

(SUMMER HOLIDAYS' HOMEWORK)**(Session:2026-27)****Class : X****Mathematics**

1. Do the following lab manual activities in the lab manual file:

- To find zero(es) of a quadratic polynomial geometrically.
- To verify the conditions of consistency/inconsistency for a pair of linear equations in two variables by graphical method.
- To verify that the given sequence is an arithmetic progression by paper cutting and pasting method.

2. Project:

Write down / Draw the comparison of Haryana state with Telengana on following topics in the activity: - Population, Male and Female ratio, Literacy rate, Climate, Languages, Religion and Land Area covered by Crops. (Choose any four)

ASSIGNMENTS (MATHS)**CHAPTER 1 – REAL NUMBERS**

- Q1. What is the HCF of the smallest composite number and smallest prime number?
- Q2. Find the largest number which divides 245 and 1029 leaving remainder 5 in each case.
- Q3. Using prime factorization, find the HCF and LCM of 72, 126 and 168.
- Q4. The HCF of two numbers is 145 and their LCM is 2175. If one number is 725, find the other.
- Q5. The product of two numbers is 20736 and their HCF is 54, find their LCM.
- Q6. After how many places of decimals, the decimal expansion of the rational number $\frac{43}{2453}$ will terminate?
- Q7. Check whether 5^n can end with the digit 0 for any natural number n .
- Q8. Express each of the following as the product of primes:
(a) 6435 (b) 8085 (c) 2184
- Q9. If $\text{HCF}(336, 54) = 6$, find $\text{LCM}(336, 54)$.
- Q10. Prove that $\sqrt{7}$ is an irrational number.

CHAPTER 2 – POLYNOMIALS

- Q1. If $(x + k)$ is a factor of $2x^2 + 2kx + 5x + 10$, find k .
- Q2. Find a polynomial whose zeroes are squares of the zeroes of the polynomial $3x^2 + 6x - 9$.
- Q3. If '1' is one of the zeroes of the polynomial $p(x) = 7x - x^2 - 6$, find its other zero.
- Q4. Find the quadratic polynomial, sum and product of whose zeroes are 2 and -1 respectively.
- Q5. If the sum of the zeroes of the quadratic polynomial $kx^2 + 2x + 3k$ is equal to their product, find k .
- Q6. Find a polynomial whose zeroes are 2 and 1. What is its degree?
- Q7. Find the polynomial whose zeroes are reciprocals of the zeroes of the polynomial $2x^2 + 3x - 6$.
- Q8. Find the ratio of the sum and product of the zeroes of the polynomial $5x^2 + 2x - 10$.
- Q9. If α and β are zeroes of $p(x) = x^2 + x - 1$, then find $\frac{1}{\alpha} + \frac{1}{\beta}$.
- Q10. Find the zeroes of the polynomial $4x^2 - 4x + 1$ and verify the relationship between zeroes.

CHAPTER 3 – LINEAR EQUATIONS IN TWO VARIABLES

Q1. Determine the value of k for which the given system of equations has unique solution:

(a) $2x - 3y = 1$; $kx + 5y = 7$

(b) $4x - 5y = k$; $2x - 3y = 12$

Q2. Find the value of k , for which the system of equations has infinitely many solutions.

Q3. Represent the following equations on the graph and determine the vertices of the triangle so formed.

Q4. Draw the graph of $x - y + 1 = 0$ and $3x + 2y - 12 = 0$. Calculate the area of the triangle bounded by these lines and the x -axis.

Q5. Solve the system of equations $x - y = 1$, $2x + y = 8$ graphically.

CHAPTER 4 – QUADRATIC EQUATIONS

Q1. The sum of square of two positive numbers is 832. If square of the larger number is 36 times the smaller number, find the numbers.

Q2. Had Neha scored 10 more marks in her mathematics test out of 50 marks, 9 times these marks would have been the square of her actual marks.

Q3. Find a natural number whose square diminished by 37 is equal to 4 times of 2 more than the given number.

Q4. A natural number, when decreased by 4, equals 320 times its reciprocal. Find the number.

Q5. Solve quadratic equation $p^2q^2x^2 + q^2x - p^2x - 1 = 0$.

CHAPTER 5 – ARITHMETIC PROGRESSIONS

Q1. How many terms of the sequence 18, 16, 14, ... should be taken so that their sum is zero?

Q2. The 8th term of an A.P. is 37 and its 12th term is 57. Find the A.P.

Q3. Find the sum of the first 25 terms of an A.P. whose n th term is given by $t_n = 7 - 5n$.

Q4. Find the sum of all two-digit odd positive numbers.

Q5. Find the sum of all the two-digit natural numbers divisible by 4.

नाम— _____

कक्षा — दसवीं

दिनांक— _____

प्रश्न 1. निम्नलिखित किस उदाहरण में श्लेष अलंकार का प्रयोग हुआ है ?

(क) सुबरन को ढूँढ़त फिरै, कवि, व्यभिचारी, बार। (ख) मेघ आए बड़े बन ठन के।

(ग) तट तमाल तरुवर बहु छाए। (घ) चरण कमल बंदौ हरिराई।

2. निम्नलिखित किस काव्य पंक्ति में उत्प्रेक्षा अलंकार का प्रयोग हुआ है ?

(क) रघुपति राघव राजा राम। (ख) पाहुन ज्यों आए हों गाँव में शहर के।

(ग) चरण कमल बंदौ हरिराई। (घ) कमल कोमल कर में संप्रति।

3. निम्नलिखित किस काव्यांश में मानवीकरण अलंकार का प्रयोग हुआ है ?

