

PM SHRI KENDRIYA VIDYALAYA KARIMNAGAR HOLIDAY HOMEWORK 2026-27



**HOLIDAY HOME
WORK 2026-27
CLASS VI**

PM SHRI KENDRIYA VIDYALAYA KARIMNAGAR
AUTUMN BREAK HOLIDAY HOMEWORK – MATHEMATICS

Class VI | Chapters 1–5 | 10 Days | Subjective Worksheet

Name:	_____	Class/Section:	_____
Roll No.:	_____	Date:	_____

Chapters: 1. Patterns in Mathematics 2. Lines and Angles 3. Number Play 4. Data Handling and Presentation 5. Prime Time

Instructions: Attempt all 25 questions. Show complete working wherever required. No MCQs. Use ruler/compass where needed. Suggested pace: 2–3 questions per day.

1. Write the next three terms of each pattern: (a) 2, 5, 8, 11, ... (b) 1, 4, 9, 16, ... **[2 marks]**
2. A matchstick pattern has 1 square in Figure 1, 2 adjoining squares in Figure 2, and 3 adjoining squares in Figure 3. How many matchsticks are needed for Figure 10? Explain your rule. **[2 marks]**
3. Give one example each of a repeating pattern and a growing pattern from your surroundings. Describe the rule. **[2 marks]**
4. Draw a line segment $AB = 7$ cm. Construct its perpendicular bisector using ruler and compass. **[2 marks]**
5. Two angles form a linear pair. If one angle is 68° , find the other angle and state the property used. **[2 marks]**
6. Lines AB and CD intersect at O. If $\angle AOC = 115^\circ$, find $\angle BOD$, $\angle AOD$ and $\angle BOC$. **[2 marks]**
7. Classify the following angles: 35° , 90° , 125° , 180° , 245° . **[2 marks]**
8. Using a protractor, draw an angle of 72° and construct its angle bisector. **[2 marks]**
9. Using the digits 0, 3, 5 and 7 without repetition, write the greatest and the smallest 4-digit numbers possible. Find their difference. **[2 marks]**
10. Find all factors of 36 and write the first five multiples of 9. What relation do you observe between a factor and a multiple? **[2 marks]**
11. Test 438, 725 and 936 for divisibility by 2, 3, 5 and 9. Write the tests used. **[2 marks]**
12. A number is divisible by both 6 and 8. What is the least positive number that satisfies this? Explain. **[2 marks]**
13. Find the HCF of 48 and 72 by listing factors. Then find their LCM using the relation between HCF and LCM. **[2 marks]**
14. The numbers of books read by 6 students are 2, 5, 3, 4, 5, 7. Find the total, average, and mode. **[2 marks]**
15. Make a tally table and frequency table for the data: 3, 4, 3, 5, 6, 4, 3, 6, 5, 4. **[2 marks]**
16. Represent the data in Q15 by a simple bar graph. Give a suitable scale and title. **[2 marks]**

- 17.** A class survey gives favourite fruits: Mango 12, Apple 8, Banana 10, Orange 5. Which fruit is most popular? How many students were surveyed? Draw a bar graph. **[2 marks]**
- 18.** The temperature at 9 a.m. for five days was 28°C , 30°C , 29°C , 31°C and 27°C . Find the highest, lowest and range. **[2 marks]**
- 19.** Write the prime factorisation of 84 and 150. **[2 marks]**
- 20.** Which of the following are prime: 29, 39, 51, 67, 91? Give a reason for each composite number. **[2 marks]**
- 21.** Find the HCF and LCM of 24 and 90 using prime factorisation. **[2 marks]**
- 22.** A school has 48 red badges and 60 blue badges. They are to be packed into identical groups with no badge left over. Find the greatest number of groups and the number of each colour in a group. **[2 marks]**
- 23.** Find the smallest number that is divisible by 4, 6 and 9. Show your method. **[2 marks]**
- 24.** Create a 5×5 number grid containing numbers 1–25 once each so that each row has a different sum. Write the row sums and explain your observation. **[2 marks]**
- 25.** Integrated activity: Observe any one pattern at PM SHRI KV Karimnagar (floor tiles, grill, staircase, gate, etc.). Draw it, identify the mathematical idea involved, and write 4–5 lines explaining the pattern. **[2 marks]**

MARKING SCHEME / ANSWER KEY

Q. No.	Expected answer / marking points	Marks
1	(a) 14, 17, 20; (b) 25, 36, 49; 1 mark each.	2
2	10th figure requires $3n+1$ matchsticks = 31; rule explained.	2
3	Valid examples with correct rule/description.	2
4	Correct 7 cm segment, arcs from A and B intersecting, perpendicular bisector through intersections.	2
5	112° ; angles in a linear pair sum to 180° .	2
6	$\angle BOD=115^\circ$, $\angle AOD=65^\circ$, $\angle BOC=65^\circ$ using vertically opposite and linear-pair properties.	2
7	Acute, right, obtuse, straight, reflex respectively.	2
8	72° accurately drawn and bisected into $36^\circ + 36^\circ$.	2
9	Greatest 7530, smallest 3057; difference 4473.	2
10	Factors: 1,2,3,4,6,9,12,18,36; multiples: 9,18,27,36,45. Correct observation.	2
11	438: 2,3; 725: 5; 936: 2,3,9; correct divisibility tests.	2
12	24; 24 is divisible by both 6 and 8 and is least.	2
13	HCF=24, LCM=144; correct relation.	2
14	Total 26, average $26/6 = 4\frac{1}{3}$, mode 5.	2
15	Correct tally and frequencies: $3 \rightarrow 3$, $4 \rightarrow 3$, $5 \rightarrow 2$, $6 \rightarrow 2$.	2
16	Four bars with correct heights,	2

	scale and title.	
17	Mango; total 35; correct bar graph.	2
18	Highest 31°C, lowest 27°C, range 4°C.	2
19	$84=2^2 \times 3 \times 7$; $150=2 \times 3 \times 5^2$.	2
20	Prime: 29,67; composites $39=3 \times 13$, $51=3 \times 17$, $91=7 \times 13$.	2
21	HCF=6, LCM=360.	2
22	HCF(48,60)=12 groups; each group 4 red and 5 blue.	2
23	LCM(4,6,9)=36.	2
24	Valid 1–25 arrangement with different row sums and a clear observation.	2
25	Relevant observation, accurate drawing, mathematical identification and explanation.	2
TOTAL		50

शारद ऋतु अवकाश गृहकार्य
विषय- संस्कृत

Class - VI

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. Fun Activities
(i) 4 Animal चित्र बनाकर संस्कृत में नाम लिखिए
(ii) 6 फलका चित्र बनाकर संस्कृत में नाम लिखिए

class -VII

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. श्लोक संग्रह
5 श्लोक हिन्दी अनुवाद के साथ लिखिए
3. सृजनात्मक कार्य
। विद्यालय के बारे में 10 वाक्य संस्कृत में लिखिए

CLASS -VIII

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. सृजनात्मक कार्य
पर्यावरण महत्वम् के बारे में 50 शब्द संस्कृत में लिखिए

Autumn Break Homework

Class - VI | English (Poorvi)

Chapter 1

Spices That Heal Us



- 1 Write the meanings of 10 difficult words from the chapter.
- 2 Answer all the textbook questions in your notebook.
- 3 Write a paragraph on "The Importance of Spices in Our Daily Life" in 100-120 words.
- 4 Make a list of five spices and write one health-related use of each.
- 5 Draw or paste pictures of five spices and label them in English.

Chapter 2

Change of Heart



- 1 Write the meanings of 10 difficult words from the chapter.
- 2 Answer all the textbook questions in your notebook.
- 3 Write a character sketch of the main character in 80-100 words.
- 4 Write the moral of the chapter in 50-60 words.
- 5 Write a paragraph on "The Importance of Kindness and Empathy" in 100-120 words.

Grammar

1 Tenses



- a Define tenses and write the names of the three main tenses with examples.
- b Write the structures and two examples each of the Simple Present, Simple Past and Simple Future tenses.
- c Write five sentences each in the Present Continuous, Past Continuous and Future Continuous tenses.
- d Change the following sentences into the past and future tenses:
 - (i) She writes a letter.
 - (ii) They play football.
 - (iii) He goes to school.
 - (iv) I eat an apple.
 - (v) We watch television.



2 Parts of Speech

Write five examples each of nouns, pronouns, adjectives and verbs. Use them in sentences.

Noun

Pronoun

Adjective

Verb

Writing Skills



- 1 Write a diary entry about a memorable day during your autumn break.
- 2 Write a paragraph on "How I Spent My Autumn Break" in 100-120 words.

Instructions: Complete all the work neatly in your English notebook. Use your own words and submit it after the autumn break.

PM SHRI KENDRIYA VIDYALAYA

AUTUMN BREAK HOLIDAY HOMEWORK – SCIENCE

Class VI | Academic Session: 2026–27

(Note: Complete all tasks neatly on A4 sheets and compile them in a folder.)

1. Creative Expression: Prepare a detailed, colorful mind map/ poster on any chapter topic (e.g., *Diversity in Plants and Animals, Nutrients in a Balanced Diet, Properties of Magnets, Types of Motion, Properties of Materials, or Measurement of Temperature.*).

2. Science Project: Select any **one sub-theme** like *Health, Hygiene, and Sanitation or Green Energy & Environmental Conservation* and write a 1-page synopsis containing: **Project Title, Objective, Science Principle Involved, and a rough sketch/model idea.**

- *Use only safe, eco-friendly materials (cardboard, chart paper, jute, cloth pieces, coconut shells, old newspapers, seed pods, natural colors, reusable items) for your project. Choose things that are **sustainable, biodegradable, or upcycled**. Do not use **thermocool or single-use plastics**.*

Autumn Break

Holidays homework

Read part 2 text book and make a three questions and Answers

1. Oceans and Continents

2. Landforms and Life

3. The Beginnings of Indian Civilisation

4. Unity in Diversity, or 'Many in the One

5. Grassroots Democracy – Part 2 Local Government in Rural Areas

6.Grassroots Democracy – Part 3Local Government in Urban Areas

अवकाश गृह कार्य , कक्षा -6 , विषय – हिन्दी

1. मेरी प्रिय पुस्तक, होली का त्योहार, महात्मा गांधी विषयों पर 100 -100 शब्दों में अनुच्छेद लिखिए।
2. प्राचार्य महोदय को फीस माफी के लिए प्रार्थना पत्र लिखिए।
- 3 मित्र को जन्मदिन के अवसर पर बधाई पत्र लिखिए ।
- 4 मोहन और गोपाल के बीच हिन्दी की परीक्षा को लेकर होने वाली बातचीत को संवाद के रूप में लिखिए ।

6వ తరగతి సెలవుల ఇంటిపని

1. అ నుండి అ వరకు రెండు సార్లు రాయండి?
2. అలకట్టు నుండి విసర్గ వరకు 3 సార్లు రాయండి?
3. క నుండి అ వరకు గుణింతాలు రాయండి?
4. క నుండి అ వరకు ఒత్తులు రెండు సార్లు రాయండి?
5. అ నుండి అ వరకు గల ఒక్కో అక్షరంతో మూడు సరళ పదాలు రాయండి?

शारद ऋतु अवकाश गृहकार्य
विषय- संस्कृत

Class - VI

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. Fun Activities
(i) 4 Animal चित्र बनाकर संस्कृत में नाम लिखिए
(ii) 6 फलका चित्र बनाकर संस्कृत में नाम लिखिए

class -VII

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. श्लोक संग्रह
5 श्लोक हिन्दी अनुवाद के साथ लिखिए
3. सृजनात्मक कार्य
। विद्यालय के बारे में 10 वाक्य संस्कृत में लिखिए

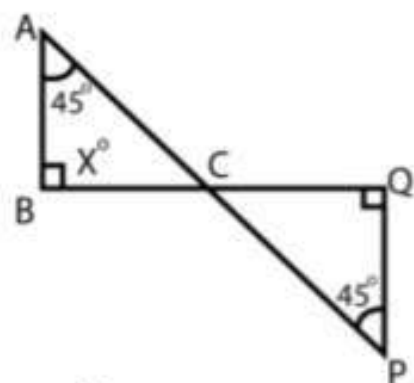
CLASS -VIII

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. सृजनात्मक कार्य
पर्यावरण महत्वम् के बारे में 50 शब्द संस्कृत में लिखिए

**HOLIDAY HOME
WORK 2026-27
CLASS VII**

Congruency in Triangles Practice Worksheet

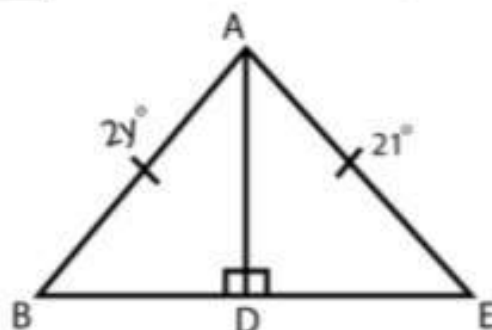
- 1 $\triangle ABC \cong \triangle PQC$, find x



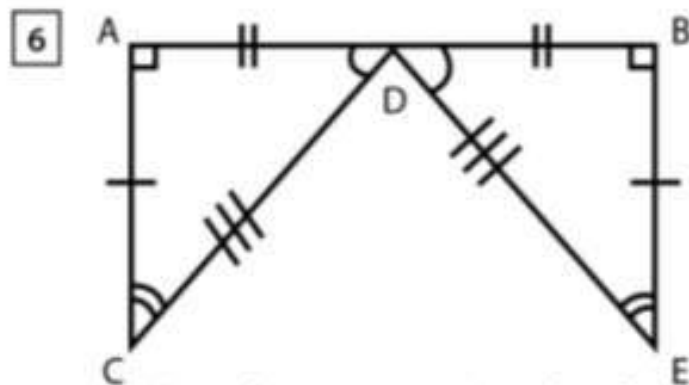
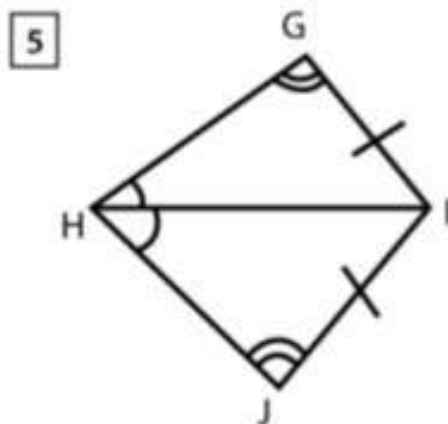
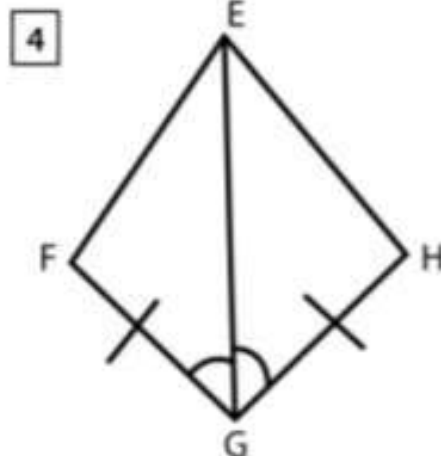
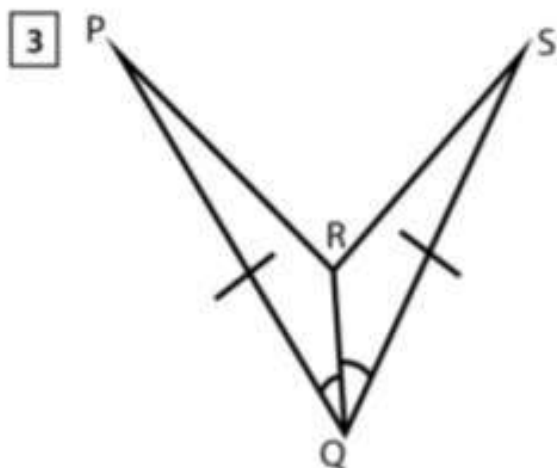
$x = \underline{\hspace{2cm}}$

State the postulates, if any, that make the triangles congruent

- 2 $\triangle ABD \cong \triangle AED$, find y



$y = \underline{\hspace{2cm}}$

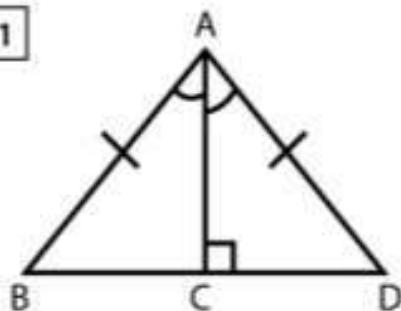


Name the congruent triangle and the congruent parts

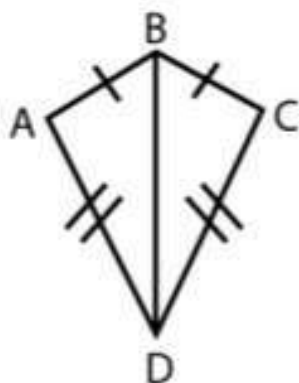
Proving Congruent Triangles Worksheet

State whether the following pairs of triangles are congruent. If they are, identify the theorem that supports your conclusion.

