपये और भेज दें, ताकि मैं शीघ्र पुस्तकें खरीद सकूँ।
पूज्य माता जी से सादर चरण-स्पर्श कहिएगा। अनामिका को असीम प्यार।
आपका आज्ञाकारी पुत्र
अर्चित
कल्याणपुरी,
दिल्ली।

Subject -Mathematics

General Instructions:

1. Complete the holiday homework **neatly** in your **Maths class notebook**.
2. Use **sharp pencils** for diagrams and **blue/black pen** for writing (if allowed).
3. Maintain **proper presentation** — headings, margins, and neat handwriting are important.
4. Write the **question first**, then solve it.
5. Submit the work on the **first day after holidays** without fail.
6. Revise the concepts regularly for better understanding.

SECTION - A

1. The decimal expansion of an irrational number may be:
(a) Terminating (c) Either terminating or non- recurring
(b) Recurring (d) non-terminating and non-recurring
2. What would be the denominator after rationalizing $7/(5\sqrt{3} - 5\sqrt{2})$?
(a) 19 (b) 20 (c) 25 (d) None of these
3. In between two rational number there is/are:
(a) Exactly one rational number (b) Infinitely many rational number
(c) Many irrational numbers (d) Only irrational numbers

4. The value of $\sqrt[4]{(16)^{-2}}$ is :
 (a) $\frac{1}{4}$ (b) $\frac{1}{2}$ (c) 4 (d) $\frac{1}{16}$
5. $\sqrt{12} \times \sqrt{15}$ is equal to:
 (a) $5\sqrt{6}$ (b) $6\sqrt{5}$ (c) $10\sqrt{5}$ (d) $\sqrt{25}$
6. Which of the following is irrational?
 (a) 0.14 (b) 0.1416 (c) $0.\overline{1416}$ (d) 0.4014001400014...
7. The product of a rational and an irrational numbers is:
 (a) Always an integer (b) Always a rational number
 (c) Always an irrational number
 (d) Sometimes rational and sometimes irrational
8. $\sqrt{6} \times \sqrt{27}$ is equal to:
 (a) $9\sqrt{2}$ (b) $3\sqrt{3}$ (c) $2\sqrt{2}$ (d) $9\sqrt{3}$
9. The value of $(5)^3 + (7)^3 + (-12)^3$ is:
 (a) 1260 (b) -1260 (c) 420 (d) 0
10. If $a + b = 7$, $ab = 6$ then the value of $a^3 + b^3$ will be:
 (a) 117 (b) 217 (c) 469 (d) 61
11. Product of $(2a + 7)(2a - 7)$ is:
 (a) $2a^2 - 7$ (b) $2a^2 - 49$ (c) $2a^2 + 49$ (d) $4a^2 - 49$
12. Factors of $\sqrt{2}x^2 - x - 10\sqrt{2}$ are:
 (a) $(\sqrt{2}x - 5)(x + 2\sqrt{2})$ (b) $(\sqrt{2}x + 5)(x + 2\sqrt{2})$
 (c) $(\sqrt{2}x + 5)(x - 2\sqrt{2})$ (d) $(\sqrt{2}x - 5)(x - 2\sqrt{2})$
13. Factors of $343a^3 - 125b^3$ are:
 (a) $(7a + 5b)(49a^2 + 35ab + 25b^2)$
 (b) $(7a - 5b)(49a^2 - 35ab - 25b^2)$
 (c) $(7a - 5b)(7a^2 + 35ab + 5b^2)$
 (d) $(7a - 5b)(49a^2 + 35ab + 25b^2)$
14. The point $(-10, 0)$ lies in :
 (a) Third quadrant (b) Fourth quadrant
 (c) On the negative direction of the x-axis (d) On the negative direction of the y axis
15. A quadrant in which both x and y values are negative is
 (a) First quadrant (b) Second quadrant (c) Third quadrant (d) Fourth quadrant
16. Abscissa of all the points on the x-axis is
 (a) 0 (b) 1 (c) 2 (d) Any number

ASSERTION- REASONING QUESTION

Directions: Choose the correct answer out of the following choices :

- (A) Assertion and Reason both are correct statements and Reason is the correct explanation of Assertion.
 (B) Assertion and Reason both are correct statements but Reason is not the correct explanation of Assertion.
 (C) Assertion is correct statement but Reason is wrong statement.
 (D) Assertion is wrong statement but Reason is correct statement.

17. Assertion: Point A $(-2, -4)$ lies on III quadrant

Reason: A point both of whose coordinates are -ve lies in III quadrant.

18. Assertion: Point (4, -2) lies in IV quadrant.

Reason: The $\perp$ distance of a point from y-axis is called its abscissa.