(क) बीती विभावरी, जाग री, अंबर पनघट में डुबो रही, तारा-घट उषा नागरी ।।

(ख) वह दीपशिखा-सी शांत भाव में लीन।

(ग) कहै कवि बेनी ब्याल की चुराय लीन्ही।

(घ) गंगा-सी पावन नारी।

4. निम्नलिखित किस काव्यांश में अतिशयोक्ति अलंकार का प्रयोग हुआ है

(क) आगे नदिया पड़ी अपार, घोड़ा कैसे उतरे पार। राणा ने सोचा इस पार, तब तक चेतक था उस पार ।।

(ख) पीपर-पात सरिस मन डोला।

(ग) मखमल के झूल पड़े हाथी-सा टोला।

(घ) चारु चंद्र की चंचल किरणें.....।

5. निम्नलिखित किस काव्यांश में अतिशयोक्ति अलंकार का प्रयोग हुआ है ?

(क) ससि मुख पर घूँघट डाले, अंचल में दीप छिपाए।

(ख) वह शर इधर गाँडीव से भिन्न जैसे ही हुआ। धड़ से जयद्रथ का सिर उधर छिन्न वैसे ही हुआ।

(ग) चरण कमल बंदौ हरिराई।

(घ) नदियाँ बहती थीं जैसे यशधारा

6. निम्नलिखित किस काव्यांश में श्लेष अलंकार का प्रयोग हुआ है ?

(क) चिरजीवी जोरी जुरै, क्यों न सनेह गंभीर। को घटि ये वृषभानुजा, वे हलधर के बीर।।

(ख) पीपर पात सरिस मन डोला।

(ग) काली घटा का घमंड घटा।

(घ) कहै कवि बेनी बेनी ब्याल की चुराई लीन्हीं।

7. पद्मावती सब सखी बुलाई। जनु फुलवारि सबै चलि आई।।

(क) श्लेष (ख) अतिशयोक्ति (ग) उत्प्रेक्षा (घ) मानवीकरण

8. भई मुदित सब ग्राम बघूटी। रंकन्ह राय रासि जनु लूटी।।

(क) उत्प्रेक्षा (ख) मानवीकरण (ग) श्लेष (घ) अतिशयोक्ति

9. लिखन बैठि जाकी सबी, गहि-गहि गरब गरूर। भए न केते जगत के, चतुर चितेरे कूर।।

(क) अतिशयोक्ति (ख) श्लेष (ग) मानवीकरण (घ) उत्प्रेक्षा

10. पत्रा ही तिथि पाइयै, वा घर के चहुँ पास। नित प्रति पून्योई रहे, आनन ओप उजास ।।

(क) मानवीकरण (ख) उत्प्रेक्षा (ग) अतिशयोक्ति (घ) श्लेष

11. मानहु विधि तन अच्छ छवि, स्वच्छ राखिबै काज। दृग-पग पोंछन की करै, भूषन पायंदाज ।।