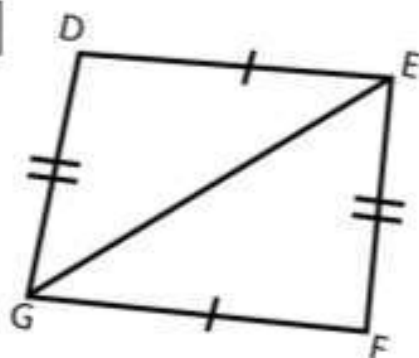
1



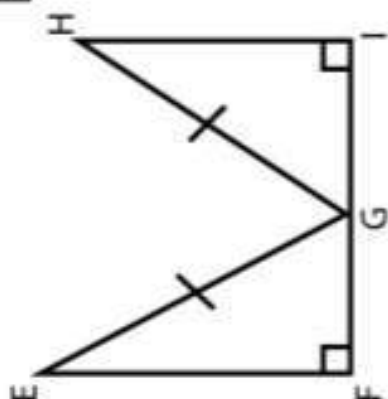
2



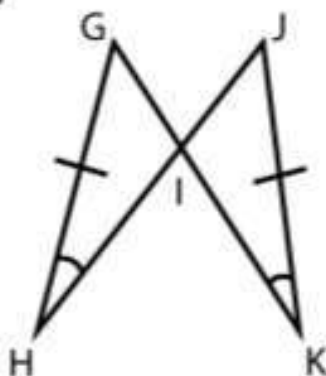
3



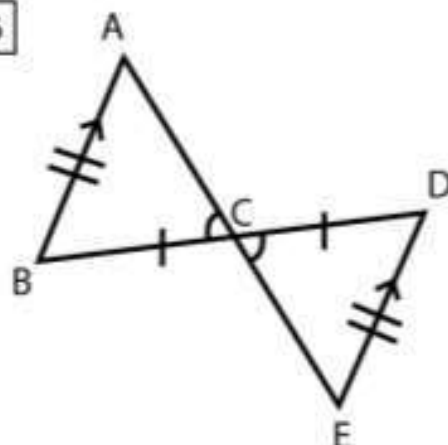
4



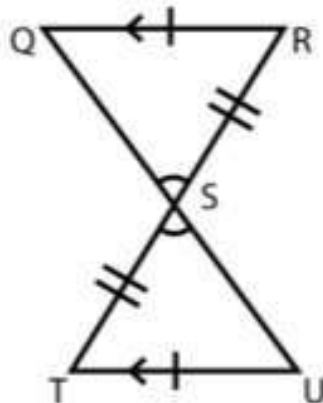
5



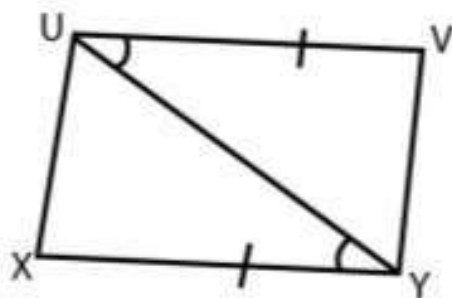
6



7



8



BASIC CRITICAL THINKING

Problem Solving & Analytical Assessment Worksheet

Name: _____

Date: _____

1. In a school, a P.E.T. teacher assembles students in rows. If 3 students are placed in each row, no student is left over. If 4 students are placed in each row, 1 student is left over. If 6 students are placed in each row, 3 students are left over. Find the minimum number of students.
2. A bookseller sells textbooks and notebooks. He makes a profit of ₹12 on each textbook and incurs a loss of ₹7 on each notebook.
 - (i) If the bookseller sells 50 textbooks and 60 notebooks in a day, did he make a profit or a loss? Find the total amount.
 - (ii) If he sells 48 notebooks, how many textbooks does he need to sell to recover the loss?
3. The length and breadth of a rectangle are $5\frac{3}{7}$ m and $3\frac{6}{19}$ m, respectively. Find its area and perimeter.
4. The area of a square is 196 cm^2 . Find its side length and perimeter.
5. Given the number pattern: 4, 7, 10, 13, 16, ...
 - (i) Write the next 4 numbers.
 - (ii) Which number appears in the 15th position?
 - (iii) Is 61 a part of this pattern? If yes, at which position does it appear?
 - (iv) Write the algebraic expression (general term) for this pattern.
6. Simplify: $(\frac{4}{5} + \frac{3}{7}) \div (\frac{1}{7} \times \frac{43}{5})$
7. A family requires 750 ml of milk daily. Find the total quantity needed: (i) In August (ii) In September (iii) In a leap year (iv) In a week. (v) If 1 litre costs ₹52, find the total cost for each.
8. Ramesh deposited 2500 currency notes (₹100, ₹50, and ₹20). Total amount is ₹1,57,000. If notes are in ratio 10 : 9 : 6, find the number of notes of each denomination.

PM SHRI KENDRIYA VIDYALAYA

AUTUMN BREAK HOLIDAY HOMEWORK – SCIENCE

Class VII | Academic Session: 2026–27

(Note: Complete all tasks neatly on A4 sheets and compile them in a folder.)

1. Creative Expression: Prepare a detailed, colorful mind map/ poster on any chapter topic (e.g., *Acid-Base Indicators, Electric Circuits and Components, Metals vs. Non-metals, Physical and Chemical Changes, or Methods of Heat Transfer*).

2. Science Project: Select any **one sub-theme** like *Indigenous Agricultural Practices, Green Energy & Environmental Conservation, or Health, Hygiene, and Sanitation* and write a 1-page synopsis containing: **Project Title, Objective, Science Principle Involved, and a rough sketch/model idea.**

- *Use only safe, eco-friendly materials (cardboard, chart paper, jute, cloth pieces, coconut shells, old newspapers, seed pods, natural colors, reusable items) for your project. Choose things that are **sustainable, biodegradable, or upcycled**. Do not use **thermocool** or **single-use plastics**.*

Autumn Break

Holidays homework

Read part 2 text book and make a three questions and Answers

Chapter 1 The Story of Indian Farming

Chapter 2 India and Her Neighbours

Chapter 3 Empires and Kingdoms: 6th to 10th Centuries

Chapter 4 Turning Tides: 11th and 12th Centuries

Chapter 5 India, a Home to Many

Chapter 6 The State, the Government, and You not CONCERT

Chapter 7 Infrastructure: Engine of India's Development

Chapter 8 Banks and the Magic of Finance

Class-7

ENGLISH AUTUMN BREAK HOMEWORK

- 1) write the difficult word & of their meaning of lessons 1 to 5
- 2) write a paragraph on the skills you have learned so far and add pictures to it.
- 3) write all 8 parts of speech with definition f example.
- 4) synonyms of antonyms of 10 words
- 5) Read the novel oliver twist by Charles dickens & write Summary on your own words & watch movie of this novel In English subtitles.

विषय – हिंदी

कक्षा – 7वीं

दशहरा अवकाश का गृहकार्य

प्रश्न 1. अपने विद्यालय के प्राचार्य को दो दिन का अवकाश लेने के संबंध में एक प्रार्थना-पत्र लिखिए।

प्रश्न 2. दो मित्रों के बीच परीक्षा की तैयारी पर 120-120 शब्दों में एक संवाद लिखिए।

प्रश्न 3. दशहरा अवकाश में आने के लिए अपने मित्र को एक पत्र लिखिए।

प्रश्न 4. “दशहरा त्योहार” पर 250 शब्दों में एक अनुच्छेद लिखिए।

प्रश्न 5. “मोबाइल और पुस्तक” पर 100-120 शब्दों में एक संवाद लिखिए।

विषय – हिंदी

कक्षा – 8वीं

दशहरा अवकाश का गृहकार्य

प्रश्न 1. “बढ़ते प्रदूषण” पर 200 शब्दों में एक अनुच्छेद लिखिए।

प्रश्न 2. “समय का सदुपयोग” पर 200 शब्दों में एक अनुच्छेद लिखिए।

प्रश्न 3. बड़े भाई की शादी में जाने के लिए दो दिन का अवकाश हेतु अपने विद्यालय के प्रधानाचार्य जी को एक पत्र लिखिए।

प्रश्न 4. “स्वास्थ्य और खान-पान” विषय पर दो मित्रों के बीच होने वाली बातचीत को लगभग 100–120 शब्दों में संवाद के रूप में लिखिए।

प्रश्न 5. आपका कक्षा में प्रथम स्थान आने पर अपने मित्र को बधाई-पत्र लिखिए।

प्रश्न 6. पाठ संख्या 6 में “अनुमान और कल्पना” वाले प्रश्नों के उत्तर लिखिए।

7వ తరగతి సెలవుల ఇంటిపని

1. అ నుండి ఐ వరకు రెండు సార్లు రాయండి?
2. తలకట్టు నుండి విసర్గ వరకు 3 సార్లు రాయండి?
3. క నుండి ఐ వరకు గుణింతాలు రాయండి?
4. క నుండి ఐ వరకు ఒత్తులు రెండు సార్లు రాయండి?
5. అ నుండి ఐ వరకు గల ఒక్కో అక్షరంతో మూడు సరళ పదాలు రాయండి?

शारद ऋतु अवकाश गृहकार्य
विषय- संस्कृत

Class - VI

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. Fun Activities
(i) 4 Animal चित्र बनाकर संस्कृत में नाम लिखिए
(ii) 6 फलका चित्र बनाकर संस्कृत में नाम लिखिए

class -VII

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. श्लोक संग्रह
5 श्लोक हिन्दी अनुवाद के साथ लिखिए
3. सृजनात्मक कार्य
। विद्यालय के बारे में 10 वाक्य संस्कृत में लिखिए

CLASS -VIII

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. सृजनात्मक कार्य
पर्यावरण महत्वम् के बारे में 50 शब्द संस्कृत में लिखिए

विषय – हिंदी

कक्षा – 7वीं

दशहरा अवकाश का गृहकार्य

प्रश्न 1. अपने विद्यालय के प्राचार्य को दो दिन का अवकाश लेने के संबंध में एक प्रार्थना-पत्र लिखिए।

प्रश्न 2. दो मित्रों के बीच परीक्षा की तैयारी पर 120-120 शब्दों में एक संवाद लिखिए।

प्रश्न 3. दशहरा अवकाश में आने के लिए अपने मित्र को एक पत्र लिखिए।

प्रश्न 4. "दशहरा त्योहार" पर 250 शब्दों में एक अनुच्छेद लिखिए।

प्रश्न 5. "मोबाइल और पुस्तक" पर 100-120 शब्दों में एक संवाद लिखिए।

विषय – हिंदी

कक्षा – 8वीं

दशहरा अवकाश का गृहकार्य

प्रश्न 1. “बढ़ते प्रदूषण” पर 200 शब्दों में एक अनुच्छेद लिखिए।

प्रश्न 2. “समय का सदुपयोग” पर 200 शब्दों में एक अनुच्छेद लिखिए।

प्रश्न 3. बड़े भाई की शादी में जाने के लिए दो दिन का अवकाश हेतु अपने विद्यालय के प्रधानाचार्य जी को एक पत्र लिखिए।

प्रश्न 4. “स्वास्थ्य और खान-पान” विषय पर दो मित्रों के बीच होने वाली बातचीत को लगभग 100–120 शब्दों में संवाद के रूप में लिखिए।

प्रश्न 5. आपका कक्षा में प्रथम स्थान आने पर अपने मित्र को बधाई-पत्र लिखिए।

प्रश्न 6. पाठ संख्या 6 में “अनुमान और कल्पना” वाले प्रश्नों के उत्तर लिखिए।

**HOLIDAY HOME
WORK 2026-27
CLASS VIII**

Autumn Break Holidays Homework

Mathematics

Class: VIII

1. Fill the following table blanks

$$I = (P \times T \times R) / 100$$

$$P = (100 \times I) / (T \times R)$$

$$T = (100 \times I) / (P \times R)$$

$$R = (100 \times I) / (P \times T)$$

SI No	Interest (I)	Principal (P)	Time (T)	Rate (R p.a.)
1	₹ 450	₹ 2500	3 years	
2	₹ 800		2 years	10%
3		₹ 1500	$2\frac{1}{2}$ years	4%
4	₹ 315	₹ 4500		$7\frac{1}{5}\%$

2. Fill the following blanks

Note: Shaded parts are not valid for given values. Clues are in class work notebook.

SI No	Cost Price (C.P)	Selling Price (S.P)	Profit	Loss	Profit % (g)	Loss % (l)
01	₹ 4000				25%	
02	₹ 5000			₹ 2000		
03		₹ 2300			15%	
04				₹ 300		10%
05		₹ 1660				17%
06	₹ 1700	₹ 1785				

3. Fill the following table blanks

Clues are in class work notebook.