19. Assertion: The value of 593×607 is 359,951.

Reason: $(a + b)(a - b) = a^2 - b^2$

20. Assertion: $\sqrt{5}$ is an irrational number.

Reason: A number is called irrational, if it cannot be written in the form p/q , where p and q are integers and $q \neq 0$

SECTION -B

21. Simplify $\left(\frac{64}{729}\right)^{-\frac{1}{6}}$

22. Simplify $\frac{\sqrt{32} + \sqrt{48}}{\sqrt{8} + \sqrt{12}} = ?$

23. If $x = (5 + 2\sqrt{6})$ show that $(\sqrt{x} + \frac{1}{\sqrt{x}}) = \pm 2\sqrt{3}$

24. If $\frac{\sqrt{5}-1}{\sqrt{5}+1} + \frac{\sqrt{5}+1}{\sqrt{5}-1} = a + b\sqrt{5}$, find a and b.

25. Express $0.\overline{36}$ as a fraction in simplest form.

26. Find the value of $\sqrt{4.3}$ geometrically

27. If $x = (3 + \sqrt{8})$, find the value of $(x^2 + \frac{1}{x^2})$

28. Show that $(3x-2)$ is a factor of $(3x^3+x^2-20x+12)$

29. Find the value of a if the polynomial $(2x^3+ax^2+11x+a+3)$ is exactly divisible by $(2x-1)$

30. Factorize i: $x^3-2x^2y+3xy^2-6y^3$ ii. x^4-625

31. Factorize : i $2x^2-7x-39$ ii. $\frac{1}{3}x^2 - 2x - 9$ iii. $8a^3-b^3-4ax+2bx$

32. Factorize : i. $(5a-7b)^3+(9c-5a)^3+(7b-9c)^3$

33. Find the product of $(a-b-c)(a^2+b^2+c^2+ab+ac-bc)$

34. If $2y = 3-5x$, find the value of y when $x = -1$

35. Plot each of the following points on a graph paper : A(3,-5), B(-5,-2), C(-6,1), D(4,0)

36. Which of the following points do not lie on x-axis? (0,6), (2,0), (0,-2), (-6,0)

37. Write the mirror image of the point (2,5) in x-axis

38. What is the perpendicular distance of the point P(-2,-3) from the y-axis

39. At what point do the coordinate axes meet?

40. In which Quadrant abscissa of a point is positive?

41. Name the Quadrant in which Quadrant/ on Axis Points (1, 1), (2, -2), (-4, -5), (-3, 4), (0,7), (5,0) are lying.

42. What is the value of abscissa of all the points on the y-axis ?

43. On which Axis value of Ordinate of is any number?

44. Write the Coordinate of the point which lies on the y-axis at a distance of 5 units in the negative

direction of the y-axis .d. (0, -5).

45. If $(x, y) = (y, x)$ then find the value of x, y .

SECTION - C

46. If $a + b + c = 9$ and $ab + bc + ca = 26$, find $a^2 + b^2 + c^2$.

47. If $x + y = 12$ and $xy = 27$, find the value of $x^3 + y^3$.

48. If $(x - 2)$ is a factor of $(x) = x^4 - 2x^3 + 3x^2 - ax + 3a$ Then find the value of a .

49. If $x = \frac{4-\sqrt{15}}{4+\sqrt{15}}$ and $y = \frac{4+\sqrt{15}}{4-\sqrt{15}}$ then find $x^2 + xy + y^2$

50. Simplify If $x = \frac{2-\sqrt{5}}{2+\sqrt{5}}$ and $y = \frac{2+\sqrt{5}}{2-\sqrt{5}}$ find the value of $x^2 - y^2$

Subject- English

Q.1: Summer Journey into Timeless Wisdom

Have you ever wondered how ancient words spoken thousands of years ago still whisper truths into our modern lives?

This summer, step into the world of timeless wisdom through the Bhagwad Gita and the Guru Granth Sahib Ji. Reflect, imagine, and create as you listen to the voice of ages – and discover the warrior and sage within you!

Objective:

- To cultivate wisdom, reflection, and creativity by engaging with the teachings of the Bhagwad Gita and the Guru Granth Sahib Ji through reading or listening.
- **Compulsory Tasks:**

1. Wisdom Diary (Daily Entry)

2. Podcast Homework: (Weekly Task)

Choose any ONE Additional Task:

3. Dialogue Across Ages: (Weekly Task)

4. The Path of Warriors and Saints: (Weekly Task)

General Requirements:

- Complete the holiday homework **neatly** in your English **class notebook**.
- Language: Simple, clear, correct, and reflective English.
- Presentation: Neatly handwritten or typed, using headings, margins, and proper structure.
- Creativity: Add small decorative elements like simple borders, motifs, or scripture-related symbols.
- Authenticity: Personal thoughts and reflections are highly valued.