(क) उत्प्रेक्षा (ख) मानवीकरण (ग) श्लेष (घ) अतिशयोक्ति

12. धन-धान्य पाकर मातृरूपा हो जाती हूँ।

(क) अतिशयोक्ति (ख) श्लेष (ग) मानवीकरण (घ) उत्प्रेक्षा

13. कार्तिक की एक हँसमुख सुबह। नदी-तट से लौटती गंगा नहाकर ।।

(क) मानवीकरण (ख) उत्प्रेक्षा (ग) अतिशयोक्ति (घ) श्लेष

14. मानो हवा के जोर से सोता हुआ सागर जगा ।।

उस काल मानो क्रोध से तनु काँपने उनका लगा।

(क) उत्प्रेक्षा (ख) मानवीकरण (ग) श्लेष (घ) अतिशयोक्ति

15. माली आवत देखकर कलियन करें पुकार। फूले-फूले चुन लिए, काल्हि हमारी बार।।

(क) श्लेष	(ख) मानवीकरण	(ग) उत्प्रेक्षा	(घ) अतिशयोक्ति
16. लावण्य भार थर-थर काँपा कोमलता पर सस्वर। ज्यों मालकोश नववीणा पर।।			
(क) श्लेष	(ख) मानवीकरण	(ग) उत्प्रेक्षा	(घ) अतिशयोक्ति
17. मेघ आए बड़े बन उन के संवा के।			
(क) अतिशयोक्ति	(ख) श्लेष	(ग) मानवीकरण	(घ) उत्प्रेक्षा
18. मगन को देख पट देत बार बार हैं।			
(क) श्लेष	(ख) मानवीकरण	(ग) उत्प्रेक्षा	(घ) अतिशयोक्ति
19. मधुबन की छाती को देखो. सूखी कितनी कलियाँ इसकी।			
(क) उत्प्रेक्षा	(ख) मानवीकरण	(ग) श्लेष	(घ) अतिशयोक्ति
20. मुख मानो चंद्र है।			
(क) उत्प्रेक्षा	(ख) अतिशयोक्ति	(ग) श्लेष	(घ) मानवीकरण
21. प्रभंजन मेघ वामिनि ने न क्या तोड़ा न क्या फोड़ा। धरा और नभ के बीच, कुछ साबित नहीं छोड़ा।।			
(क) मानवीकरण	(ख) श्लेष	(ग) अतिशयोक्ति	(घ) उत्प्रेक्षा
22. भई मुदित सब ग्राम बधूटी। रंकन्ह राय रासि जनु लूटी।			
(क) उत्प्रेक्षा	(ख) मानवीकरण	(ग) श्लेष	(घ) अतिशयोक्ति
23. रहिमन पानी राखिए, बिनु पानी सब सून। पानी गए न ऊबरे, मोती मानुष चून॥			
(क) उत्प्रेक्षा	(ख) मानवीकरण	(ग) श्लेष	(घ) अतिशयोक्ति
24. सोहत ओढ़ें पीत पट स्याम सलोने गात। मनौ नीलमणि सैल पर आतप पर्यो प्रभात॥			
(क) उत्प्रेक्षा	(ख) अतिशयोक्ति	(ग) श्लेष	(घ) मानवीकरण
25. उषा सुनहले तीर बरसाती। जय लक्ष्मी-सी उदित हुई।			
(क) अतिशयोक्ति	(ख) श्लेष	(ग) मानवीकरण	(घ) उत्प्रेक्षा
26. विधि हरिहर कवि कोविद बानी, कहत साधु महिमा सकुचानी।			
(क) अतिशयोक्ति	(ख) श्लेष	(ग) मानवीकरण	(घ) अतिशयोक्ति
27. पी तुम्हारी मुख बास तरंग आज बौरे भौरे सहकार।			
(क) उत्प्रेक्षा	(ख) मानवीकरण	(ग) श्लेष	(घ) अतिशयोक्ति
28. चारु कपोल, लोल लोचन, गोरोचन तिलक दिए। लट-लटकनि मनु मत्त मधुप गन, मादक मधुहिं पिए।			
(क) उत्प्रेक्षा	(ख) मानवीकरण	(ग) श्लेष	(घ) अतिशयोक्ति
29. व्योम को छूते हुए दुर्गम पहाड़ों के शिखर। वे घने जंगल जहाँ रहता है तम आठों पहर।।			
(क) अतिशयोक्ति	(ख) उत्प्रेक्षा	(ग) मानवीकरण	(घ) श्लेष
30. दिवसावसान का समय, मेघमय आसमान से उतर रही। वो संध्या-सुंदरी, परी-सी, धीरे-धीरे-धीरे।			
(क) अतिशयोक्ति	(ख) श्लेष	(ग) मानवीकरण	(घ) अतिशयोक्ति
31. हनुमान की पूँछ में, लगन न पाई आग। लंका सिगरी जल गई, गए निसाचर भाग।।			
(क) अतिशयोक्ति	(ख) श्लेष	(ग) मानवीकरण	(घ) अतिशयोक्ति
32. रहिमन पानी राखिए, बिनु पानी सब सून। पानी गए न ऊबरे, मोती मानुष चून॥			
(क) उत्प्रेक्षा	(ख) मानवीकरण	(ग) श्लेष	(घ) अतिशयोक्ति
33. लो यह लतिका भी भर लाई मधु मुकुल रस गागरी।			
(क) अतिशयोक्ति	(ख) श्लेष	(ग) मानवीकरण	(घ) उत्प्रेक्षा
34. मेरी भव बाधा हरो, राधा नागरि सोय। जा तन की झाँई परै, स्याम हरित दुति होय।			
(क) उत्प्रेक्षा	(ख) श्लेष	(ग) मानवीकरण	(घ) अतिशयोक्ति
35. नील परिधान बीच सकुमार, खुल रहा मृदुल अधखिला अंग।			
खिला हो ज्यों बिजली का फूल, मेघ बन बीच गुलाबी रंग।।			
(क) उत्प्रेक्षा	(ख) अतिशयोक्ति	(ग) श्लेष	(घ) मानवीकरण
36. जो रहीम गति दीप की, कुल कपूत गति सोय। बारे उजियारो करै, बड़े अँधेरो होय ।।			
(क) श्लेष	(ख) उत्प्रेक्षा	(ग) अतिशयोक्ति	(घ) मानवीकरण
37. कहती हुई यों उत्तरा के नेत्र जल से भर गए। हिम के कणों से पूर्ण मानों हो गए पंकज नए॥			
(क) श्लेष	(ख) उत्प्रेक्षा	(ग) अतिशयोक्ति	(घ) मानवीकरण
38. देख लो साकेत नगरी है यही। स्वर्ग से मिलने गगन में जा रही।।			
(क) अतिशयोक्ति	(ख) श्लेष	(ग) मानवीकरण	(घ) उत्प्रेक्षा

ENGLISH

☐ *Note: All the work must be done neatly and creatively in a scrapbook.*

☐ Task 1: Language Lab – Discover the Power of Words

(5 Marks)

Select **any five literary devices** from the following:

Simile, Metaphor, Personification, Alliteration, Imagery, Irony, Anaphora, Antithesis, Repetition, Onomatopoeia

For each literary device:

- Define it in your own words
- Write **two original examples**
- Identify **one example from your textbook**

☐ Instructions:

Present the work creatively as an infographic, booklet, or chart.

Use colours, headings, and illustrations wherever possible.

Rubrics:

- Understanding of Literary Devices – 2 Marks
- Creativity & Presentation – 1 Mark
- Original Examples – 1 Mark
- Neatness & Organisation – 1 Mark

☐ Task 2: Reading Reflection (5 Marks)

Read *The Diary of a Young Girl* and complete the following tasks:

A. Reading Response

- Write a brief summary of the book
- List the key characters
- Share your personal response and learning

B. Diary Writing

Write a short diary entry from Anne's perspective.

☐ Instructions:

- ☐ Express your thoughts clearly and creatively.
- ☐ Use simple and meaningful language.
- ☐ Maintain proper diary format.

☐ Rubrics:

- Understanding of the Book – 2 Marks
- Creativity & Expression – 2 Marks
- Presentation – 1 Mark

OR

☐ Task 2: Smart Revision Toolkit

(5 Marks)

- Revise the syllabus using mind maps, flash notes, or self-made charts
- Complete all assignments with accuracy and creativity
- Create a simple progress planner (*optional*)

☐ Instructions:

- ☐ Organise your revision material chapter-wise.
- ☐ Use colourful headings, keywords, and diagrams.
- ☐ Keep the work neat and systematic.