SI No	Fraction form	Decimal form	Percentage form
01	$\frac{13}{50}$		
02		0.35	
03			40%
04	$\frac{1}{4}$	0.25	
05			87.5%

BASIC CRITICAL THINKING

Problem Solving & Analytical Assessment Worksheet

Name: _____

Date: _____

1. In a school, a P.E.T. teacher assembles students in rows. If 3 students are placed in each row, no student is left over. If 4 students are placed in each row, 1 student is left over. If 6 students are placed in each row, 3 students are left over. Find the minimum number of students.
2. A bookseller sells textbooks and notebooks. He makes a profit of ₹12 on each textbook and incurs a loss of ₹7 on each notebook.
 - (i) If the bookseller sells 50 textbooks and 60 notebooks in a day, did he make a profit or a loss? Find the total amount.
 - (ii) If he sells 48 notebooks, how many textbooks does he need to sell to recover the loss?
3. The length and breadth of a rectangle are $5\frac{3}{7}$ m and $3\frac{6}{19}$ m, respectively. Find its area and perimeter.
4. The area of a square is 196 cm^2 . Find its side length and perimeter.
5. Given the number pattern: 4, 7, 10, 13, 16, ...
 - (i) Write the next 4 numbers.
 - (ii) Which number appears in the 15th position?
 - (iii) Is 61 a part of this pattern? If yes, at which position does it appear?
 - (iv) Write the algebraic expression (general term) for this pattern.
6. Simplify: $(\frac{4}{5} + \frac{3}{7}) \div (\frac{1}{7} \times \frac{43}{5})$
7. A family requires 750 ml of milk daily. Find the total quantity needed: (i) In August (ii) In September (iii) In a leap year (iv) In a week. (v) If 1 litre costs ₹52, find the total cost for each.
8. Ramesh deposited 2500 currency notes (₹100, ₹50, and ₹20). Total amount is ₹1,57,000. If notes are in ratio 10 : 9 : 6, find the number of notes of each denomination.

ENGLISH AUTUMN BREAK HOMEWORK

Class-8

- 1) Treasure-Hunt Grammar

Task- Go on nature walk and note down 10 interesting Thing & you see.

- 2) Write 20 sentences using noun, verb, adjective, an each sentence, & Underline them.

- 3) prepare a 5 min speech on your favourite-topic & speak It with your parents.

- 4) Read & Listen to the Audio Book of (Swami & friends) By R.k narayan. and write a story Review in your own words.

PM SHRI KENDRIYA VIDYALAYA

AUTUMN BREAK HOLIDAY HOMEWORK – SCIENCE

Class VIII | Academic Session: 2026–27

(Note: Complete all tasks neatly on A4 sheets and compile them in a folder.)

1. Creative Expression: Prepare a detailed, colorful mind map/ poster on any chapter topic (e.g., *Microorganisms, Health, Electricity and Magnetism, Forces, Pressure and Cyclones, or The Particulate Nature of Matter*).

2. Science Project: Select any **one sub-theme** like *Artificial Intelligence (AI) for Better Life, Mathematical Modelling and Computational Thinking, or Disaster Management* and write a 1-page synopsis containing: **Project Title, Objective, Science Principle Involved, and a rough sketch/model idea** (e.g., *Green Energy, Health & Hygiene, Disaster Management, or AI for Better Life*).

- *Use only safe, eco-friendly materials (cardboard, chart paper, jute, cloth pieces, coconut shells, old newspapers, seed pods, natural colors, reusable items) for your project. Choose things that are **sustainable, biodegradable, or upcycled**. Do not use **thermocool or single-use plastics**.*

Autumn Break

Holidays homework

Read part 2 text book and make a three questions and Answers

1. Oceans and Continents

2. Landforms and Life

3. The Beginnings of Indian Civilisation

4. Unity in Diversity, or 'Many in the One

5. Grassroots Democracy – Part 2 Local Government in Rural Areas

6.Grassroots Democracy – Part 3Local Government in Urban Areas

विषय – हिंदी

कक्षा – 7वीं

दशहरा अवकाश का गृहकार्य

प्रश्न 1. अपने विद्यालय के प्राचार्य को दो दिन का अवकाश लेने के संबंध में एक प्रार्थना-पत्र लिखिए।

प्रश्न 2. दो मित्रों के बीच परीक्षा की तैयारी पर 120-120 शब्दों में एक संवाद लिखिए।

प्रश्न 3. दशहरा अवकाश में आने के लिए अपने मित्र को एक पत्र लिखिए।

प्रश्न 4. “दशहरा त्योहार” पर 250 शब्दों में एक अनुच्छेद लिखिए।

प्रश्न 5. “मोबाइल और पुस्तक” पर 100-120 शब्दों में एक संवाद लिखिए।

विषय – हिंदी

कक्षा – 8वीं

दशहरा अवकाश का गृहकार्य

प्रश्न 1. “बढ़ते प्रदूषण” पर 200 शब्दों में एक अनुच्छेद लिखिए।

प्रश्न 2. “समय का सदुपयोग” पर 200 शब्दों में एक अनुच्छेद लिखिए।

प्रश्न 3. बड़े भाई की शादी में जाने के लिए दो दिन का अवकाश हेतु अपने विद्यालय के प्रधानाचार्य जी को एक पत्र लिखिए।

प्रश्न 4. “स्वास्थ्य और खान-पान” विषय पर दो मित्रों के बीच होने वाली बातचीत को लगभग 100–120 शब्दों में संवाद के रूप में लिखिए।

प्रश्न 5. आपका कक्षा में प्रथम स्थान आने पर अपने मित्र को बधाई-पत्र लिखिए।

प्रश्न 6. पाठ संख्या 6 में “अनुमान और कल्पना” वाले प्रश्नों के उत्तर लिखिए।

8వ తరగతి సెలవుల ఇంటిపని

1. అ నుండి ఐ వరకు రెండు సార్లు రాయండి?
2. తలకట్టు నుండి విసర్గ వరకు 3 సార్లు రాయండి?
3. క నుండి ఐ వరకు గుణింతాలు రాయండి?
4. క నుండి ఐ వరకు ఒత్తులు రెండు సార్లు రాయండి?
5. అ నుండి ఐ వరకు గల ఒక్కో అక్షరంతో మూడు సరళ పదాలు రాయండి?

शारद ऋतु अवकाश गृहकार्य
विषय- संस्कृत

Class - VI

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. Fun Activities
(i) 4 Animal चित्र बनाकर संस्कृत में नाम लिखिए
(ii) 6 फलका चित्र बनाकर संस्कृत में नाम लिखिए

class -VII

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. श्लोक संग्रह
5 श्लोक हिन्दी अनुवाद के साथ लिखिए
3. सृजनात्मक कार्य
। विद्यालय के बारे में 10 वाक्य संस्कृत में लिखिए

CLASS -VIII

1. Translation
10 वाक्य हिन्दी To संस्कृत में अनुवाद किजिए
2. सृजनात्मक कार्य
पर्यावरण महत्वम् के बारे में 50 शब्द संस्कृत में लिखिए

**HOLIDAY HOME
WORK 2026-27
CLASS IX**

AUTUMN BREAK HOLIDAY HOME WORK

CLASS -IX

SCIENCE MULTIPLE ASSESSMENT COMPONENT(to be written in A4 size pages)

SECTION A- BIOLOGY

Question Types: SAI, II and LA Instructions: Answer all five questions. Draw neat, labelled diagrams wherever required.

Q1. Answer the following questions. (2 marks)

- a) Why is the plasma membrane called selectively permeable?
- b) Name the cell organelle responsible for cellular respiration and state its function.

Q2. Differentiate between plant cells and animal cells on the basis of any three structural features. (3 marks)

Q3. Differentiate between parenchyma, collenchyma and sclerenchyma tissues on the basis of their cell walls, nature of cells and functions. (3 marks)

Q4. A student placed raisins in distilled water for some time and observed that they swelled. When the swollen raisins were transferred to a concentrated sugar solution, they shrank.

- a) Name the process responsible for these changes.
- b) Explain why the raisins swelled in distilled water.
- c) Why did the raisins shrink in the concentrated sugar solution? (3 marks)

Q5. Answer the following questions. (5 marks)

- a) List the components of blood.
- b) Explain the functions of any three types of joints found in human skeleton.
- c) Compare ligament and tendon with respect to their elasticity.

Section B – chemistry

Q1. Differentiate between a homogeneous and a heterogeneous mixture. Give one example of each. (2 marks)

Q2. A farmer mixes 4 mL of a liquid pesticide with water to make 200 mL of spray. Calculate the volume by volume percentage (% v/v) of the pesticide. (2 marks)

Q3. What is the Tyndall effect? Why is it not observed in a salt solution but observed in milk? Give one everyday example of the Tyndall effect.

Q4. Mustard oil and water form a mixture. (3 marks)

- (a) Will they form two separate layers? Which liquid will be on top and why?
- (b) Name the apparatus used to separate them and draw a neat, labelled diagram.

Q5. A mixture of acetone (boiling point 56 °C) and water (boiling point 100 °C) is to be separated. (1+2+2=5 marks)

- (a) Name the technique used and state the principle behind it.
- (b) Draw a neat, labelled diagram of the apparatus.
- (c) Explain how the two liquids get separated, and which liquid is collected first.

SECTION C- PHYSICS

1. A passenger standing inside a smoothly running train tosses a coin vertically upward. The coin falls **behind** him.

A. What can you conclude about the motion of the train during the coin's flight? (1 Mark)

B. Explain the physical reason behind this observation using Newton's First Law of Motion. (1 Mark)

2. A block of mass $m = 4$ kg rests on a rough horizontal floor where the maximum static friction opposing motion is 15 N. A child pushes the block horizontally with a steady force of 10 N.

A. What is the magnitude of the frictional force acting on the block? (1 Mark)

B. What is the acceleration of the block? Justify your answer. (1 Mark)

3. A heavy truck ($M = 5000$ kg) and a small car ($m = 1000$ kg) collide head-on on a highway.

A. Which vehicle experiences a greater magnitude of impact force? Justify using Newton's

Laws. (1 Mark)

B. Which vehicle experiences a greater magnitude of acceleration during the impact?

Justify quantitatively. (1 Mark)

C. If both vehicles were moving with identical momentum before the collision and come to a complete stop upon impact over the same time interval Δt , compare the average force exerted on each. (1 Mark)

4. A rubber ball of mass 200 g strikes a rigid vertical wall horizontally with a speed of 15 m/s and rebounds elastically along the same line at the same speed. The contact duration between the ball and the wall is 0.05 s.

A. Calculate the magnitude of the change in momentum of the ball. (1 Mark)

B. Calculate the average force exerted by the wall on the ball. (1 Mark)

C. Why does catching a fast-moving ball hurt more if a cricketer does not pull their hands backward? Relate your answer to the formula of Newton's Second Law. (1 Mark)

5. A bullet of mass 20 g is fired horizontally with an unknown initial velocity u from a rifle of mass 4 kg. The bullet penetrates 10 cm into a fixed wooden target before coming to rest. The wooden target exerts a constant resisting force of 900 N on the bullet.

A. State the Law of Conservation of Momentum and derive it using Newton's Second and Third Laws. (2 Marks)

B. Calculate the speed u with which the bullet leaves the muzzle and enters the wooden block. (1.5 Marks)

C. Calculate the recoil velocity of the rifle. (1.5 Marks)

PORTFOLIO-PRACTICAL EXPERIMENTS TO BE WRITTEN IN SCIENCE RECORD

BIOLOGY

1. Preparation of stained temporary mounts of onion peel cells.

2. To study and identify tissues in animals –striated muscle fibre and nerve fibre from prepared slides.

3. To study (a) budding in yeast and Hydra (b) spore formation in bread mold with the help of prepared slides

CHEMISTRY

1. Types of Solution-Comparison table with 2 examples each

2. Distillation- Draw the set up, define and give an application (example)

3. Coagulation- Purification of muddy water

4. Schematic atomic structure of the first eighteen elements

PHYSICS

1. Determination of speed of a pulse propagated through a stretched string/ slinky.

2. Plotting of distance-time and velocity time graphs using toy car, timer, measuring scale.

Class 9 sanskrit home work

1

अपठित गद्यांश पांच उनको हल करके उत्तर अपनी उत्तर पुस्तिका में लिखिए।

2

5 पांच पत्र लेखन का लिखित अभ्यास करके उत्तर पुस्तिका में लिखिए।

3

5 चित्र आधारित वाक्य रचना के प्रश्न अपनी उत्तर पुस्तिका में लिखकर लाइए।

AIM

To study binary fission in *Amoeba* or *Paramecium* and budding in yeast or *Hydra*.

THEORY

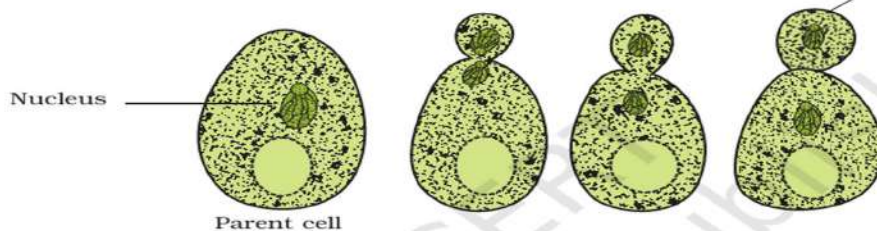
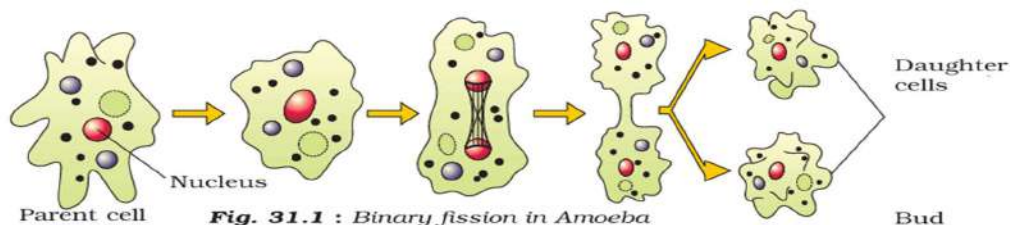
Binary fission and budding are forms of asexual reproduction in lower organisms, like bacteria, unicellular protozoans, and a few other animals. In binary fission, the parent cell divides into two daughter cells by amitosis and each daughter cell grows into an adult. The division of nucleus is called amitosis because the stages of a typical mitotic division are not observed in these cells. Budding is commonly seen in yeast and *Hydra*. *Hydra* is a tiny freshwater organism which produces young ones from its body laterally. Yeast is a unicellular organism which produces a chain of cells attached to the parent cell.

MATERIALS REQUIRED

A compound microscope, permanent slides of binary fission in *Amoeba* or *Paramecium*; budding in yeast or *Hydra*; charts of binary fission and budding.

PROCEDURE

1. Focus the slide under high power of compound microscope.
2. Observe the stages in binary fission and budding (Figs. 31.1 and 31.2).
3. Draw diagrams of the stages in binary fission and budding.



stamens and carpels.

Experiment1-Preparation of stained temporary mounts of onion peel cells.

AIM-To prepare a stained, temporary mount of onion peel and to study its cells.

THEORY-All living organisms are composed of cells. New cells arise by the division of pre-existing cells. Cell is the structural and functional unit of life. In plants, cells have an outermost rigid cell wall beneath which is a cell membrane. The cell membrane encloses cytoplasm, cell organelles, and a nucleus.