Date of Submission: 1st July 2025

Evaluation Criteria:

Depth of understanding and reflection

Creativity and original expression

Language and articulation

Neatness and presentation

Important Note:

- You may refer to simple English translations.
- Choose teachings that truly inspire you.
- Let your entries reflect your own voice, thoughts, and feelings.
- Plagiarism will not be entertained – originality will be appreciated.

COMPULSORY TASKS:

You have to attempt both the tasks given in this section.

Section 1- (a) Wisdom Diary (Writing Assignment - Daily Reflection Task)

(Duration: 15 min/day)

Daily Task:

- Read one Shloka (Bhagwad Gita) OR one Hymn (Guru Granth Sahib Ji). (You are free to choose any other scripture.)
- Listen to simple explanation if needed from digital audio & video platforms.
- Write your reflections by answering:

Weekly Wisdom Diary Questions:

1. Quote the Shloka/Hymn.
2. What does this Shloka/Hymn teach me? (2-3 lines)
3. How can I apply this teaching in my life today? (One real situation)
4. Draw a small symbol or doodle related to the idea.
5. Reflecting on the teachings from either the Bhagwad Gita or the Guru Granth Sahib Ji, **write a rhyming poem** that captures a core message from one of their verses. (Weekly Task)

Section 1- (b) Podcast Homework (Speaking Assignment - Every Week)

Podcast Recording Task:

- Select one Shloka or Hymn every week.
- Record yourself answering these points:

Podcast Guiding Questions:

1. Recite the Shloka or Hymn (try with correct pronunciation).
2. What is the central idea? (Explain simply in English.)
3. Why did you choose this today? (One personal reason)
(Record in English)
4. Send your podcast videos to your subject teacher's email id: nitesh090104@bpsg.edu.in
ankur090176@bpsg.edu.in

OPTIONAL TASK: Choose any ONE

Section 2- (a) Dialogue Across Ages (Weekly Creative Task)

(1 dialogue per week - total 7 dialogues in holidays)

Weekly Task:

Imagine a conversation between:

- Krishna and Arjuna,
OR
- Guru Nanak Dev Ji and a modern student,
OR

- A warrior and a saint.

Dialogue Starter Questions:

- What advice would Krishna give me today if I was confused?
- If Guru Nanak Dev Ji visited my school, what would he tell students?
- What conversation would happen between Courage (as a warrior) and Peace (as a saint)?

Output:

Write the dialogue in English (5–7 short exchanges).

Add simple illustrations if you like.

Section 2- (b) The Path of Warriors and Saints (Weekly Analytical Work)

(One table per week)

Weekly Task:

- Select one virtue/idea every week (e.g., Duty, Courage, Compassion, Humility).

Find:

- What Bhagwad Gita says about it.
- What Guru Granth Sahib Ji says about it.
- Prepare a table according to the example given below.

Example:

WEEK	VALUE LEARNT	What Shrimad Bhagwad says/ What Guru Granth Sahib ji says	My Understanding
1	Courage		
2	Humility		

(Simple 4-column table, handwritten beautifully. Extend this table as required.)

Bonus Optional Task (Creative Touch):

- Make a decorated cover page for the project:
- "My Journey Through Ancient Wisdom: Summer 2025"

Use traditional motifs like Peacock Feather (Krishna) and Ik Onkar symbol (Sikhism).

Q2. (Art Integration Project – Explore Through Brochures)

Explore the Wonders of Rajasthan and Assam!

*Ever wondered what it's like to explore the royal palaces of Rajasthan or the serene landscapes of Assam?
Now's your chance to showcase these incredible destinations in your very own travel brochure!*

Objective: To create a creative and informative Travel Brochure that showcases the art, culture, heritage, festivals, sports, culinary richness, or jewellery traditions of Rajasthan and Assam through engaging writing and presentation.

Design and create any two brochures from the following six exciting options.

Each brochure should be creative, colourful, and written using engaging and persuasive language.

Choose ANY TWO from the following brochure types:

1. **Cultural Travel Brochure** – Showcasing Rajasthan and Assam’s vibrant art, dance, music, and traditional crafts.
2. **Heritage Tour Brochure** – Highlighting historical sites, monuments, and UNESCO heritage spots from both states.
3. **Festivals and Fairs Travel Brochure** – Featuring famous festivals like Bihu (Assam) and Desert Festival (Rajasthan).
4. **Culinary Journey Brochure** – Exploring the popular cuisines, street food, and traditional dishes of Rajasthan and Assam.
5. **Eco-Tourism and Adventure Travel Brochure** – Presenting wildlife sanctuaries, eco-parks, trekking and river activities.
6. **Jewellery Trail Brochure** – Showcasing the traditional jewellery art of Rajasthan and Assam, famous styles, significance, and global influence.
7. **Sports Brochure** – Promoting indigenous and traditional sports of Rajasthan and Assam (e.g., Camel Polo, Dhopkhel, Kabaddi, Boat Racing).