☐ Rubrics:

- Organisation & Planning – 2 Marks
- Accuracy & Completeness – 2 Marks
- Creativity & Neatness – 1 Mark

WORKSHEET

Q 1. Write any THREE letters from the given below .(Do the letters on A 4 size ruled sheet)

1. You are Rudra Malik, the Captain of Pragya Vidyalaya, Barra, Kanpur. You have recently noticed several posters around your school premises conveying a hazardous message:

***Lose weight in just a month!**

****“A WONDER DIET comes to your rescue ...**

***A privilege available for only a few!”**

Write **a letter to the Editor** of The DWA, in not more than 120 words, drawing attention towards harm caused by such advertising. Propose the implementation of “Wholesome Lunch Month” in schools as an idea to address such practices, mention the advantages and share suggestions to foster healthy eating routines and develop positive body image among youngsters.

OR

2. Anand witnessed an accident near the school gate where a child fell down and was hurt very badly. Many people were standing around but did not know what to do. Finally the child was carried to the hospital by a taxi driver. Anand felt the necessity to enable the students to render the first aid to the victim. He decides to write **a letter to the Editor** of a local daily about the importance of knowing first aid. Write the letter on his behalf using your own ideas and the ideas from the unit ‘Health and Medicine’.

3. You intend to join coaching classes at International Coaching Center situated in Raipur. The institute specializes in teaching science to classes XI – XII. **Write a letter of inquiry** in 100-120 words addressed to the Administrator incharge of the institute seeking clarification about the timings, duration, staff, transport and other necessary details for joining the institute. You are Rajesh/Rajni 2, Library Road Jabalpur.

Q 2- Answer the following questions in 120-150 words. (Do the answers in A 4 size sheet)

A. How far would you agree that one’s positivity can bring in a spark of brightness even in adverse circumstances’? Give reference from the chap ' A letter to God'

B .**Don't bite your nails, Amanda ! Don't hunch your shoulders ,Amanda !** what do the above lines reflect about Amanda's mother and how Amanda feels about it?

C. The poem deals with a child **understanding loss** for the first time . Matches and championships too, deal with a different sense of loss. Explain how games and sports are a good way to train children to take losses in their stride. Give reference from poem 'The Ball Poem'.

D. The young seagull's wanted him to fly like his brothers and sister. How could the young seagull's newly flying siblings (brother 1, brother 2 and sister) have motivated him? write a brief conversation among them.

Q 3. Do the following answers (any five) in 40-50 words in a scrap book.

1. The poet compares the trees to “newly discharged patients”. Highlight any two reasons for the Same.

2. The night was sorrowful for Lencho’s family. Elaborate in about 50 words extract.

4. Give the meaning of **quite rage**. How does the tiger walk in the cage?

5. Explain the efforts made by the doctor to bring Tricki back to normal health?

6. Why does Anne feel that he can confide more in her diary than in people ?

7. State any one inference about the postmaster from the given context:

It was the postman himself who handed the letter to him while the postmaster, experiencing the contentment of a man who has performed a good deed, looked on from his office.

NOTE : Revise the syllabus covered till date .

SOCIAL SCIENCE

GEOGRAPHY

Resource and Development (10 Competency-Based MCQs)

1. Match the following

Column A	Column B
1. Black soil	A. Prevents soil erosion
2. Contour ploughing	B. Suitable for cotton cultivation
3. Rainwater harvesting	C. Conserves water resources
4. National Forest Policy	D. Promotes afforestation
5. Overgrazing	E. Major cause of land degradation

Choose the correct option:

- a) 1-B, 2-A, 3-C, 4-D, 5-E
- b) 1-A, 2-B, 3-D, 4-C, 5-E
- c) 1-B, 2-C, 3-A, 4-D, 5-E
- d) 1-C, 2-A, 3-B, 4-E, 5-D

2. Statement I: Resource planning is essential for balanced regional development.

Statement II: Some regions have abundant resources while others face scarcity.

- a) Both Statement I and Statement II are correct, and Statement II explains Statement I
- b) Both Statement I and Statement II are correct, but Statement II does not explain Statement I
- c) Statement I is correct, but Statement II is incorrect
- d) Statement I is incorrect, but Statement II is correct

3. A farmer in Rajasthan adopts contour ploughing on sloping land. What is the most likely outcome?

- a) Increase in mining activity
- b) Reduction in soil erosion
- c) Faster runoff of water
- d) Increase in land degradation

4. Assertion (A): Black soil is ideal for cotton cultivation.

Reason (R): Black soil has high moisture retention capacity.

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

5. Which flow chart correctly shows the first three steps of resource planning?

- a) Resource distribution → Resource identification → Technology use
- b) Resource identification and inventory → Planning structure → Matching resources with development plans
- c) Technology implementation → Survey → Conservation
- d) Resource use → Mapping → Industrialization

6. Statement I: Overgrazing is a major cause of land degradation in Gujarat and Rajasthan.

Statement II: Excessive grazing removes vegetation cover and exposes soil.

- a) Both Statement I and Statement II are correct, and Statement II explains Statement I
- b) Both Statement I and Statement II are correct, but Statement II does not explain Statement I
- c) Statement I is correct, but Statement II is incorrect
- d) Statement I is incorrect, but Statement II is correct

7. Rainwater harvesting is mainly practiced to:

- a) Increase industrial output
- b) Conserve water resources
- c) Promote mining
- d) Expand urban settlements

8. Assertion (A): Unequal distribution of resources occurs due to geological factors.

Reason (R): Formation of minerals and soils depends on geological processes.