MATERIALS REQUIRED-An onion bulb, slides, cover slips, two watch glasses, needle, brush, forceps, razor blade, compound microscope, blotting paper, methylene blue (or safranin) solution, glycerine, and water.

PROCEDURE-1. Take one fleshy scale leaf of an onion. Pull out a thin membranous peel adhering to the inner surface of the leaf. This is the epidermal peel.

2. Place the peel in a watch glass containing water and cut it into small.
3. Mix 1 or 2 drops of methylene blue or safranin in a small quantity of water taken in another watch glass and transfer the peels into it. Leave the peels for about 3 minutes.
4. Take a clean slide with a drop of glycerine in the middle and using a brush transfer the washed and stained peel on to it.
5. Place a cover slip over it by slowly lowering it with a needle. Avoid entry of air bubbles.
6. Remove excess glycerine from the edges of cover slip with the help of a piece of blotting paper.
7. Observe the slide under the microscope, first in low power and then in high power.
8. Draw a labelled diagram of the cells as seen under microscope.
9. Note the features listed in the observation table.

OBSERVATION TABLE

Sl.No.	Feature	Observation
1.	Shape of cells	spherical/oval/rectangular/square
2.	Arrangement of cells	compact/loose
3.	Inter-cellular spaces	present/absent
4.	Nucleus	present/absent
5.	Cell wall	present/absent
6.	Stained portions of cell	cell wall/cytoplasm/nucleus
7.	Unstained portions of cell	cell wall/cytoplasm/vacuole



Fig. 18.2 : Epidermal cells of an onion peel

RESULTS AND DISCUSSION-The cells that form the peel are rectangular in shape, compactly arranged and without any intercellular spaces. Each cell has a distinct cell wall, a prominent nucleus and a vacuole. The cells form the outer layer of the leaf known as epidermis.

PRECAUTIONS-• Staining of the peel must be appropriate. Excess stain can be removed by rinsing the peel with water taken in a watch glass.

- Use a brush to transfer the peel on to the slide.
- While placing the cover slip care should be taken to avoid air bubbles.

Experiment2-To study and identify tissues in animals –striped muscle fibres and nerve fibres from prepared slides.

AIM

To identify and study striated muscle fibre and nerve fibre in animals.

THEORY-Animal body is made up of groups of similar cells which perform specific function. Such groups of identical cells are called tissues. There are four basic types of tissues: epithelial, connective, muscular, and neural. These tissues vary from each other not only in their structure but also in their functions.

MATERIALS REQUIRED-Permanent slides of striated muscle fibre and nerve fibre and compound microscope.

PROCEDURE-1. Place a permanent slide of straited, smooth and cardiac muscle fibers fibre under a compound microscope.

2. Observe it first under low power and then under high power.

OBSERVATIONS-Striated Muscle Fibre – Under high magnification, the elongated fibre shows the presence of alternate arrangement of dark and light bands

Nerve Fibres – Under high magnification, the nerve fibre shows nerve cells which have three parts: a cell body, dendrites, and axon, The axon may or may not be surrounded by myelin sheath

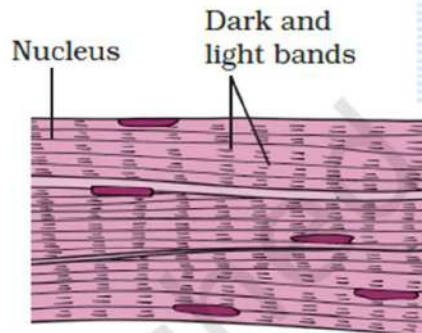


Fig 24.1 : A striated muscle fibre

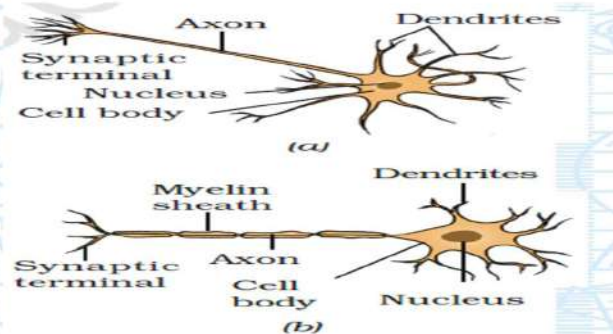


Fig. 24.2 : (a) Non-myelinated nerve fibre; and (b) Myelinated nerve fibre

AUTUMN BREAK HOLIDAYS HOMEWORK

MATHEMATICS

CLASS: IX

SUBMISSION: POST-VACATION

1. A Baker has sales of ₹ 7,800, ₹ 8,200, ₹ 7,900, ₹ 8,600 and ₹ 8,100 for 5 consecutive months. How much sale must he have in the sixth month to achieve an average sale of ₹ 8,000?
2. A student's score was incorrectly recorded as 75 instead of 65. Because of this error, the class average increased by 0.4 marks. How many students are in that class?

3. There are 4 groups in a singing competition. Their performance data is given below:

Group	I	II	III	IV
No. of Students	30	40	35	50
Average Score	70	75	80	65

- i. What is the total score of Group-I?
 - ii. How much is the difference between the total score of Group II and Group III?
 - iii. What is the overall average score of all the students combined?
4. The average monthly salary of A and B is ₹ 7,000. The average monthly salary of B and C is ₹ 8,500, and the average monthly salary of A and C is ₹ 9,000. Find the monthly salary of A, B, and C.
5. A vessel contains a mixture of milk and water in the ratio 5 : 3. If 16 litres of water are added, the ratio becomes 5 : 7. Find the initial quantity of milk and water in that vessel.

6. Draw a pie chart representing the preferred modes of travel for students based on the table:

Travel by	Walking	Car	Bike	Bus	Auto	Taxi
No. of Students	12	2	4	15	5	2

ENGLISH AUTUMN BREAK HOMEWORK

Class 9

- 1) Read the Book APJ Abdul Kalam "IGNITED MINDS" & write a Review on the book of write what Important things The book taught you
- 2) Compose a poem of 12 lines about Diwali festival.
- 3) write a Short summary of any movie Program / story which you like most also write about characters Who appealed you most
- 4) Read news paper and select ③ new words write their synonyms or Antonyms.

अवकाश गृह कार्य , कक्षा -9 , विषय – हिन्दी

1 आपके मित्र ने खेलकूद प्रतियोगिता में प्रथम स्थान प्राप्त किया है। इसके लिए अपने मित्र को बधाई पत्र लिखिए ।

2 मोहन और सोहन कन्याकुमारी घूमने जा रहे हैं। इस संबंध में उनकी बातचीत को संवाद के रूप में लिखिए ।

3 अलंकार की परिभाषा लिखो। अलंकार के भेद भी लिखो। शब्दालंकार के भेद (अनुप्रास , यमक, श्लेष) की परिभाषा एवं प्रत्येक के 3-3 उदाहरण लिखिए ।

9వ తరగతి సెలవుల ఇంటి పని

1.తెలుగు ఒత్తులు రకాలు రాయండి?

2.సుమతి, వేమన శతకా లోని

ఏవేని రెండు పద్యాలు రాసి వాటి

తాత్పర్యాలు రాయండి?

3.జాతీయలు,సామెతల మధ్య

భేదాలురాసి ఉదాహరణతో

వివరించండి?

4.భూత, భవిష్య, వర్త మాన

కాలాలను ఉదాహరణ తో

వివరించండి?

5.శ, ష, స, హ, ప, మ, య ఘ, ఝ

గుణింతాలు రాయండి?

3:22 pm ✓✓

**KENDRIYA VIDYALAYA SANGATHAN,
HYDERABAD REGION
SECOND PERIODIC TEST 2026-27**

CLASS – IX SET B

SUB: SOCIAL SCIENCE

MM: 40

SECTION A: HISTORY (10 Marks)		
Q.1	Which of the following best describes the role of a state in society? (a) Only collection taxes (b) Organising public life through institution (c) Running only private businesses (d) Preventing all social changes	1
Q.2	The legal charters of royal land grants in early India were inscribed on which material for permanent public preservation? (a) Clay tablets (b) Palm leaves (c) Copper plates (Tamra-shasana) (d) Silk scrolls	1
Q.3	Explain any two ways in which social institutions influence the life of an individual.	2
Q.4	Analyse how royal land grants contributed to agricultural expansion, irrigation development, and the integration of local forest communities into the state system up to 1000 CE. OR Describe the nature of urban centers, long-distance trade networks, and civic administration in India between 600 CE and 1000 CE.	5
Q.5	Map Skill: (1 Mark) I. On the outline map of India, locate and label the ancient monastic university located in Bihar that flourished under the Guptas and Palas.	1
SECTION B: GEOGRAPHY (10 Marks)		
Q.6	The decrease in temperature with increase in altitude in the lower atmosphere is mainly because: (a) Air is heated directly by the Sun (b) The Earth's surface is the main source of heat for the lower atmosphere (c) Oxygen disappears at higher levels (d) Clouds produce all atmospheric heat	1
Q.7	The Coriolis force causes moving winds to: (a) Deflect to the left in the Northern Hemisphere and right in the Southern Hemisphere (b) Blow straight along lines of longitude (c) Deflect to the right in the Northern Hemisphere and left in the Southern Hemisphere (d) Move strictly vertically without any horizontal deflection	1
Q.8	Assertion (A): Coastal areas generally experience a smaller annual range of temperature than interior areas. Reason (R): Land heats up and cools down more rapidly than water. (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.	1

Q.9	Explain the major factors that influence the climate of a place. Describe the role of latitude, altitude, distance from the sea and relief . OR Explain the structure of the atmosphere by describing its major layers and mention the importance of each layer.	5
Q.10	On the physical outline map of India, identify and shade: - The coastal belt on the south-west coast of India receiving heavy rainfall from the South-West Monsoon. - The coastal region on the south-east coast receiving winter rainfall from the North-East Monsoon.	2
SECTION C: POLITICAL SCIENCE (10 Marks)		
Q.11	The democratic principle of "One Person, One Vote, One Value" means: (A) Every political party gets equal seats in parliament (B) Each citizen has one vote, and every vote carries equal weight (C) Voting is mandatory for all citizens above 18 (D) Only property owners can cast a vote	1
Q.12	An autonomous constitutional body responsible for conducting free and fair elections in India is the: (A) Union Public Service Commission (B) Election Commission of India (C) Planning Commission (D) Supreme Court of India	1
Q.13	Which of the following is prohibited under the Model Code of Conduct during elections? (A) Campaigning through public meetings (B) Using government vehicles and official machinery for party campaigning (C) Releasing party election manifestos (D) Door-to-door voter interaction	1
Q.14	Explain any three features that distinguish a democratic election from a non-democratic election. OR Why is democracy considered accountable to the people? Explain with three arguments.	3
Q.15	<i>"In India, elections are conducted by an independent and powerful Election Commission (EC). It enjoys the same kind of independence that the judiciary enjoys. The Chief Election Commissioner (CEC) is appointed by the President of India. But once appointed, the CEC is not answerable to the President or the government. Even if the ruling party or the government does not like what the Commission does, it is virtually impossible for it to remove the CEC. Over the years, the Election Commission has exercised its powers to implement the Model Code of Conduct, punish candidates who breach it, and order repolls in constituencies where rigging or booth capturing occurs."</i>	
15.1	Who appoints the Chief Election Commissioner of India?	1
15.2	Name the regulatory code implemented by the Election Commission to ensure a level playing field among parties.	1
15.3	Why is the independent status of the Election Commission essential for maintaining democratic integrity? State two reasons.	2
SECTION D: ECONOMICS (10 Marks)		

Q.16	The fundamental economic problem faced by every society is: (a) The absence of international markets (b) The scarcity of resources relative to unlimited human wants (c) The overproduction of luxury commodities (d) Constant government taxation	1
Q.17	When a piece of land is used for constructing a hospital instead of a school, the benefit sacrificed from the school is called (a) Variable cost (b) Opportunity cost (c) Marginal cost (d) Fixed investment	1
Q.18	Differentiate between Planned Economy and Market Economy.	3
Q.19	'Human wants are unlimited and keep changing.' How do you think this constant desire for more creates pressure on the environment? Can the fulfilment of wants and the extraction of resources be balanced? OR Critically examine why pure economic systems rarely exist in reality. Assess the limitations of such systems and justify why a mixed economy is often considered a more practical and effective approach in real-world contexts.	5

KENDRIYA VIDYALAYA SANGATHAN, HYDERABAD REGION
SECOND PERIODIC TEST 2026-27
QUESTION PAPER - SET 2

CLASS: IX

SUBJECT: SOCIAL SCIENCE

TIME: 1 ½ HOURS

MAX.MARKS: 40

General Instructions:

1. There are 19 questions in the Question paper. All questions are compulsory.
 2. The question paper has Four Sections – A-History, B-Geography C- Political Science, and D-Economics.
 3. Each Section is of 10 Marks and has MCQs, VSA, SA, LAs and CBQ.
 4. Very Short Answer Type Questions, carry 2 marks each. Answers to each question under 40 words.
 5. Short Answer Type Questions, carry 3 marks each. Answers to each question should not exceed 60 words.
 6. Long answer type questions, carry 5 marks each. Answers to each question should not exceed 120 words.
 7. Case based questions(CBQ) with three sub questions. Answers to each question should not exceed 100 words.
 8. Question 5 is a map-based question and carries 2 marks.
 9. There is no overall choice in the question paper. However, an internal choice has been provided in few questions. Only one of the choices in such questions must be attempted.
1. क्वेश्चन पेपर में 19 सवाल हैं। सभी सवाल ज़रूरी हैं।
 2. क्वेश्चन पेपर में चार सेक्शन हैं – A-हिस्ट्री, B-जियोग्राफी C- पॉलिटिकल साइंस, और D-इकोनॉमिक्स।
 3. हर सेक्शन 10 मार्क्स का है और इसमें MCQs, VSA, SA, LAs और CBQ हैं।
 4. वेरी शॉर्ट आंसर टाइप सवाल, हर सवाल 2 मार्क्स का है। हर सवाल का जवाब 40 शब्दों से कम होना चाहिए।
 5. शॉर्ट आंसर टाइप सवाल, हर सवाल 3 मार्क्स का है। हर सवाल का जवाब 60 शब्दों से ज़्यादा नहीं होना चाहिए।
 6. लॉन्ग आंसर टाइप सवाल, हर सवाल 5 मार्क्स का है। हर सवाल का जवाब 120 शब्दों से ज़्यादा नहीं होना चाहिए।
 7. केस बेस्ड सवाल (CBQ) जिसमें तीन सब-क्वेश्चन हैं। हर सवाल का जवाब 100 शब्दों से ज़्यादा नहीं होना चाहिए।
 8. क्वेश्चन 5 मैप-बेस्ड सवाल है और इसके 2 मार्क्स हैं।
 9. क्वेश्चन पेपर में कोई ओवरऑल चॉइस नहीं है। लेकिन, कुछ सवालों में इंटरनल चॉइस दी गई है। ऐसे सवालों में से सिर्फ़ एक ही चॉइस देना होगा

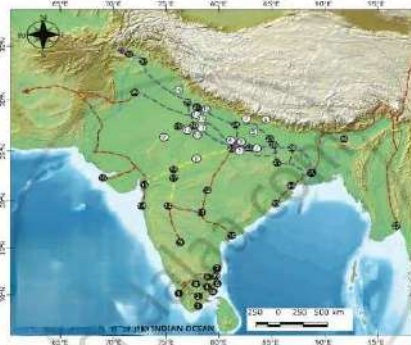
SECTION A (HISTORY)

1. The Rig Veda verse (9.112.3) mentions a poet, a physician, and a corn grinder within the same family. What does this indicate about the early Vedic society? [1]
 - A) Occupations were strictly hereditary.
 - B) Social status was determined solely by birth.
 - C) There was flexibility and occupational diversity within families.
 - D) The varna system had hardened into rigid castes.