Objective:

To create a creative and informative Travel Brochure that showcases the art, culture, heritage, festivals, sports, culinary richness, or jewellery traditions of Rajasthan and Assam through engaging writing and presentation.

Brochure Design Requirements:

- Pages: 1 sheet for 1 brochure. Fold it 3 times to create 4 panels.
- Size: Use A4 sheets accordingly. You can use coloured plain sheets or chart paper.
- Format: Folded like a travel pamphlet or booklet style.
- Use the given links for help: https://youtube.com/shorts/sTMt38_hdu8?si=F-CxHSfumpkV1BMy
https://youtu.be/ukLIYgRloWU?si=dCxQ_1H975YhcrMS
<https://youtu.be/ARlhshQf8v0?si=fvWNIQmjJWB5E3df>
- Title and Slogan: Every brochure must have a catchy title and a short slogan.
- Sections: Proper sections like Introduction, Highlights, Interesting Facts, and Conclusion.
- Pictures: Include hand-drawn pictures, printed images, borders, or traditional patterns.
- Language: Use persuasive, engaging, and grammatically correct English.
- Neatness: Keep the layout clean and colourful. Avoid overcrowding text.
- Creativity: Design the brochure to look attractive and professional.

What to Include in Your Brochure:

- Introduction to Rajasthan and Assam (as per the theme you select)
- Highlight 3–4 major places, events, or products for each state
- Fun/interesting facts to grab attention
- Short captions, slogans, and attractive lines

- Maps, traditional motifs, or cultural symbols (optional but appreciated)

Presentation:

- Use colours, designs, headings, and bullet points to make the brochure look beautiful.
- **You may make it digitally (using Canva/PowerPoint) or by hand (recommended for Art Integration).**
- Decorate without overcrowding the information. Balance visuals and text.

Submission Instructions:

- Submit your project neatly compiled.
- Last Date of Submission: 1st July 2025

Evaluation Criteria:

Content accuracy and coverage

Creativity and presentation

Language and expression

Neatness and effort

Important Note:

Original work will be appreciated.

Avoid copying large content from the internet.

Let your brochure reflect your creativity and understanding!

Q.3 Summer Life Skills Journal: Learn, Practice, and Shine!

Instructions:

Every day, learn or practice one home-related skill (examples: folding clothes, cooking a simple dish, cleaning a shelf, planting a seed, fixing small things, managing a grocery list, etc.).

Maintain your daily record in the given table.

Take a picture of yourself while practicing each skill as proof of your journey toward becoming self-dependent.

Daily Learning Table:

Date	Skill/ Task Learned	How I did it?	What I learnt?	Feeling (Happy/ Proud/Challenged)	Picture attached (Yes/No)

(Extend the table for all days of the vacation.)

Weekly Reflection Table:

Week Number	Most Interesting Task This Week	Lesson Learnt (in 3-4 lines)
Week 1		
Week 2		
Week 3		
Week 4		
Week 5		
Week 6		
Week 7		

Final Showcase:

(Choose **any ONE**)

- Create a poster on a A4 sheet, titled "How I Became a Little More Independent!"
- Stick the poster neatly in your fair notebook.
- Make a photo collage showing pictures of you practicing different tasks in your notebook.
- **Submit the project along with the report given below.**
- **All the tables and report must be pasted in the fair notebook.**

REPORT

Summer Life Skills Journal - Final Reflection

Name: _____

Class & Section: _____

Roll Number: _____

My Journey of Growth

1. The most useful skill I learned:

2. The most challenging task for me was:

3. My proudest achievement during this project:

4. A memorable moment I captured:

5. One lesson I will always remember:

Final Declaration

"I hereby declare that I have completed my Summer Life Skills Journal honestly and learned valuable lessons for becoming more independent."

Signature of Student: _____

Signature of Parent/Guardian: _____

Artificial Intelligence **Summer Holiday Homework**

Activity 1: Write a Letter/Email to Your Future Self

Objective: Envision your life in the year 2050 with respect to **Artificial Intelligence (AI)** and communicate your thoughts to your future self.