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

9. A village starts plantation drives and eco-development programmes under government support. Which initiative does this reflect?

- a) Green Revolution
- b) National Forest Policy
- c) White Revolution
- d) Land Ceiling Act

10. Which of the following is a renewable resource?

- a) Coal
- b) Petroleum
- c) Solar energy
- d) Natural gas

Agriculture (10 Competency-Based MCQs)

1. Statement I: Subsistence farming is practiced mainly for family consumption.

Statement II: It usually involves small landholdings and low use of modern technology.

- a) Both Statement I and Statement II are correct, and Statement II explains Statement I
- b) Both Statement I and Statement II are correct, but Statement II does not explain Statement I
- c) Statement I is correct, but Statement II is incorrect
- d) Statement I is incorrect, but Statement II is correct

2. A farmer grows wheat during winter and harvests it in spring. Which season does this crop belong to?

- a) Kharif
- b) Rabi
- c) Zaid
- d) Monsoon

3. Match the following

Column A	Column B
1. HYV seeds	A. Food security
2. Public Distribution System	B. Intensive irrigation
3. Drip irrigation	C. Horticulture crops
4. Organic farming	D. Avoids chemical fertilizers

- a) 1-B, 2-A, 3-C, 4-D
- b) 1-A, 2-B, 3-D, 4-C
- c) 1-C, 2-A, 3-B, 4-D
- d) 1-B, 2-D, 3-A, 4-C

4. Assertion (A): The Green Revolution mainly increased wheat production.

Reason (R): It promoted the use of HYV seeds, irrigation and fertilizers.

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

5. Which crop among the following is a cash crop?

- a) Rice
- b) Wheat

- c) Sugarcane
- d) Maize

6. Which flow chart correctly represents modern agricultural practice?

- a) HYV seeds → Intensive irrigation → Higher productivity
- b) Rainfall → Traditional tools → Lower output
- c) Crop failure → Fertilizers → Higher output
- d) Irrigation → Soil erosion → Productivity

7. Statement I: Fragmentation of landholdings reduces agricultural productivity.

Statement II: Small fragmented fields make mechanization difficult.

- a) Both Statement I and Statement II are correct, and Statement II explains Statement I
- b) Both Statement I and Statement II are correct, but Statement II does not explain Statement I
- c) Statement I is correct, but Statement II is incorrect
- d) Statement I is incorrect, but Statement II is correct

8. Drip irrigation is most suitable for:

- a) Paddy fields
- b) Horticulture crops
- c) Wheat fields
- d) Tea plantations

9. Assertion (A): Organic farming avoids chemical fertilizers and pesticides.

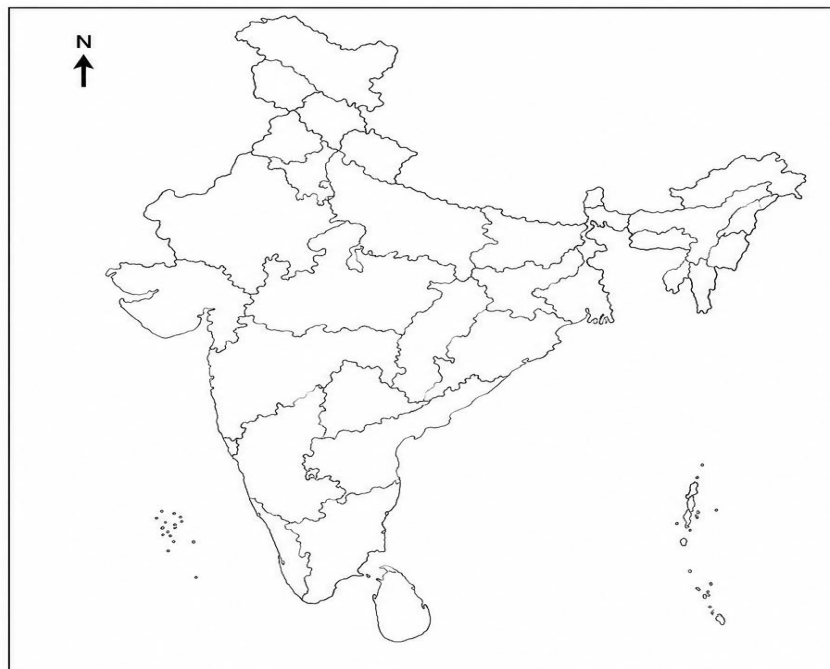
Reason (R): It encourages sustainable agricultural practices.

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

10. Contour ploughing helps farmers because it:

- a) Increases runoff
- b) Prevents soil erosion on slopes
- c) Causes flooding
- d) Reduces soil fertility

Q. Study the given outline map of India and answer the following questions.



IDENTIFYING AND LOCATING

- a) Identify and mark any **THREE** major rice producing states on the map. [3]
 - i) _____
 - ii) _____
 - iii) _____
- b) Identify and mark any **THREE** major wheat producing states on the map. [3]
 - i) _____
 - ii) _____
 - iii) _____
- c) Which rice producing state is located on the north-eastern border of India? [1]

- d) Name the wheat producing state which lies in the north-western part of India. [1]

- e) Name the rice producing states located on the eastern coast of India. [2]
 - i) _____
 - ii) _____
- f) Name the wheat producing state which is the largest in area in India. [1]

[TOTAL MARKS: 11]

Economics

Development (10 Competency-Based MCQs)

1. Statement I: Per capita income alone cannot measure development.

Statement II: Development also includes health, education and quality of life.