1. ऋग्वेद के श्लोक (9.112.3) में एक ही परिवार में एक कवि, एक चिकित्सक और एक अनाज पीसने वाले का जिक्र है। यह शुरुआती वैदिक समाज के बारे में क्या बताता है? [1]

- A) पेशे पूरी तरह से खानदानी थे।
- B) सामाजिक हैसियत सिर्फ जन्म से तय होती थी।
- C) परिवारों में लचीलापन और काम में अलग-अलग तरह की चीजें थीं।
- D) वर्ण व्यवस्था सख्त जातियों में बदल गई थी।

2. Look at the major trade routes of early India. How do you think these routes helped people? [1]



- A. They connected different regions, facilitating the exchange of goods, ideas, skills, beliefs and cultural practices.
- B. They were used mainly for military purposes and prevented cultural interaction.
- C. They restricted people to their own regions and reduced contact between communities.
- D. They were used only to transport agricultural products within villages.

2. शुरुआती भारत के मुख्य ट्रेड रूट्स को देखिए। आपको क्या लगता है कि इन रूट्स ने लोगों की कैसे मदद की?

- A. वे अलग-अलग इलाकों को जोड़ते थे, जिससे सामान, आइडिया, स्किल, विश्वास और कल्चरल तरीकों का लेन-देन आसान हो जाता था।
- B. उनका इस्तेमाल ज्यादातर मिलिट्री मकसद के लिए होता था और कल्चरल मेलजोल को रोकते थे।
- C. वे लोगों को उनके अपने इलाकों तक ही सीमित रखते थे और कम्युनिटी के बीच कॉन्टैक्ट कम करते थे।
- D. उनका इस्तेमाल सिर्फ गांवों के अंदर खेती के सामान को ट्रांसपोर्ट करने के लिए किया जाता था।

3. What can we learn from early Indian society about varṇa and the role of women? [2]
OR

What does the term dharma refer to in the context of early Indian society?

3. शुरुआती भारतीय समाज के संदर्भ में धर्म शब्द का क्या मतलब है? [2]

अथवा

हम प्रारंभिक भारतीय समाज से वर्ण और महिलाओं की भूमिका के बारे में क्या सीख सकते हैं?

4. Read the following passage and answer the questions that follow: [4]

The Arthaśāstra is one of the earliest and most systematic treatises on statecraft. It presents a detailed picture of administration, and emphasises the importance of training a king in the art of governance and public administration. The Arthaśāstra states that “one wheel does not move the carriage”. This statement captures the belief that effective governance requires cooperation and a well-organised administrative machinery. In fact, various literary and epigraphic sources from this period indicate that the king did not rule alone but governed through a multi-layered administrative system. Central to this system was the council of ministers (mantri-parīṣad), a small body of elder statesmen, whose primary role was to advise and support the king. The council of ministers generally included the treasurer, the chief tax collector, the chief legal advisor, and the commander-in-chief of the army. An Aśhokan inscription refers to decisions taken by the council of ministers during the emperor’s absence, showing that, in exceptional circumstances, the council could take decisions independently in public interest.

4.1. Who wrote Arthashastra, an important ancient Indian text dealing with governance, administration, economy, and the duties of a ruler? [1]

4.2. According to the passage, what principle of justice was the king expected to follow while judging the strong and the weak? [1]

4.3. Imagine you are advising an ancient Indian king. Based on the passage, identify two important responsibilities that you would advise the king to fulfil towards his subjects. [2]

4. नीचे दिए गए पैसेज को पढ़ें और उसके बाद दिए गए सवालों के जवाब दें:

अर्थशास्त्र, राज-काज पर सबसे शुरुआती और सबसे सिस्टमैटिक किताबों में से एक है। यह एडमिनिस्ट्रेशन की एक डिटेल्ड तस्वीर पेश करता है, और एक राजा को गवर्नेंस और पब्लिक एडमिनिस्ट्रेशन की कला में ट्रेनिंग देने की अहमियत पर जोर देता है। अर्थशास्त्र कहता है कि “एक पहिया गाड़ी को नहीं चलाता”। यह बात इस विश्वास को दिखाती है कि असरदार गवर्नेंस के लिए सहयोग और एक अच्छी तरह से ऑर्गनाइज्ड एडमिनिस्ट्रेटिव मशीनरी की जरूरत होती है। असल में, इस समय के कई लिटरेरी और एपिग्राफिक सोर्स बताते हैं कि राजा अकेले राज नहीं करता था, बल्कि एक मल्टी-लेयर्ड एडमिनिस्ट्रेटिव सिस्टम के ज़रिए राज करता था। इस सिस्टम के सेंटर में मिनिस्टर्स की काउंसिल (मंत्री-परिषद) थी, जो बड़े नेताओं की एक छोटी सी बॉडी थी, जिसका मुख्य काम राजा को सलाह देना और सपोर्ट करना था। मिनिस्टर्स की काउंसिल में आम तौर पर ट्रेज़रर, चीफ टैक्स कलेक्टर, चीफ लीगल एडवाइजर और आर्मी के कमांडर-इन-चीफ शामिल होते थे। अशोक के एक शिलालेख में

सम्राट की गैर-मौजूदगी में मंत्रिपरिषद द्वारा लिए गए फैसलों का जिक्र है, जिससे पता चलता है कि खास हालात में, मंत्रिपरिषद जनता के हित में अकेले फैसले ले सकती थी।

4.1. अर्थशास्त्र, जो शासन, प्रशासन, अर्थव्यवस्था और एक शासक के कर्तव्यों से संबंधित एक महत्वपूर्ण प्राचीन भारतीय ग्रंथ है, किसने लिखा था? [1]

4.2. इस पैसेज के अनुसार, राजा से न्याय के किस सिद्धांत का पालन करने की उम्मीद की जाती थी, जब वह मजबूत और कमजोर का न्याय करता था? [1]

4.3. कल्पना कीजिए कि आप एक प्राचीन भारतीय राजा को सलाह दे रहे हैं। पैसेज के आधार पर, दो महत्वपूर्ण जिम्मेदारियों की पहचान करें जिन्हें आप राजा को अपने विषयों के प्रति पूरा करने की सलाह देंगे। [2]

5. On the given outline political map of India, Mark and locate any **TWO** of the following important centres: [2]

5.1. Kānchipuram.

5.2. Patliputra

5.3. Nāśhik

5. भारत के दिए गए रूपरेखा राजनीतिक मानचित्र पर, निम्नलिखित महत्वपूर्ण केंद्रों में से किसी दो को चिह्नित करें और उनका पता लगाएं: [2]

5.1. कांचीपुरम।

5.2. पाटलिपुत्र,

5.3. नाशिक

SECTION A (GEOGRAPHY)

6. Read the statement and choose the best concept: [1]

"Human activities increase gases that trap heat in the atmosphere, causing global temperatures to rise."

Which concept is best illustrated here?

A) Ozone layer depletion

B) Solar radiation reflection

C) Acid rain formation

D) Greenhouse effect

6. स्टेटमेंट पढ़ें और सबसे अच्छा कॉन्सेप्ट चुनें: [1]

"इंसानी एक्टिविटीज़ से एटमॉस्फियर में गर्मी को ट्रैप करने वाली गैसों बढ़ती हैं, जिससे ग्लोबल टेम्परेचर बढ़ता है।" यहां कौन सा कॉन्सेप्ट सबसे अच्छे से दिखाया गया है?

A) ओज़ोन लेयर का कम होना

B) सोलर रेडिएशन का रिफ्लेक्शन

C) एसिड रेन का बनना

D) ग्रीनहाउस इफ़ेक्ट

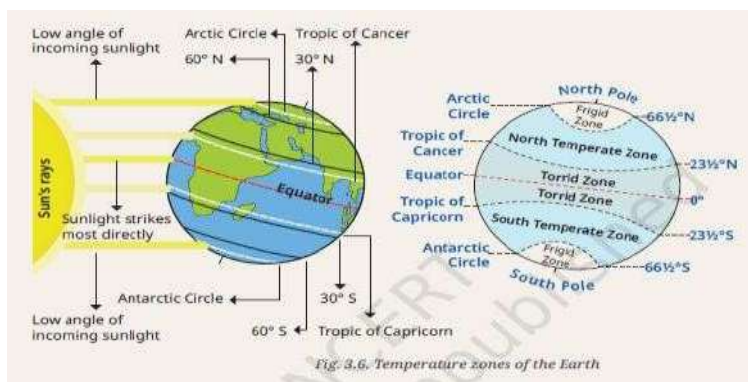
7. In which zone do the Sun's rays strike the most directly, leading to the highest levels of insolation?

A) North Temperate Zone.

B) Frigid Zone.

C) Torrid Zone.

D) South Temperate Zone.



7. सूरज की किरणें किस ज़ोन में सबसे ज़्यादा सीधी पड़ती हैं, जिससे सबसे ज़्यादा इनसोलेशन होता है?

A) नॉर्थ टेम्परेट ज़ोन।

B) फ्रीजिड ज़ोन।

C) टॉरिड ज़ोन।

D) साउथ टेम्परेट ज़ोन।

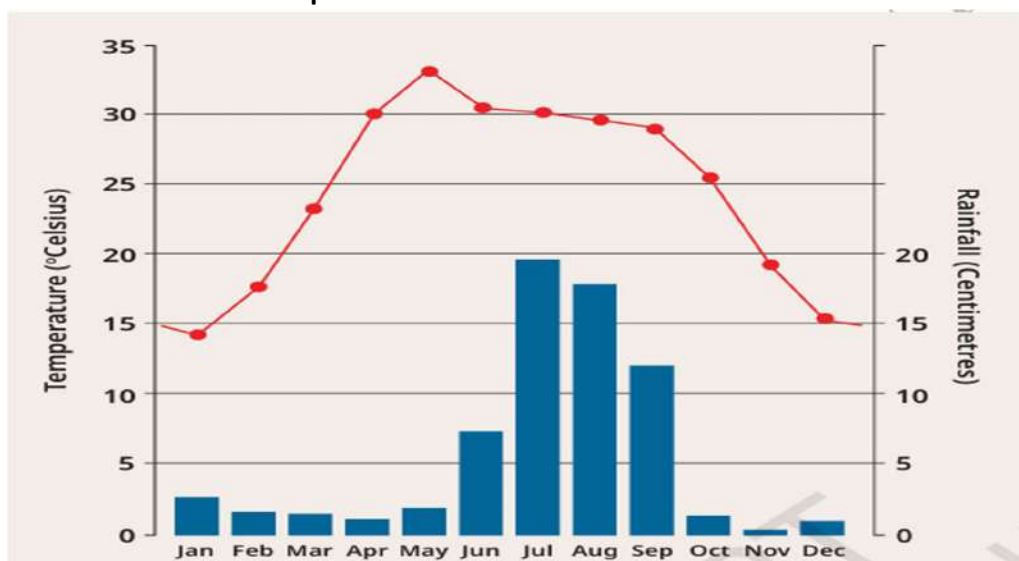
8. Describe the composition of the Earth's atmosphere.

[3]

OR

Analyse the below given image carefully and answer the following questions:

Temperature and Rainfall of Delhi



8.1. Name the month receiving the lowest rainfall.

8.2. Identify the month that records the highest temperature.

8.3. A farmer wants to grow a water-intensive kharif crop. Identify the most suitable three-month period from the graph.

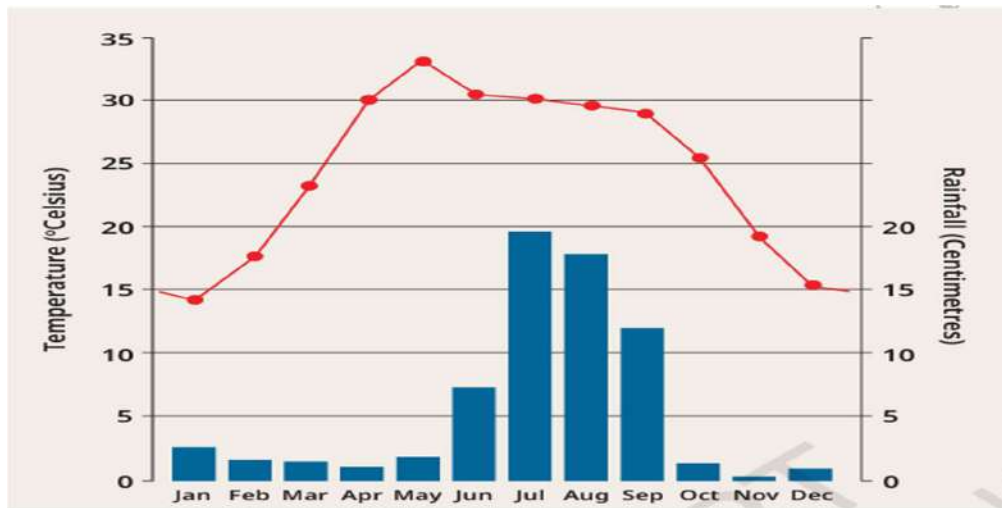
8. पृथ्वी के वायुमंडल की संरचना का वर्णन करें।

[3]

अथवा

नीचे दी गई छवि का ध्यानपूर्वक विश्लेषण करें और निम्नलिखित प्रश्नों के उत्तर दें:

दिल्ली का तापमान और बारिश



8.1. सबसे कम बारिश वाले महीने का नाम बताइए।

8.2. सबसे ज़्यादा तापमान वाले महीने की पहचान करें।

8.3. एक किसान ज़्यादा पानी वाली खरीफ फसल उगाना चाहता है। ग्राफ़ से सबसे सही तीन महीने का समय पहचानें।

9. Various elements influence weather and climate. The major elements of atmosphere that impact human life on the Earth. [5]

OR

How can we reduce our carbon foot print? Suggest any five steps than we can take to reduce it.

9. वायुमंडल की बनावट लेयर्ड होती है। वायुमंडल की बनावट को समझाएँ और उसका लेबल वाला डायग्राम बनाएँ। [5]

अथवा

हम अपना कार्बन फुटप्रिंट कैसे कम कर सकते हैं? इसे कम करने के लिए कोई पाँच कदम बताएँ।

SECTION C (POLITICAL SCIENCE)

10. Read the following statements about the essential features of democracy in India and choose the correct option: [1]

- I. Popular sovereignty means that the ultimate source of power rests with the people.
- II. The rule of law allows certain individuals to be treated above the law because of their position.
- III. The separation of powers prevents the concentration of power in one institution.
- IV. Universal adult franchise gives every citizen aged 18 and above the right to vote.