1. **Imagine** your life in the year 2050. Think about how **AI** will impact your daily life, career, and interests.
2. **Write a letter or email** to your future self, sharing your thoughts about:
 - What you hope to see in the future.
 - What you want to remind your future self about.
3. The following points can be included in your letter/email:
 - **Interests, Hobbies, and Skills:** Discuss your current interests, hobbies, and skills, and how you foresee them evolving with the help of AI.
 - **AI's Role in Your Future:** How do you think AI will influence your personal and professional life in 2050?
 - **Career Goals:** Write about your desired career and how you believe AI will impact that field.

Note:

- This activity must be done in your **Classwork Notebook**.
- Write the letter/email in **clear, neat handwriting**.

Activity 2: Multiple Choice Questions

Objective: Test your knowledge on the basics of **Artificial Intelligence** through multiple-choice questions.

1. **Artificial Intelligence is about _____:**
 - a) Playing a game on Computer
 - b) Making a machine Intelligent
 - c) Programming a machine with your own intelligence
 - d) Putting your intelligence in a machine
2. **Who is known as the "Father of AI"?**
 - a) Fisher Ada
 - b) John McCarthy
 - c) Alan Turing
 - d) Allen Newell
3. **Select the most appropriate situation for which a blind search can be used:**
 - a) Real-life situation
 - b) Complex game
 - c) Small Search Space
 - d) All of the above
4. **If a robot is able to change its own trajectory based on external conditions, then the robot is considered as _____:**
 - a) Mobile
 - b) Open Loop
 - c) Non-Servo
 - d) Intelligent

Q5. Who has the final decision-making power in a democracy?

- a) Military b) Judiciary c) People d) Bureaucracy

Q6. Assertion (A): Democracy allows people to correct their own mistakes.

Reason (R): In a democracy, decisions are taken by the military.

- a) Both A and R are true, and R is the correct explanation.
b) Both A and R are true, but R is not the correct explanation.
c) A is true, R is false.
d) A is false, R is true.

Q7. Assertion (A): Pakistan under General Musharraf was not a democratic country.

Reason (R): Elections were held regularly in Pakistan.

- a) Both A and R are true, and R is the correct explanation.
b) Both A and R are true, but R is not the correct explanation.
c) A is true, R is false.
d) A is false, R is true

Q8. Match the country with its democratic status:

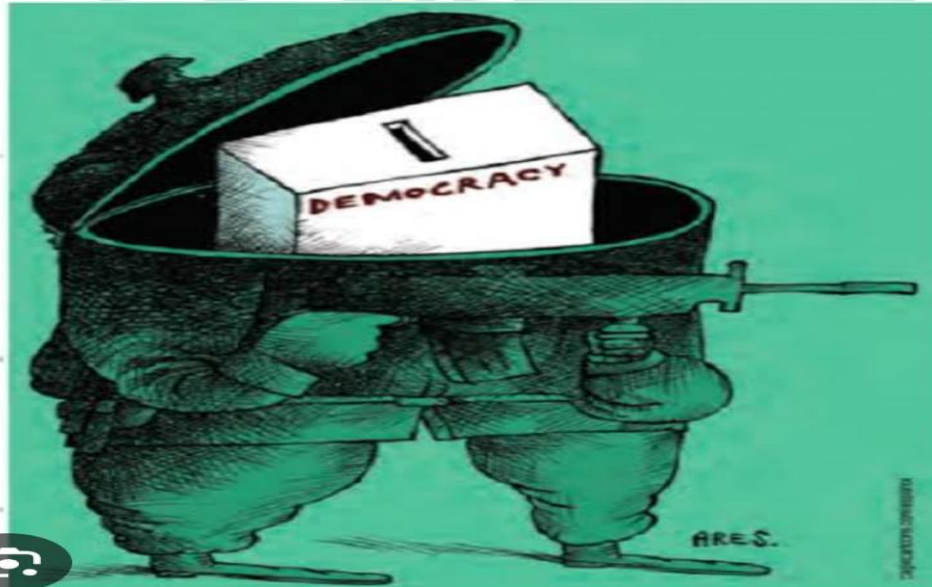
Column A

Column B

- | | |
|--------------|-------------------------------|
| (a) India | (i) Military rule |
| (b) Pakistan | (ii) Constitutional monarchy |
| (c) Britain | (iii) Parliamentary democracy |

- a) a-iii, b-i, c-ii
b) a-i, b-ii, c-iii
c) a-ii, b-iii, c-i
d) a-iii, b-ii, c-i

Q9. Observe the image of a ballot box being used in an election and answer the question:



What does the ballot box symbolize in a democracy?

- a) Power of military b) Power of bureaucracy c) Power of judiciary d) Power of people

Section B: Very Short Answer Questions (2 Marks Each)

Q10. What is the most common form of democracy in today's world?

Q12. Mention any two characteristics of democracy.

Q13. Define universal adult franchise.