- a) Both Statement I and Statement II are correct, and Statement II explains Statement I
- b) Both Statement I and Statement II are correct, but Statement II does not explain Statement I
- c) Statement I is correct, but Statement II is incorrect
- d) Statement I is incorrect, but Statement II is correct

2. Which indicator reflects quality of life better?

- a) Per capita income
- b) Literacy rate
- c) Life expectancy
- d) All of the above

3. Match the following

Column A	Column B
1. Human Development Index	A. UNDP
2. Per capita income	B. Average income per person
3. Life expectancy	C. Health indicator
4. Literacy rate	D. Education indicator

- a) 1-A, 2-B, 3-C, 4-D
- b) 1-B, 2-A, 3-D, 4-C
- c) 1-A, 2-C, 3-B, 4-D
- d) 1-D, 2-B, 3-A, 4-C

4. Assertion (A): Economic development is broader than economic growth.

Reason (R): Economic development includes social indicators along with income.

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

5. Which organization publishes HDI rankings?

- a) World Bank
- b) IMF
- c) UNDP
- d) WTO

6. Which flow chart correctly represents calculation of per capita income?

- a) Total population ÷ Total income
- b) Total income ÷ Total population
- c) GDP ÷ Literacy rate
- d) Total exports ÷ Population

7. Statement I: Farmers in rural areas may prioritize irrigation, roads and healthcare.

Statement II: Development goals differ from person to person.

- a) Both Statement I and Statement II are correct, and Statement II explains Statement I
- b) Both Statement I and Statement II are correct, but Statement II does not explain Statement I
- c) Statement I is correct, but Statement II is incorrect
- d) Statement I is incorrect, but Statement II is correct

8. Which of the following is a public facility?

- a) Electricity
- b) Healthcare
- c) Education
- d) All of the above

9. Which of the following best shows income inequality?

- a) Average income
- b) Distribution of income
- c) GDP growth rate
- d) Literacy rate

10. Which of the following is a renewable resource?

- a) Coal
- b) Petroleum
- c) Wind energy
- d) Natural gas

Political Science

- Q1 A system of 'checks and balances' is another name for which one of the following power-sharing arrangements:
- (a) Power sharing among different social groups.
 - (b) Vertical division of power or power shared among different levels of government.

- (c) Horizontal division of power or power shared among different organs of the government.
 (d) Power sharing in the form of political parties, pressure groups and governments.
- Q2 In the year an Act was passed to recognize Sinhala as the official language.
- Q3 Lending libraries had been in existence from the seventeenth century onwards. In the nineteenth century, lending libraries in England became instrument for educating _____ .
 Fill in the given blank by choosing the most appropriate option.
 (a) Women from rich households
 (b) Artisans and lower middle- class people
 (c) Political leaders and revolutionaries
 (d) The middle class people
- Q4 **Consider the following statements regarding power-sharing arrangements in Belgium and identify the incorrect one from the following:**
 A. Equal number of members from Dutch and French communities in the central government
 B. Separate government for Brussels with equal representation of communities
 C. The State government is to be subordinate to the Central government
 D. Community government elected by people belonging to one language community
- Q5 Consider the following statements on the practice of federalism in India. Identify those which hold true for decentralisation after 1992.
 A. Local governments did not have any power or resources of their own.
 B. It became constitutionally mandatory to hold regular elections to local government bodies.
 C. The state governments are required to share some powers and revenue with local government bodies.
 D. No seats are reserved in the elected bodies for scheduled castes, scheduled tribes and other backward classes.
 (a) B and C (b) A and C
 (c) A and D (d) B and D
- Q6 **Consider the following statements about the ethnic composition of Sri Lanka:**
 A. Major social groups are the Sinhala- speaking (74%) and Tamil-speaking (18%)?
 B. Among the Tamils, there are two sub-groups, Sri Lankan Tamils and Indian Tamils.
 C. There are about 7% Christians, who are both Tamil and Sinhala.
 D. Most of the Sinhala-speaking are Hindus or Muslims and most of the Tamil-speaking are Buddhists.
 Which of the above statements are correct?
 (a) A, B, C (b) A, B, D
 (c) B, C, D (d) A, B, C, D
- Q7 **Read the source given below and answer the questions that follows:**
 Majoritarianism is a concept which signifies a belief that the majority community should be able to rule a country in whichever way it wants, by disregarding the wishes and needs of the minority.
 When Sri Lanka emerged as an independent country in 1948. The leaders of the Sinhala community sought to secure dominance over government by virtue of their majority.
 In 1956, an Act was passed to recognise Sinhala as the only official language, thus disregarding Tamil. The governments followed preferential policies that favoured Sinhala applicants for university positions and government jobs. A new constitution stipulated that the state shall protect and foster Buddhism. All these government measures, coming one after the other, gradually increased the feeling of alienation among the Sri Lankan Tamils. They felt that none of the major political parties led by the Buddhist

Sinhala leaders was sensitive to their language and culture. The relation between the Sinhala and Tamil communities became strained over time.

Q7.1 Signify the concept of majoritarianism? (1)

Q7.2 Highlight the outcome of the Act passed in 1956? (1)

Q7S.3 Under what circumstances the relation between the Sinhala and Tamil (2)
communities become strained?

Q8 **Which of the following options prove that India is a quasi – federal state ?**

(a) More powers with Centre.

(b) Residuary subjects with Centre

(c) Equal subjects with Centre and State

(d) Currency and Railways with centre

Options :

i. (a), (c) and (d)

ii. (a), (b) and (d)

iii. (b), (c) and (d)

iv. (a), (b) and (c)

Q9 Two statements are given below as Assertion (A) and Reason (R). Read the statements and choose the most appropriate option. 139 Assertion (A): The Belgian leaders amended their constitution four times between 1970 and 1993. 140 Reason (R): This was done to work out an arrangement that would enable everyone to live together peacefully within the same country.

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

(b) Both A and R are true, but R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false but R is true.