A. I, II and III

B. I, III, and IV

C. II, III and IV

D. I, II and IV

10. भारत में लोकतंत्र की आवश्यक विशेषताओं के बारे में निम्नलिखित कथनों को पढ़ें और सही विकल्प चुनें: [1]

- I. लोकप्रिय संप्रभुता का मतलब है कि शक्ति का अंतिम स्रोत लोगों के पास है।
- II. कानून का शासन कुछ व्यक्तियों को उनकी स्थिति के कारण कानून से ऊपर माना जाता है।
- III. शक्तियों का पृथक्करण एक संस्था में शक्ति के केंद्रीकरण को रोकता है।
- IV. सार्वभौमिक वयस्क मताधिकार 18 वर्ष और उससे अधिक आयु के प्रत्येक नागरिक को वोट देने का अधिकार देता है।

- A. I, II और III
- B. I, III और IV
- C. II, III और IV
- D. I, II और IV

11. In a democratic country, citizens choose their representatives through elections. Which democratic principle is directly reflected here? [1]

- A. Citizen participation
- B. Hereditary succession
- C. Military rule
- D. Rule by judges

11. एक लोकतांत्रिक देश में, नागरिक चुनावों के ज़रिए अपने प्रतिनिधि चुनते हैं. कौन सा लोकतांत्रिक सिद्धांत यहाँ सीधे तौर पर दिखाई देता है? [1]

- A. नागरिक भागीदारी
- B. वंशानुगत उत्तराधिकार
- C. सैन्य शासन
- D. जर्जों द्वारा शासन

12. Match the following: [1]

COLUMN I		COLUMN II	
1	Sovereign	A	The head of the state is an elected person and not a hereditary position.
2	Secular	B	All of us should behave as if we are members of the same family. No one should treat a fellow citizen as inferior
3	Republic	C	Citizens have complete freedom to follow any religion. But there is no official religion. Government treats all religious beliefs and practices with equal respect.
4	Fraternity	D	People have supreme right to make decisions on internal as well as external matters. No external power can dictate the government of India

- A. 1-C, 2-A, 3-D, 4-B.
- B. 1-D, 2-C, 3-A, 4-B.
- C. 1-B, 2-C, 3-D, 4-A.
- D. 1-D, 2-A, 3-B, 3-C.

12. निम्नलिखित का मिलान करें:

कॉलम I		कॉलम II	
1	सॉवरेन	A	देश का हेड एक चुना हुआ व्यक्ति होता है, न कि कोई खानदानी पद।
2	सेक्युलर	B	हम सभी को ऐसा व्यवहार करना चाहिए जैसे हम एक ही परिवार के सदस्य हों। किसी को भी अपने साथी नागरिक को कमतर नहीं समझना चाहिए।
3	रिपब्लिक	C	नागरिकों को कोई भी धर्म मानने की पूरी आज़ादी है। लेकिन कोई ऑफिशियल धर्म नहीं है। सरकार सभी धार्मिक विश्वासों और रीति-रिवाजों का बराबर सम्मान करती है। भाईचारा
4	भाईचारा	D	लोगों को अंदरूनी और बाहरी मामलों में फैसले लेने का सबसे बड़ा अधिकार है। कोई भी बाहरी ताकत भारत सरकार को हुक्म नहीं दे सकती।

A. 1-C, 2-A, 3-D, 4-B.

B. 1-D, 2-C, 3-A, 4-B.

C. 1-B, 2-C, 3-D, 4-A.

D. 1-D, 2-A, 3-B, 3-C.

13. A thriving democracy rests on certain non-negotiable principles. Describe any three of them. [3]

(OR)

Right to education, Article 21A, was added in 2009, ensuring free and compulsory education for children aged 6 to 14. Discuss its significance.

13. एक फलता-फूलता लोकतंत्र कुछ ऐसे सिद्धांतों पर टिका होता है जिन पर कोई समझौता नहीं किया जा सकता। इनमें से किन्हीं तीन के बारे में बताइए। [3]

(अथवा)

शिक्षा का अधिकार, आर्टिकल 21A, 2009 में जोड़ा गया था, जो 6 से 14 साल के बच्चों के लिए मुफ्त और ज़रूरी शिक्षा पक्का करता है। इसके महत्व पर चर्चा करें।

14. Describe the various functions of the Election Commission of India ECI ? Which of these functions is most important for the conduct of free and fair elections? Explain. [5]

(OR)

List the reforms that have been introduced by the ECI to make voting more inclusive for the following groups? [5]

- a. People with Disabilities
- b. Service Voters
- c. Senior Citizens— above 85 years of age
- d. Prisoners
- e. Persons in preventive detention

14. भारतीय चुनाव आयोग (ECI) के विभिन्न कार्यों का वर्णन करें? स्वतंत्र और निष्पक्ष चुनाव कराने के लिए इनमें से कौन सा कार्य सबसे महत्वपूर्ण है? समझाएँ। [5]

(अथवा)

14. निम्नलिखित समूहों के लिए मतदान को अधिक समावेशी बनाने के लिए ECI द्वारा शुरू किए गए सुधारों की सूची बनाएँ? [5]

- a. विकलांग लोग
- b. सेवा मतदाता
- c. वरिष्ठ नागरिक - 85 वर्ष से अधिक आयु के
- d. कैदी
- e. निवारक निरोध में व्यक्ति

SECTION D (ECONOMICS)

15. Riya has ₹500. She can either buy a reference book or attend a workshop. She chooses the book. What is the opportunity cost of her choice? [1]

- A. ₹500
- B. The reference book
- C. The workshop she gives up
- D. Her total income

15. रिया के पास ₹500 हैं. वह या तो एक संदर्भ पुस्तक खरीद सकती है या एक कार्यशाला में भाग ले सकती है. वह पुस्तक चुनती है. उसकी पसंद की अवसर लागत क्या है? [1]

- A. ₹500
- B. संदर्भ पुस्तक
- C. वह कार्यशाला जिसे वह छोड़ देती है
- D. उसकी कुल आय

16. Economics deals with the problem of scarcity because: [1]

- A. human wants are limited
- B. resources are unlimited
- C. resources are limited in relation to human wants
- D. everyone can satisfy all their wants

16. अर्थशास्त्र कमी की समस्या से निपटता है क्योंकि: [1]

- A. मानव की इच्छाएँ सीमित हैं
- B. संसाधन असीमित हैं

C. मानव की इच्छाओं के संबंध में संसाधन सीमित हैं

D. हर कोई अपनी सभी इच्छाओं को पूरा कर सकता है

17. What does economics deals with. [2]

अर्थशास्त्र किससे संबंधित है.

18. Explain the three central economic questions faced by every economy. [3]

प्रत्येक अर्थव्यवस्था के सामने आने वाले तीन केंद्रीय आर्थिक प्रश्नों की व्याख्या कीजिए।

19. Which economic system—market, planned, or mixed—do you think gives people the most freedom? Which economic system is best suited for promoting innovation? Why? [3]

(OR)

Why do you think peoples wants keep changing over time? How does this affect production in an economy? Why cannot all our wants be satisfied? [3]

19. आपको क्या लगता है कि कौन सा इकोनॉमिक सिस्टम—मार्केट, प्लान्ड, या मिक्स्ड—लोगों को सबसे ज़्यादा आज़ादी देता है? इनोवेशन को बढ़ावा देने के लिए कौन सा इकोनॉमिक सिस्टम सबसे सही है? क्यों?

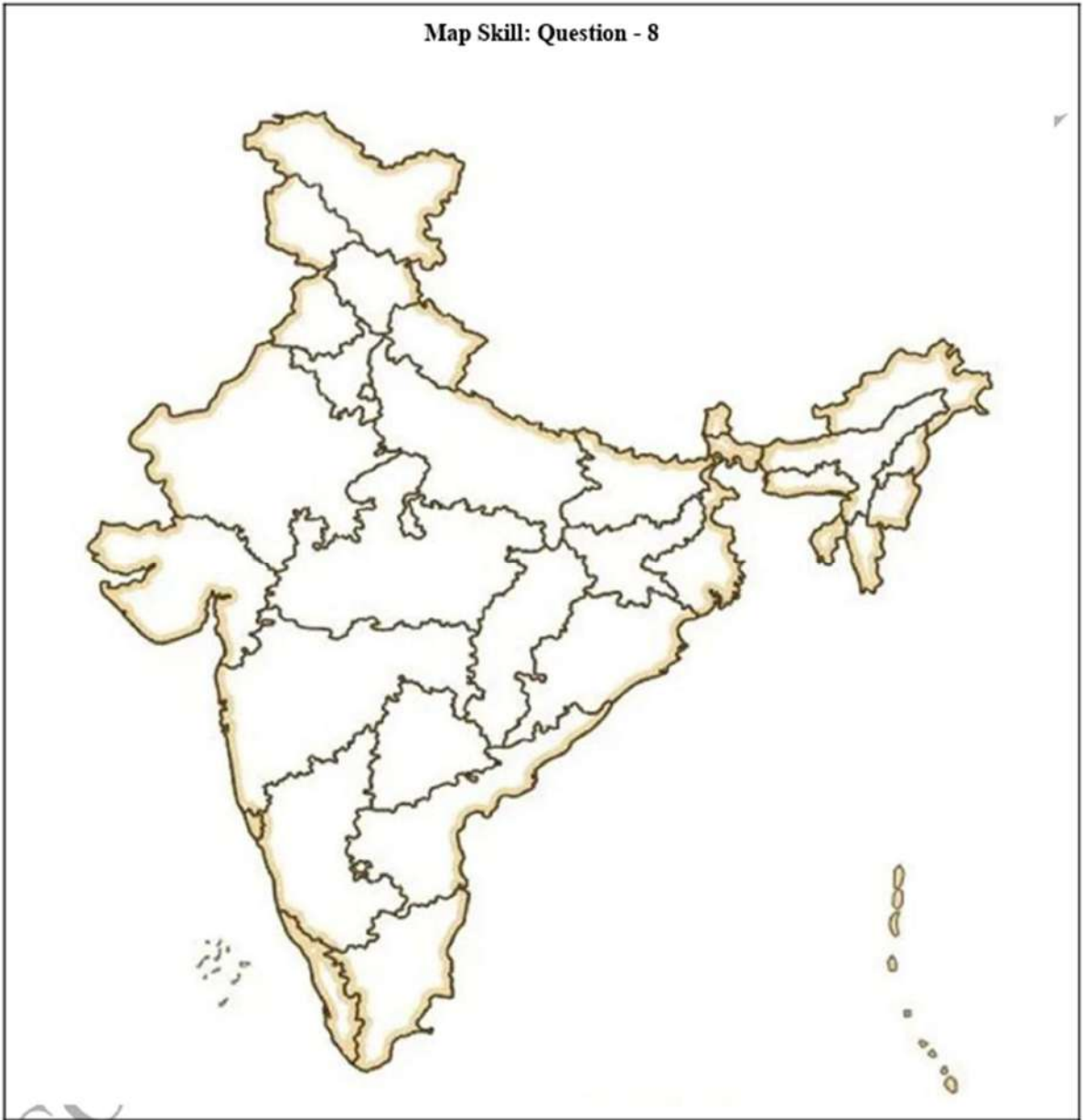
(अथवा)

आपको क्या लगता है कि लोगों की चाहत समय के साथ क्यों बदलती रहती है? यह इकॉनमी में प्रोडक्शन को कैसे प्रभावित करता है? हमारी सभी चाहत पूरी क्यों नहीं हो सकतीं? [3]

X-X-X-X-X-X

Q NO. 5

Map Skill: Question - 8



AI AUTUMN BREAK HOME WORK

1)Prepare a Future Job Advertisement

Imagine that you are a recruiter in the year 2035. Prepare a job advertisement for a future job and explain how Artificial Intelligence (AI) will be used in that job.

2)Write a research report on AI for Sustainable Development Goals (SDGs) and AI in different sectors.

3)Prepare a 4Ws Canvas for a problem related to Sustainable Development Goals.

4)Draw a Smart Home Floor Plan

Draw a floor plan of a smart home showing AI-powered devices in different rooms. Label the devices and briefly explain how Artificial Intelligence helps make the home safer, smarter, and more energy-efficient.

5)Prepare a System Map

Choose one real-life problem related to the Sustainable Development Goals (SDGs). Prepare a System Map showing the relationships between the different factors contributing to the problem and its effects. Use labelled boxes and arrows to show how the different elements are connected.

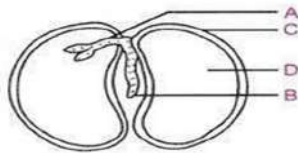
**HOLIDAY HOME
WORK 2026-27
CLASS X**

CLASS – X SUBJECT- SCIENCE (086) Time Allowed: 3 hours Maximum Marks : 80

Question No. **8,9,22 and 33** consist of two statements – Assertion (A) and Reason (R). Answer these questions by selecting the appropriate option given below: (a) Both A and R are true, and R is the correct explanation of A. (b) Both A and R are true, and R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true

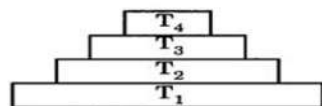
SECTION A

- Which of the following acts as both endocrine and exocrine gland?
(a) Pancreas (b) Thyroid (c) Adrenal (d) Liver 1
- Which of the following is not caused by a growth movement?
(a) bending of the shoot of a plant in response to light
(b) closing up of leaves of a sensitive plant on touching with an object
(c) climbing up of a plant on an object by using tendrils
(d) movement of the root of a plant towards a source of water 1
- In the figure, the parts A,B,C,D are sequentially 1



- A-cotyledon,B-plumule,C-radicle,D-seedcoat
- A-plumule,B-radicle,C-seedcoat,D-cotyledon
- A-plumule,B-cotyledon,C-radicle,D-seedcoat
- A-radicle,B-cotyledon,C-seedcoat,D-plumule

- Pure-bred pea plant A is crossed with purebred pea plant B. It is found that the plants which look like A do not appear in F₁ generations but re-emerge in F₂ generation. Which of the plants, A and B, is tall and which is dwarf 1
(a) A is tall and B is dwarf. (c) A is tall and B is also tall.
(b) A is dwarf and B is also dwarf (d) A is dwarf is B is tall
- Which statement shows the interaction of an abiotic component with a biotic component in an ecosystem?
(a) A grasshopper feeding on a leaf
(b) Rainwater running down into the lake
(c) An earthworm making a burrow in the soil
(d) A mouse fighting with another mouse for food 1
- In the given Figure various trophic levels are shown in a pyramid. At which trophic level is the maximum amount of energy available?



- T4
- T2
- T1
- T3

- In which of the following groups of organisms, food materials are broken down outside the body and absorbed?
(a) Mushroom, green plants, Amoeba (b) Yeast, mushroom, bread mould
(c) Paramecium, Amoeba, Cuscuta (d) Cuscuta, lice, tapeworm
- Assertion (A): Lipase helps in the digestion of proteins.
Reason (R): Digestion of proteins in small intestine needs basic medium. 1
- Assertion (A): A network of food chains existing together in an ecosystem is known as food web.
Reason(R): An animal like Kite cannot be a part of a food web. 1
- Name the enzyme present in saliva. State its role in the digestion of food. **OR** 2
Why do arteries have thick and elastic walls whereas veins have valves?
- (a) Which of the following flowers will have higher possibility of self-pollination?
Mustard, Papaya, Watermelon, Hibiscus
(b) List the two productive parts of a bisexual flower. 2

12. In this food chain given above:

2



- Assign trophic level to frog.
- Which of these will have the highest concentration of non-biodegradable.

chemicals? Why?