Q14. Why is China not considered a democratic country? Give one reason.

Section C: Short Answer Questions (3 Marks Each)

- Q15. Give any three arguments against democracy.
Q16. Describe the situation in Zimbabwe and explain why it cannot be called a democratic country.
Q17. Explain any three features of a democratic form of government.
Q18. Differentiate between a democratic and a non-democratic government.

Section D: Long Answer Questions (5 Marks Each)

- Q19. Explain how democracy improves the quality of decision-making.
Q20. Describe the merits and demerits of democracy.
Q21. Why is democracy considered the best form of government? Give five reasons.

Section E: Case-Based Question (4 Marks)

Q22. Read the passage and answer the questions:

"General Pervez Musharraf led a military coup in October 1999. He overthrew a democratically elected government and declared himself the Chief Executive of the country. Later he changed his designation to President and held a referendum in the country that granted him a five-year extension."

- 22.a) Which country is being referred to here?
22.b) Was this form of government democratic? Why or why not?
22.c) What is a coup?
23.d) How are democratic governments different from military rule?

Section F: Map-Based Question (1 Mark Each)

Q24. On a world political map, locate and label the following:

1. India – the largest democracy
2. Pakistan – example of military dictatorship
3. South Africa – country that abolished apartheid
4. Zimbabwe – country with flawed dem

TOPIC- The French Revolution

Section A: MCQ Type Questions (1 Mark Each)

- Q1. Who was the ruler of France during the French Revolution?
a) Louis XVI b) Louis XIV c) Napoleon Bonaparte d) Robespierre
- Q2. Which of the following was a symbol of the French Revolution?
a) Bastille b) Palace of Versailles c) The Crown d) The Guillotine
- Q3. The Third Estate included:
a) Clergy and nobles b) Nobles and peasants c) Lawyers and peasants d) Clergy and peasants
- Q4. The National Assembly was formed in:
a) 1788 b) 1789 c) 1790 d) 1791
- Q5. Who authored the book *The Social Contract*?
a) Rousseau b) Locke c) Montesquieu d) Voltaire
- Q6. Assertion (A): The Bastille was stormed on July 14, 1789.
Reason (R): It was believed to contain arms and ammunition.
a) Both A and R are true, and R is the correct explanation.
b) Both A and R are true, but R is not the correct explanation.
c) A is true, R is false.
d) A is false, R is true.

Q7. Assertion (A): Louis XVI increased taxes in 1789.

Reason (R): He wanted to build a new palace.

- a) Both A and R are true, and R is the correct explanation.
- b) Both A and R are true, but R is not the correct explanation.
- c) A is true, R is false.
- d) A is false, R is true.

Q8. Match the following revolutionary thinkers with their ideas:

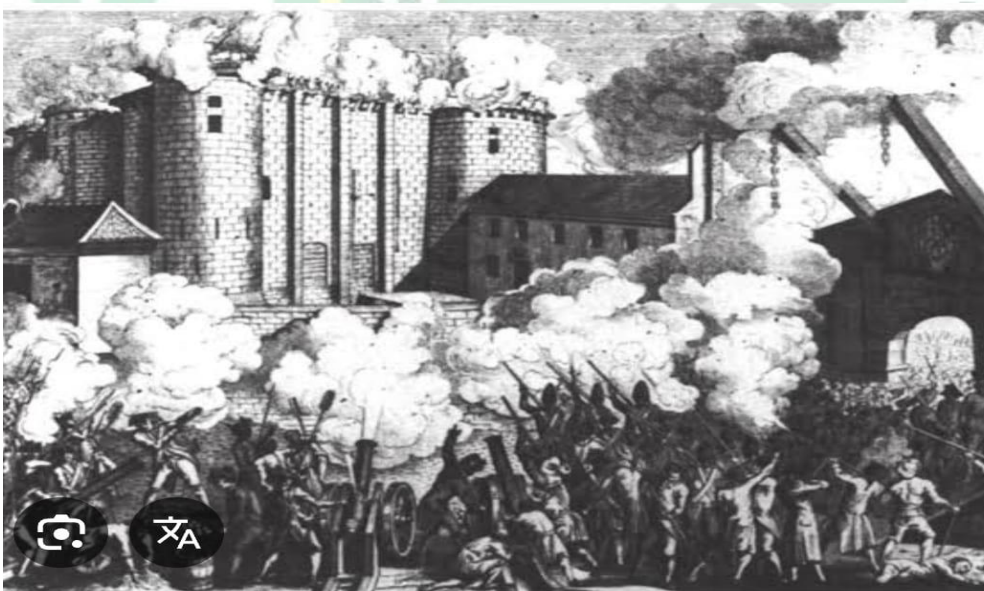
Column A

Column B

- | | |
|-----------------|--------------------------|
| (a) Rousseau | (i) Separation of powers |
| (b) Montesquieu | (ii) Right to freedom |
| (c) Voltaire | (iii) Social contract |

- a) a-iii, b-i, c-ii
- b) a-ii, b-iii, c-i
- c) a-i, b-ii, c-iii
- d) a-iii, b-ii, c-i

Q9. Observe the image of the fall of Bastille and answer the question:



What does the fall of Bastille represent?