History

Q10 **Arrange the following in Chronological Order:**

(i) Gandhi – Irwin Pact

(ii) Gandhi sent letter to Viceroy Lord Irwin

(iii) Violation of Salt Act by Mahatma Gandhi

Choose the correct option:

(a) (i) , (iii) , (ii)

(b) (iii) , (ii) , (i)

(c) (iii) , (i) , (ii)

(d) (ii) , (iii) , (i)

Q11 **The artisans, industrial workers and peasants revolted against which one of the following in 1848, Europe?**

(a) Economic hardship

(b) Political instability

(c) Monarchy

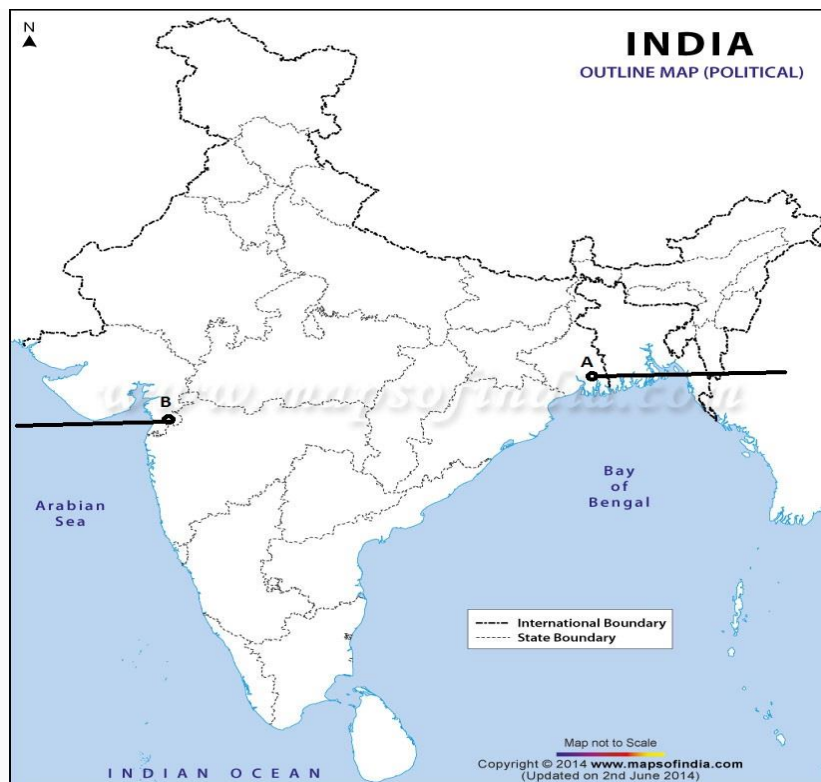
(d) Revolutionary

Q12 (a) On the given outline Political Map of India, identify the places marked as A and B with the help of following information and write their correct name on the lines marked near it.

(A) The place where Indian National Congress session was held in 1920.

(B) A place associated with salt law violation by Gandhiji .

(C) A place associated with Peasant Satyagraha.



SCIENCE

- Practice all NCERT questions based on syllabus covered in science (all examples, in text and exercises)
- Complete the following questions in respective subject notebooks.

CHEMISTRY

1. A compound 'X' is used for drinking, has $\text{pH} = 7$. Its acidified solution undergoes decomposition in presence of electricity to produce gases 'Y' and 'Z'. The volume of Y is double than Z. Y is highly combustible whereas Z is supporter of combustion. Identify X, Y & Z and write the chemical reactions involved.
2. An aqueous solution of metal nitrate P reacts with sodium bromide solution to form yellow ppt of compound Q which is used in photography. Q on exposure to sunlight undergoes decomposition reaction to form metal present in P along with reddish brown gas. Identify P & Q. Write the chemical reaction & type of chemical reaction.
3. Bhawana took a pale green substance A in a test tube. and heated it over the flame of a burner. A brown colored residue B was formed along with evolution of two gases with burning smell of sulphur. Identify A & B. Write the chemical reaction involved.
4. A student took 2-3 g of a substance X in a glass beaker & poured water over it slowly. He observed bubbles along with hissing noise. The beaker becomes quite hot. Identify X. What type of reaction is it?
5. A reddish brown vessel developed a green colored solid X when left open in air for a long time. When reacted with dil H_2SO_4 , it forms a blue colored solution along with brisk effervescence due to colourless & odourless gas Z. X decomposes to form black colored oxide Y of a reddish brown metal along with gas Z, Identify X, Y, & Z.
6. A substance X used for coating iron articles is added to a blue solution of a reddish brown metal Y, the color of the solution gets discharged. Identify X and Y & also the type of reaction.

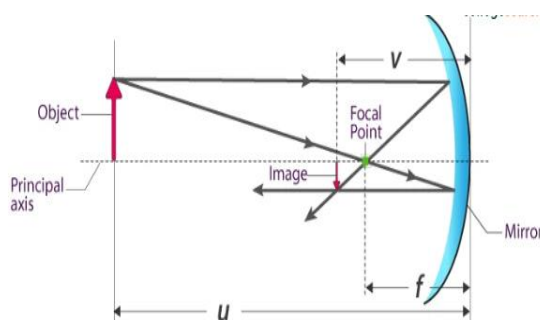
7. A student has mixed the solutions of lead (II) nitrate and potassium iodide. (i) What was the colour of the precipitate formed? Can you name the compound? precipitated ? (ii) Write the balanced chemical equation for this reaction. (iii) What type of reaction is it?