13. Draw a flow chart to show the breakdown of glucose in living organisms by various pathways.

OR

(a) Define photosynthesis and write the chemical equation involved in photosynthesis

(b) List three events which occur during this process

3

14. i. An old man is advised by his doctor to reduce sugar intake in his diet.

- Name the disease the man is suffering from.
- Mention the hormone whose imbalance causes this disease.
- Name the endocrine gland that secretes this hormone.

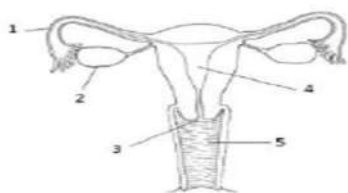
ii. a) Name the endocrine gland that secretes growth hormone.

b) What will be the effect on a person if there is: i. A deficiency of growth hormone?

ii. An excess of growth hormone?

3

15.



a) Identify and write the names of 1, 2, 4 and 5 parts shown here in the diagram.

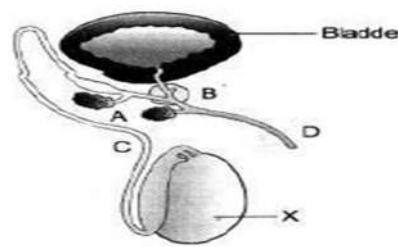
b) What is contraception?

c) Give two advantages of adopting contraceptive measures.

OR

5

In the diagram of the human male reproductive system



a) Label A and B

b) Name the hormone produced by X

c) What is the role of this hormone in human male?

d) Mention the name of substances that are transported by tubes C and D

e) Scrotum is located outside the abdominal cavity. Give reason.

16. Roja has green eyes while her parents and brother have black eyes. Roja's husband Ravi has black eyes while his mother has green eyes and father has black eyes.

- On the basis of the above given information, is the green eye colour a dominant or recessive trait? Justify your answer.
- What is the possible genetic makeup of Roja's brother's eye colour?
- What is the probability that the offspring of Roja and Ravi will have green eyes? Also, show the inheritance of eye colour in the offspring with the help of a suitable cross.

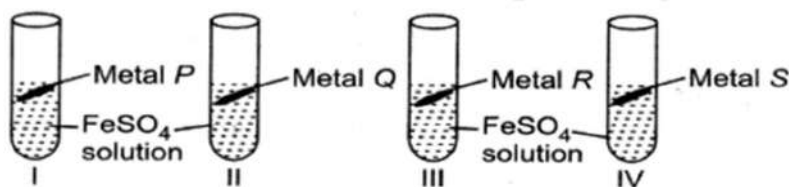
OR

50% of the offspring of Roja's brother are green eyed. With help of cross show how is it possible.

4

SECTION B

17. Study the given experimental set up. If in the test tubes I and III, black residue was obtained and in test tubes II and IV, no change was observed, then metals P, Q, R, and S could be respectively



- (a) Al, Cu, Pb, Ag (b) Pb, Cu, Ag, Al (c) Zn, Al, Cu, Ag (d) Zn, Cu, Al, Ag
 18. If 10 ml of H_2SO_4 is mixed with 10 ml of $\text{Mg}(\text{OH})_2$ of the same concentration, the resultant solution will give the following colour with universal indicator
 (A) Red (B) Yellow (C) Green (D) Blue 1

19. The electronic configuration of three elements X, Y and Z are as follows:
 $X=2,4$; $Y=2,7$; $Z=2,1$

Which two elements combine to form an ionic compound

- (a) X_2Y (b) YZ (c) XZ_3 (d) Y_2Z 1
 20. A cable manufacturing unit tested few elements on the basis of their physical properties.

Properties	W	X	Y	Z
Malleable	Yes	No	No	Yes
Ductile	Yes	No	No	Yes
Electrical conductivity	Yes	Yes	Yes	No
Melting point	High	Low	High	Low

Which of the above elements were discarded for usage by the company?

- (a) W, X, Y (b) X, Y, Z (c) W, X, Z (d) W, Y, Z 1
 21. In the given reaction, $\text{Al}_2\text{O}_3 + \text{NaOH} \rightarrow \text{X} + \text{H}_2\text{O}$ Name the salt X formed.
 (a) NaAlO_2 (b) Na_3Al (c) Na_2O_3 (d) NaAl_2O_3 1
 22. Assertion (A): Ethanoic acid reacts with ethyl alcohol in presence of Conc. H_2SO_4 to form ethyl ethanoate.
 Reason (R): Esters are used in ice creams and cold drinks. 1
 23. Convert the following statements into chemical equations and balance them.
 a. Hydrogen gas reacts with chlorine gas to form hydrogen chloride gas.
 b. Lead reacts with aqueous solution of copper (I) chloride to form aqueous lead chloride and copper. 2
 24. A gas X reacts with dry slaked lime and forms a compound Y which is used as a bleaching agent in chemical industry. 2
 a. Identify X and Y. b. Give the chemical equation of the reactions involved.
 25. A reddish-brown metal 'X', when heated in air, gives a black compound 'Y', which when heated in presence of H_2 gas gives 'X' back. 'X' is refined by the process of electrolysis; this refined form of 'X' is used in electrical wiring. a. Identify 'X' and 'Y'
 b. Draw a well-labelled diagram to represent the process of refining 'X'. 3
 26. Comment on the following statements: a. Bee sting is treated with baking soda paste. b. Farmers treat soil with quicklime when tilling. c. Ancient sculptures and marble structures are conserved by treating them with certain chemicals. 3
 27. An organic compound 'A' is an essential constituent of wine and beer. Oxidation of 'A' yields an organic acid 'B' which is present in vinegar. a. Name the compounds 'A' and 'B' and write their structural formulae. b. What happens when 'A' and 'B' react in the presence of an acid catalyst? c. Write the chemical equation for the reaction.

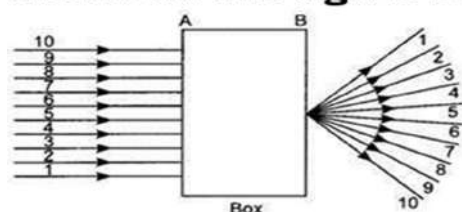
OR

- a. CH_4 ; C_3H_8 ; C_2H_6 ; C_4H_8 -Which of the compound given above does not belong to the same homologous series? Name it. And give reason for the same.
 b. Define a homologous series of carbon compounds. c. Are the chemical and physical properties of homologues the same. Justify your answer. 5
 28. When two or more reactants combine to form a single product, the reaction is named a combination reaction. For example, calcium oxide reacts vigorously with water to form calcium hydroxide. The reaction is highly exothermic in nature. Lot of heat is produced during the reaction. $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2 + \text{Heat}$. Solution of calcium hydroxide is used to white-wash walls. It reacts slowly with carbon dioxide present in the air to form a thin layer of carbonate which gives a shiny appearance. Based on the above, answer the following questions from (i) to (iv).
 i. The chemical name of quick lime is:

- (a) Calcium oxide (b) Calcium carbonate (c) Calcium hydroxide (d) Carbon dioxide
- ii. On passing carbon dioxide through lime water:
- (a) Calcium hydroxide is formed (b) A white precipitate of CaO is formed
(c) Lime water turns milky (d) Colour of lime water turns green
- iii. Following observations were recorded when calcium oxide reacts vigorously with water. Identify the incorrect observations:
- I. It is an endothermic reaction II. slaked lime is produced
III. Quick lime is produced IV. It is an exothermic reaction
- (a) I and II (b) III and IV (c) I and III (d) II and IV
- iv. Quick lime combines vigorously with water to form Y which reacts slowly with carbon dioxide in the air to form Z. Identify [Y] & [Z]
- (a) Calcium carbonate & calcium hydroxide (b) Calcium hydroxide & calcium carbonate
(c) Calcium & calcium bicarbonate (d) Calcium bicarbonate & calcium metal. 4

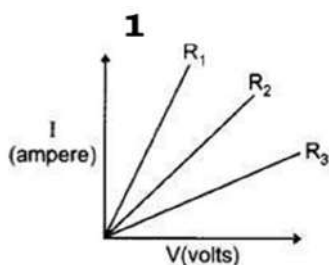
SECTION C

29. A beam of light is incident through the holes on side A and emerges out of the holes on the other side B as shown in the figure below: 1



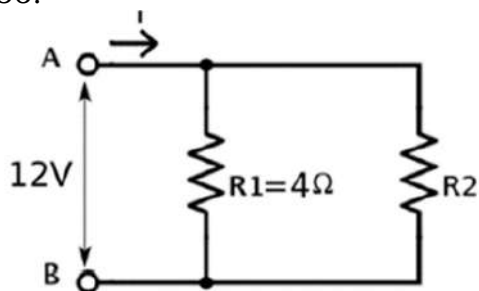
Which of the following could be inside the box?

- (a) Concave lens (b) Rectangular glass slab
(c) Prism (d) Convex lens
30. A person is unable to see objects clearly beyond 2 meters. Which of the following measures can be taken to correct this defect ?
- (a) Use a concave lens of suitable power to diverge the light rays before they enter the eye. (b) Use a convex lens of suitable power to converge the light rays before they enter the eye (c) Use a plane mirror to reflect light rays into the eye.
(d) No correction is needed as the defect will resolve naturally. 1
31. Student carries out an experiment and plots the V-I graph of three samples of nichrome wire with resistances R₁ R₂ and R₃ respectively. Which of the following is true? 1



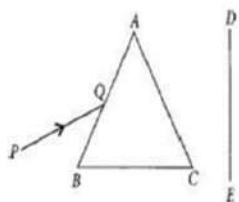
- (a) R₁ = R₂ = R₃ (b) R₁ > R₂ > R₃
(c) R₃ > R₂ > R₁ (d) R₂ > R₃ > R₁
32. The factor(s) on which magnetic field strength produced by current carrying solenoids depend(s) :
- a) Magnitude of current (b) Number of turns
c) Nature of core material (d) All of the above 1
33. Assertion (A): Fuse is a safety device which is installed to prevent electrical circuits and fires.
Reason (R): Fuse consists of tin-plated copper wire having low melting point which melts and breaks the circuit if the current exceeds a safe value. 1
34. An object is placed at a distance of 12 cm in front of a concave mirror of radius of curvature 30cm. List four characteristics of the image formed by the mirror. **OR**
Draw ray diagrams for the following cases when a ray of light: (i) Passing through centre of curvature of a concave mirror is incident on it. (ii) Parallel to principal axis is incident on convex mirror. 2

35. A student attaches a white sheet of paper to a drawing board, places a bar magnet at its center, and sprinkles iron filings evenly around it. Upon gently tapping the board, the iron filings align themselves in a specific pattern. **a.** Why do the iron filings align in a particular pattern? **b.** What physical quantity is represented by the pattern of field lines around the bar magnet? **c.** Mention any two properties of magnetic field lines. 3
- 36.



- a.** A student has two resistors, $6\ \Omega$ and $7\ \Omega$. She has to select one of them to place in the circuit as R_2 (shown in the diagram). The current required in the entire circuit is exactly 5 A. Determine by calculation which resistor she should choose to achieve this current. **b.** Define Ohm's law. 3

37. A ray of white light PQ is passing through a glass prism ABC as shown in the diagram.



- a)** Trace it on your answer sheet and show the path of the emergent beam as observed on the screen DE.
b) Name and explain the cause of the observed phenomenon.
c) What are the different phenomena involved in the formation of a rainbow?

38. **a.** A pencil when dipped in water in a glass tumbler appears to be bent at the interface of air and water. Will the pencil appear to be bent to the same extent if instead of water we use liquids like kerosene or turpentine? Support your answer with reason.
b. Write the relationship among the object distance (u), Image distance (v) and the focal length (f) of the spherical lens.
c. An object of height 6 cm is placed perpendicular to the principal axis of a concave lens of focal length 5 cm. Use lens formula to determine the position, size and nature of the image if the distance of the object from the lens is 10 cm.

OR

A student wants to project the image of a candle flame on a screen 48 cm in front of a mirror by keeping the flame at a distance of 12 cm from its pole.

- (a)** Suggest the type of mirror he should use.
(b) Find the linear magnification of the image produced and write the nature of the image formed
(c) Draw ray diagram to show the image formation in this case. 5
39. A household electrical circuit consists of appliances like a bulb (100 W), a fan (60 W), and a heater (1000 W), all connected to a 220 V supply. The circuit is protected by a 5A fuse. One day, all the appliances are switched on simultaneously. Answer the following questions based on this scenario:
- a.** Calculate the total current drawn by the circuit when all the appliances are switched on.
b. Will the fuse blow in this situation? Justify your answer with calculations.
c. If the heater is replaced by a 500 W appliance, will the circuit still be safe? Show your calculations.

OR

If the fan is replaced by a 200 W appliance, will the circuit still be safe? Show your calculations.

Class 10 sanskrit home work

विद्यार्थी अध्ययन सहायता सामग्री में दिए गए आदर्श प्रश्न पत्र 1 to 4 तक आपने पुस्तक में लिखिए

PM SHRI KENDRIYA VIDYALAYA KARIMNAGAR

CLASS X – MATHEMATICS STANDARD (041) | SET 1

AUTUMN BREAK HOLIDAY HOMEWORK • SESSION 2026–27 • COMPLETE SYLLABUS

Name: _____	Section: _____	Roll No.: _____	Date: _____
Maximum Marks: 80	Time: 3 Hours	Subject Code: 041	Teacher: TGT Mathematics

General Instructions: All 38 questions are compulsory. Section A: 20×1; B: 5×2; C: 6×3; D: 4×5; E: 3×4. Internal choices are provided in selected questions. Use $\pi=22/7$ where required. Calculators are not allowed.