- | | |
|---------------------|----------------------------|
| a) End of monarchy | b) Beginning of Revolution |
| c) End of feudalism | d) Birth of Napoleon |

Section B: Very Short Answer Questions (2 Marks Each)

Q10. What was the Estates General? Who called its meeting in 1789 and why?

Q11. What was the significance of the Declaration of the Rights of Man and Citizen?

Q12. Name any two privileges enjoyed by the First and Second Estates.

Q13. Define the term 'Guillotine.' Who introduced it and why?

Section C: Short Answer Questions (3 Marks Each)

Q14. Explain any three causes that led to the outbreak of the French Revolution.

Q15. What role did philosophers play in the French Revolution? Mention any three thinkers and their ideas.

Q16. Describe the role of women in the French Revolution.

Q17. How was the French society divided before the revolution? Explain briefly.

Q18. What was the Reign of Terror? Who led it, and what were its consequences?

Section D: Long Answer Questions (5 Marks Each)

Q19. Discuss the political, economic, and social conditions of France before the Revolution.

Q20. Explain the impact of the French Revolution on France and the world.

Q21. Write a detailed note on how the French Revolution led to the rise of new political ideologies.

Q22. Describe the events from the fall of Bastille to the execution of Louis XVI.

Section E: Case-Based Question (4 Marks)

Q23. Read the passage and answer the questions:

“On the morning of 14 July 1789, the city of Paris was in a state of alarm. Rumors spread that the king had ordered his army to open fire upon the citizens. Some 7,000 men and women gathered in front of the town hall and decided to form a people’s militia. They broke into a number of government buildings in search of arms. Finally, a group stormed the fortress-prison, the Bastille, freed the prisoners, and killed the commander.”

23.a) What was the significance of July 14, 1789?

23.b) Why were people angry at the king?

23.c) What immediate steps did the people take?

23.d) What did the fall of Bastille symbolize?

Section F: Map-Based Question (1 Mark Each)

Q24. On an outline map of France, locate and label the following:

1. Paris – the epicenter of the revolution
2. Bastille – the fortress stormed by the revolutionaries
3. Bordeaux – an important port city
4. Marseille – a city from where the national

TOPIC- INDIA: SIZE AND LOCATION

Section A: MCQ Type Questions (1 Mark Each)

Q1. The Tropic of Cancer passes through how many Indian states?

- a) 6 b) 7 c) 8 d) 9

Q2. India is located in which hemisphere?

- a) Eastern and Northern b) Western and Northern c) Eastern and Southern d) Western and Southern

Q3. The southernmost point of Indian Union is:

- a) Kanyakumari b) Indira Point c) Rameswaram d) Port Blair

Q4. What is the longitudinal extent of India?

- a) 8°4'N to 37°6'N b) 68°7'E to 97°25'E c) 77°E to 82°E d) 10°N to 30°N

Q5. Which of the following influences the duration of day and night as one moves from south to north?

- a) Longitudinal extent b) Latitudinal extent c) Altitude d) Air pressure

Q6. Assertion (A): India has a significant location in the East.

Reason (R): The Indian Ocean is named after India.

- a) Both A and R are true, and R is the correct explanation.

- b) Both A and R are true, but R is not the correct explanation.
 c) A is true, R is false. d) A is false, R is true.