PHYSICS

1. Visit a mirror house and click a pic. of your image. Think about the shape of the mirror, giving proper explanation using your knowledge of optics.
2. Write uses of different mirrors in modern life and technologies. Find a bit different uses.
3. Using two plane mirrors make an arrangement so that a ray incident on one plane mirror becomes parallel to itself after reflection from the second mirror.

A. CASE STUDY QUESTIONS

Mirror formula is a relation between object distance (u), image distance (v) and focal length (f) of a spherical mirror. It can be written as $1/u + 1/v = 1/f = 2/R$ where R is the radius of curvature of the mirror. This formula is valid in all situations for all spherical mirrors for all positions of the object. Consider the case, in which a mirror forms a real image of height 4 cm of an object of height 1 cm placed 20 cm away from the mirror.



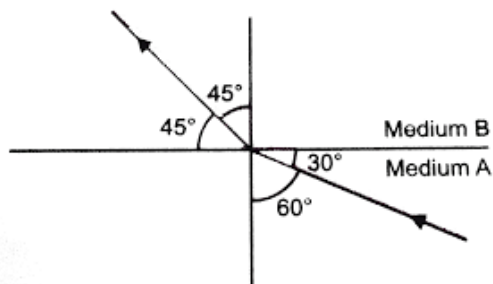
- (i) The distance from the object to its image is
(a) 20 cm (b) 80 cm (c) 60 cm (d) 70 cm
- (ii) The focal length of mirror is
(a) -16 cm (b) 12 cm (c) -15 cm (d) 10 cm
- (iii) The radius of curvature of the mirror is
(a) -16 cm (b) -14 cm (c) -30 cm (d) -32 cm
- (iv) The magnification of the image is
(a) 3 (b) -6 (c) -4 (d) 8
- (v) At what distance must an object be placed from mirror in order that a real image double its size may be obtained?
(a) -24 cm (b) 32 cm (c) -40 cm (d) 45 cm

B. CASE STUDY QUESTIONS

In optics, the refractive index (also called refraction index or index of refraction), often denoted n , is the ratio of the speed of light in vacuum (c) to the speed of light in a given optical medium (v), $n=c/v$. The refractive index determines how much the path of light is bent, or refracted, when entering a material, as described by Snell's law of refraction, $n_1 \sin \theta_1 = n_2 \sin \theta_2$, where θ_1 and θ_2 are the angle of incidence and angle of refraction, respectively, of a ray crossing the interface between two media with refractive indices n_1 and n_2 . The refractive indices also determine the amount of light that is reflected when reaching the interface, as well as the critical angle for total internal reflection.

- (i) Light enters from air to glass having refractive index 1.50. What is the speed of light in the glass? The speed of light in vacuum is $3 \times 10^8 \text{ m s}^{-1}$.
- (ii) The refractive index of diamond is 2.42. What is the meaning of this statement?

- (iii) Figure below shows a ray of light as it travels from medium A to medium B. What is the refractive index of the medium B relative to medium A ?



- (iv) A ray is incident normally on a transparent surface. Draw a corresponding ray diagram to illustrate it . Is it okay to call this phenomenon as refraction? Comment.

BIOLOGY

1. Name the following

- (a) The process in plants that links light energy with chemical energy
- (b) Organisms that can prepare their own food
- (c) The cell organelle where photosynthesis occurs
- (d) Cells that surround a stomatal pore
- (e) Organisms that cannot prepare their own food
- (f) An enzyme secreted from gastric glands in stomach that acts on proteins.

2. If a plant is releasing carbon dioxide and taking in oxygen during the day, does it mean that there is no photosynthesis occurring? Justify your answer.

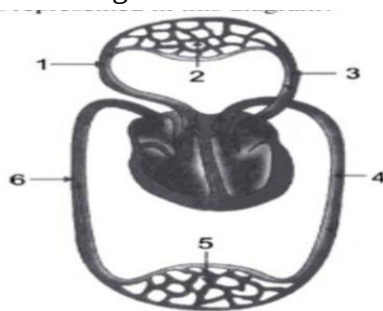
3. In each of the following situations what happens to the rate of photosynthesis?

- (a) Cloudy days
- (b) No rainfall in the area
- (c) Good manuring in the area
- (d) Stomata get blocked due to dust

4. Explain the three pathways of breakdown in living organisms.

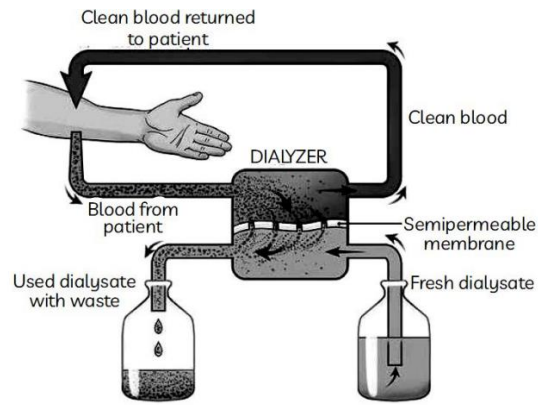
5. (a) Label any 4 parts in the given diagram.

(b) What are the two functions represented in this diagram?



CASE STUDY QUESTIONS

Read the given passage and answer the questions based on passage and related studied concepts. The figure shown below represents a common type of dialysis called Haemodialysis. It removes waste products from the blood. Such as excess salts, and urea which are insufficiently removed by the kidney in patients with kidney failure. During the procedure, the patient's blood is cleaned by filtration through a series of semipermeable membranes before being returned to the blood of the patient. On the basis of this, answer the following questions:



- (a) (i) Name the filtering units present in the human kidneys.
- (ii) Name the main excreting waste removed by kidneys from blood?
- (b) What are the two main functions of kidneys?
- (d) What are the major factors on which the amount of water reabsorbed in the part of nephron depends?