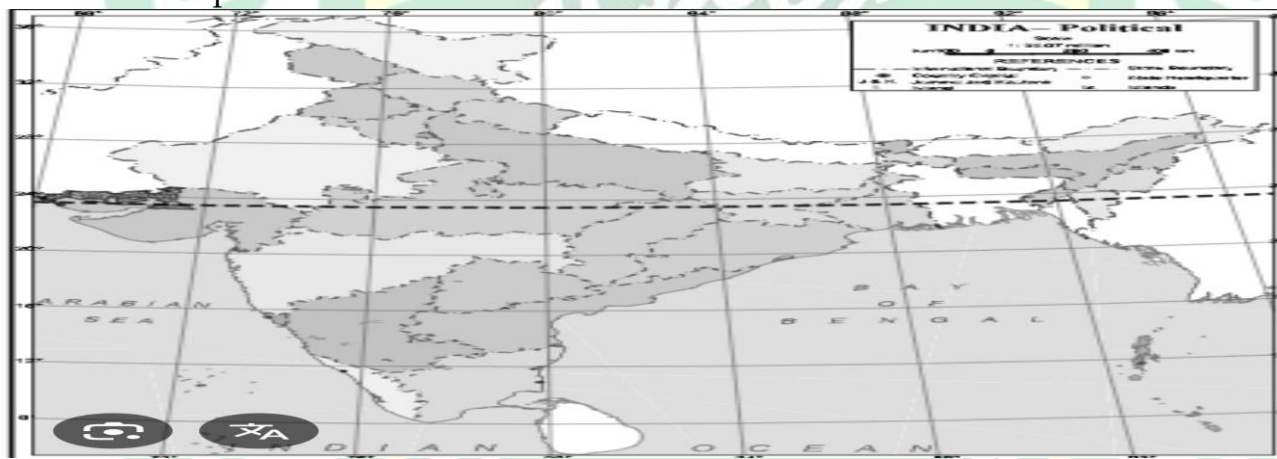
Q3. Match the Following:

Column A

Column B

- | | |
|---------------------------|----------------------|
| (a) India's Standard Time | (i) Southernmost tip |
| (b) Indira Point | (ii) 82°30'E |
| (c) Tropic of Cancer | (iii) 23°30'N |
- a) a-ii, b-i, c-iii
 b) a-i, b-ii, c-iii
 c) a-iii, b-ii, c-i
 d) a-ii, b-iii, c-i

Q4. Observe the map showing the Tropic of Cancer crossing India. Through which state does it not pass?



- a) Gujarat b) Rajasthan c) Bihar d) West Bengal

Section B: Very Short Answer Questions (2 Marks Each)

- Q5. Why is the difference between the durations of day and night hardly felt at Kanyakumari?
 Q6. Why is the time lag of two hours from Arunachal Pradesh to Gujarat significant?
 Q7. What is the significance of India's central location?

Section C: Short Answer Questions (3 Marks Each)

- Q8. Explain any three implications of India's longitudinal extent.
 Q9. Mention any three differences between the Standard Meridian and Greenwich Meridian.
 Q10. Describe any three points of importance of the Indian Ocean for India.

Section D: Long Answer Questions (5 Marks Each)

- Q11. Describe the geographical location of India and explain how it is advantageous to the country.
 Q12. How does the central location of India help in establishing relations with other countries of the world?
 Q13. Explain the impact of India's location in the Indian Ocean on international trade.

Section E: Case-Based Question (4 Marks)

Q14. Read the passage and answer the questions:

"India occupies an important strategic position in South Asia. The trans-Indian Ocean routes connect the countries of Europe in the west and the countries of East Asia. India's location is also important for understanding the monsoon winds which influence its climate."

- 14.a) Why is India considered strategically important in South Asia?
 14.b) What is the significance of Indian Ocean routes?

14.c) How does the location influence the monsoons?

14.d) Which countries benefit from India's location?

Section F: Map-Based Question (1 Mark Each)

Q15. On the outline map of India, mark and label the following:

1. Standard Meridian of India ($82^{\circ}30'E$)
2. Tropic of Cancer ($23^{\circ}30'N$)
3. The southernmost point of India (Indira Point)
4. Kanyakumari
5. A state through which Tropic of Cancer passes

Project on Disaster Management

Every student must undertake one project on Disaster Management

Objectives: The main objectives of giving project work on Disaster Management to the students are to:

- To create awareness in them about different disasters, their consequences and management
- To prepare them in advance to face such situations
- To ensure their participation in disaster risk reduction plans
- To enable them to create awareness and preparedness among the community.
- The project work helps in enhancing the Life Skills of the students.
- Various forms of art must be integrated in the project work.

The students will develop the following competencies:

- Collaboration
- Use analytical skills.
- Evaluate the situations during disasters.
- Synthesize the information.
- Find creative solutions.
- Strategies the order of solutions.
- Use the right communication skills.

Topics :- Case study- Himalayan floods- 'Floods in state of Himachal Pradesh- 2023'- Causes, affects and solutions.

1. Learning outcome: Students will be able to - understand the implications of human interference in natural environment
2. Analyses the effects of deforestation and unplanned development especially in Himalayan regions. Demonstrate practical solutions and laws that can prevent further disasters.

Sports

Physical Task

Maintain a Daily Fitness Log (at least 15 days):

- Record your daily fitness activities such as:
- Morning walk or jog (duration/time)
- Exercises (push-ups, skipping, yoga, etc.)
- Sports played (football, badminton, etc.)

Yoga Practice:

- Learn and practice any 3 yoga asanas, draw their diagrams, and write their benefits.