SECTION A — 20 × 1 = 20 marks

- The HCF of 135 and 225 is: (A) 15 (B) 25 (C) 45 (D) 75
- The sum of zeroes of $x^2 - 7x + 10$ is: (A) 10 (B) 7 (C) -7 (D) -10
- The pair $2x+3y=7$ and $4x+6y=14$ has: (A) no solution (B) unique (C) infinitely many (D) two solutions
- The discriminant of $2x^2-4x+5=0$ is: (A) 24 (B) 0 (C) -24 (D) 16
- The 10th term of AP 3, 7, 11, ... is: (A) 35 (B) 39 (C) 43 (D) 47
- Similar triangles with side ratio 2:3 have area ratio: (A) 2:3 (B) 4:9 (C) 8:27 (D) 3:2
- Midpoint of (-2, 5) and (4, -1): (A) (1, 2) (B) (2, 1) (C) (-1, 2) (D) (1, -2)
- If $\tan \theta = 1/\sqrt{3}$, θ acute, then θ is: (A) 30° (B) 45° (C) 60° (D) 90°
- Tangent at a point is perpendicular to the: (A) chord (B) radius through contact (C) secant (D) diameter only
- Area of circle of radius 7 cm: (A) 44 (B) 154 (C) 308 (D) $49\pi^2 \text{ cm}^2$
- Cone radius 3 cm, height 4 cm; slant height: (A) 4 (B) 5 (C) 6 (D) 7 cm
- If mean=26 and median=24, empirical mode is: (A) 20 (B) 22 (C) 24 (D) 30
- Probability of an impossible event: (A) 0 (B) $1/2$ (C) 1 (D) -1
- Distance between (3, -2) and (3, 5): (A) 3 (B) 5 (C) 7 (D) 8
- If $\sec \theta = 5/4$, θ acute, $\tan \theta$ is: (A) $3/4$ (B) $4/3$ (C) $5/3$ (D) $1/4$
- Sum of first 10 terms of AP 2, 5, 8, ...: (A) 145 (B) 150 (C) 155 (D) 160
- If a line divides two sides of a triangle in the same ratio, it is ____ to the third side. (A) perpendicular (B) parallel (C) equal (D) a median
- Equal real roots occur when discriminant is: (A) positive (B) negative (C) zero (D) greater than 1
- Assertion: Coincident lines give infinitely many solutions. Reason: Coincident lines have every point in common. Choose: (A) both true, R explains A (B) both true, R does not explain A (C) A true, R false (D) A false, R true.
- Assertion: Doubling a circle's radius quadruples its area. Reason: Area = πr^2 . Use the same options as Q19.

SECTION B — 5 × 2 = 10 marks

- Use Euclid's division algorithm to find HCF of 867 and 255. OR find LCM of 12, 15 and 20.
- Find zeroes of $x^2-9x+20$ and verify the relationship with coefficients. OR find midpoint of A(-4, 6), B(2, -2).
- If $\tan A = 3/4$, find $\sin A$ and $\cos A$, A acute.
- Find area of a sector of radius 14 cm and angle 90° .
- Two dice are thrown. Find probability that the sum is 8.

SECTION C — 6 × 3 = 18 marks

- Prove that $\sqrt{5}$ is irrational.
- Solve $2x+3y=13$ and $3x-2y=0$. OR solve $x^2-7x+10=0$ by factorisation.
- Find the 20th term and sum of first 20 terms of AP 4, 9, 14, ...
- In $\triangle ABC$, $DE \parallel BC$, $AD=3$ cm, $DB=2$ cm and $AE=4.5$ cm. Find EC.
- Find the point dividing A(-2, 3), B(4, -6) internally in ratio 2:1 and its distance from origin.
- Prove $(1+\tan^2 A)/(1+\cot^2 A) = \tan^2 A$. OR if $\sin A = 3/5$, find $\cos A$ and $\tan A$.

SECTION D — 4 × 5 = 20 marks

32. The sum of two positive numbers is 27 and product is 182. Form a quadratic equation and find the numbers.
33. State and prove the Basic Proportionality Theorem. Then $DE \parallel BC$, $AD=4$ cm, $DB=6$ cm, $AE=3$ cm. Find EC .
34. A cylinder of radius 7 cm and height 10 cm is surmounted by a hemisphere of the same radius. Find exposed surface area and volume.
35. From a point, angle of elevation of a tower is 30° . After moving 40 m towards it, angle is 60° . Find tower height and original distance. OR find area of triangle with vertices $(2,3), (-1,5), (4,-2)$.

SECTION E — $3 \times 4 = 12$ marks

36. A shop sells notebooks for ₹40 and ₹60. It sells 50 notebooks for ₹2,600. (i) Form equations. (1) (ii) State number of solutions. (1) (iii) Find each quantity. (2)
37. A circular garden has radius 14 m and an outside path 7 m wide. (i) Outer radius. (1) (ii) Outer circumference. (1) (iii) Area of path. (2)
38. Marks of 50 students: 0–10:4, 10–20:6, 20–30:12, 30–40:18, 40–50:10. (i) Modal class. (1) (ii) Median class. (1) (iii) Mean. (2)

MARKING SCHEME / ANSWER KEY

Give credit for correct method, formula, substitution and final answer. Accept equivalent valid methods and correct units.

Question range	Expected answers / marking points
Q1–20	1 C; 2 B; 3 C; 4 C; 5 B; 6 B; 7 A; 8 A; 9 B; 10 B; 11 B; 12 B; 13 A; 14 C; 15 A; 16 A; 17 B; 18 C; 19 A; 20 A.
Q21–25	21 HCF=51; OR LCM=60. 22 zeroes 4,5; sum=9, product=20; OR midpoint=(-1,2). 23 $\sin=3/5$, $\cos=4/5$. 24 154 cm^2 . 25 $5/36$.
Q26–31	26 Assume $\sqrt{5}=a/b$ in lowest terms; $5b^2=a^2$ implies $5 a$ and then $5 b$, contradiction. 27 $x=2, y=3$; OR roots 2,5. 28 $a=4, d=5$; $a_{20}=99$; $S_{20}=1030$. 29 BPT: $3/2=4.5/EC$, so $EC=3 \text{ cm}$. 30 Section formula gives $P=(2, -3)$, distance= $\sqrt{13}$. 31 $LHS=\sec^2 A/\operatorname{cosec}^2 A=\tan^2 A$; OR $\cos=4/5, \tan=3/4$.
Q32–35	32 x and $27-x$: $x^2-27x+182=0=(x-13)(x-14)$, numbers 13,14. 33 BPT proof by areas/similarity; $4/6=3/EC$, $EC=4.5 \text{ cm}$. 34 Exposed area= $2\pi rh+3\pi r^2=902 \text{ cm}^2$; volume= $\pi r^2 h+(2/3)\pi r^3=2977\frac{1}{2} \text{ cm}^3$. 35 Let distance x , height h : $h/x=1/\sqrt{3}$ and $h/(x-40)=\sqrt{3}$; $x=60 \text{ m}$, $h=20\sqrt{3} \text{ m}$. OR area= $13/2 \text{ sq units}$.
Q36–38	36 $x+y=50$, $40x+60y=2600$; unique solution $x=20, y=30$. 37 outer radius=21 m; circumference=132 m; path area=770 m^2 . 38 modal class=30–40; median class=30–40; mean=29.6.

AIM

To study binary fission in *Amoeba* or *Paramecium* and budding in yeast or *Hydra*.

THEORY

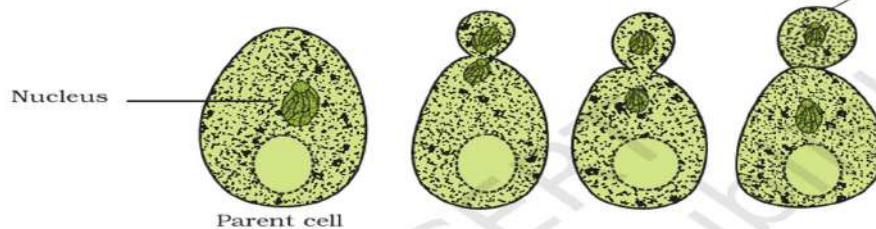
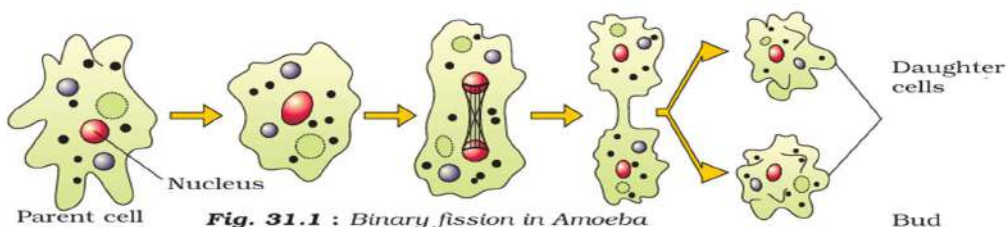
Binary fission and budding are forms of asexual reproduction in lower organisms, like bacteria, unicellular protozoans, and a few other animals. In binary fission, the parent cell divides into two daughter cells by amitosis and each daughter cell grows into an adult. The division of nucleus is called amitosis because the stages of a typical mitotic division are not observed in these cells. Budding is commonly seen in yeast and *Hydra*. *Hydra* is a tiny freshwater organism which produces young ones from its body laterally. Yeast is a unicellular organism which produces a chain of cells attached to the parent cell.

MATERIALS REQUIRED

A compound microscope, permanent slides of binary fission in *Amoeba* or *Paramecium*; budding in yeast or *Hydra*; charts of binary fission and budding.

PROCEDURE

1. Focus the slide under high power of compound microscope.
2. Observe the stages in binary fission and budding (Figs. 31.1 and 31.2).
3. Draw diagrams of the stages in binary fission and budding.



stamens and carpels.

PM SHRI KENDRIYA VIDYALAYA KARIMNAGAR



तत् त्वं पूषन् अपावृणु
केन्द्रीय विद्यालय संगठन

STUDENT PORTFOLIO

CLASS:- X

ARTIFICIAL INTELLIGENCE (417)

SESSION : 2026-27

SUBMITTED TO:

Mr. Ramesh Bhatt

PGT (Computer Science)

SUBMITTED BY:

My Profile

Name:

Class & Section:

Roll No:

Mother's Name:

Father's Name:

School:.....

Address:.....

Contact:

Blood Group:.....

My Strength:.....

.....

I am good at:

.....

My hobbies:

.....

My limitations:.....

.....

I want to learn:

I want to be:

Index

Activity	Page No.	Date	Signature
Activity 1: My Goodness	1		
Activity 2: Confusion Matrix	2		
Activity 3: Excel for Statistical Analysis	3		
Activity 4: Keyword Extraction	4		
Activity 5: RGB Explorer	5		
Write 5-5 examples of each domain of AI	6		
What are SDG	6		
Supervised vs unsupervised learning	6		
What is confusion matrix	7		
What is Neural Network?	7		

Activity 1:

My Goodness

Purpose:

To understand how our decisions are influenced by personal morals, values, and ethics while making charitable donations.

Tools Required:

Website: <https://www.my-goodness.net/> , Internet Connection

Procedure:

1. Open the given website.
2. Watch the introduction video about the game.
3. Make 10 decisions on donating.
4. Answer the short survey.
5. Observe the insights provided.

Observations:

I discovered biases like location or identity influencing decisions.

Result/Conclusion:

I realized that biases affect decision-making. The activity helped me become aware of unconscious biases.

Activity 2:

Build the Confusion Matrix from Scratch

Purpose:

To learn how to create a confusion matrix and evaluate predictions of an AI model.

Tools Required:

Pen & Paper / MS Excel

Procedure:

1. Recall definitions of TP, FP, FN, TN.
2. Take dataset of Actual vs Predicted values.
3. Count values accordingly.
4. Fill them in confusion matrix table.
5. Example Dataset is :-

Observations:

Confusion Matrix:

	Predicted: Yes	Predicted: No
Actual: Yes	2 (TP)	1 (FN)
Actual: No	1 (FP)	2 (TN)

Actual	Predicted
Yes	Yes
Yes	No
No	Yes
No	No
Yes	Yes
No	No

Result/Conclusion:

- Correct Predictions = TP + TN = 4
- Total Predictions = 6
- Accuracy = 66.7%

This shows how confusion matrix helps measure model performance.

Activity 3:

Excel for Statistical Analysis (Simple Linear Regression)

Purpose:

To use Excel for performing simple linear regression between car speed and distance.

Tools Required:

MS Excel with Analysis ToolPak Add-in

Procedure:

1. Open the given Google Sheet template and download it.
2. Enable “Analysis ToolPak” in Excel (File → Options → Add-ins → Go → Check Analysis ToolPak → OK).
3. Enter the dataset (Speed vs Distance).
4. Insert → Charts → Scatter → Add Trendline → Select Linear → Show Equation and R^2 .
5. Go to Data → Data Analysis → Regression → Select Y (Distance) and X (Speed).
6. View regression statistics output.

Observations:

- Scatter plot shows a positive relation between speed and distance.
- Equation appears as: Distance = $a + b \times \text{Speed}$
- Example: If Speed (X) = 6, Distance $\approx$ Predicted using the regression line.

Result/Conclusion:

Linear regression shows positive correlation. Regression equation can predict unknown values.

Activity 4:

Keyword Extraction (using API)

Purpose:

To learn how to extract keywords from a text using Google Cloud Natural Language API.

Tools Required:

Website: <https://cloud.google.com/natural-language>

Procedure:

1. Open the website.
2. Paste sample text.
3. Click on Analyze.
4. Observe highlighted keywords.
5. Try with your own text.

Observations:

For example, entering:

“Google is a company based in Mountain View that develops search technology.”

Extracted Keywords: Google, Mountain View, Search Techno

Result/Conclusion:

Keyword extraction highlights main topics, useful for summarization and content analysis.

Activity 5:

RGB Explorer

Purpose:

To explore how colours are formed using different combinations of Red, Green, and Blue values.

Tools Required:

Website: https://www.w3schools.com/colors/colors_rgb.asp

Procedure:

1. Open RGB Color Picker tool.
2. Adjust R, G, B values.
3. Observe output colour.
4. Answer given questions.

Observations:

1. $R=G=B=255 \rightarrow$ White
2. $R=G=B=0 \rightarrow$ Black
3. One=0 $\rightarrow$ Green/Blue/Cyan or Red/Blue/Magenta or Red/Green/Yellow
4. $R=G=B \rightarrow$ Grayscale
5. Example favourite: Royal Blue = (65, 105, 225)

Result/Conclusion:

RGB is the base colour model. Combining R, G, B in different intensities produces millions of colours.

1. The world around us is filled with various applications of AI. Write 5-5 examples of each domain of AI being used by us in real life.

- Virtual Assistants – Siri, Alexa, Google Assistant
- Spam Filters – Gmail automatically filtering spam emails
- Face Recognition – Phone unlocking using face ID
- Recommendation Systems – Netflix, YouTube suggesting video
- Navigation Apps – Google Maps giving real-time directions

2. What are SDG? Write names of all SDGs.

Sustainable Development Goals (SDGs) are a set of 17 global goals created by the United Nations in 2015 to build a better and more sustainable future for everyone by the year 2030. These goals aim to end poverty, fight inequality, protect the planet, and ensure peace and prosperity for all people.

The 17 SDGs are: No Poverty, Zero Hunger, Good Health and Well-Being, Quality Education, Gender Equality, Clean Water and Sanitation, Affordable and Clean Energy, Decent Work and Economic Growth, Industry Innovation and Infrastructure, Reduced Inequalities, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water, Life on Land, Peace Justice and Strong Institutions, and Partnerships for the Goals.

3. How Supervised learning is different from unsupervised learning?

Supervised Learning	Unsupervised Learning
Uses labelled data	Uses unlabelled data
Learns with guidance	Learns without guidance
Goal: Predict outcomes	Goal: Find patterns/groups
Techniques: Classification, Regression	Techniques: Clustering, Association
Example: Spam detection	Example: Customer grouping

4. What is confusion matrix? Write the formula of Accuracy, Precision, Recall and F1 Score

A confusion matrix is a table used to evaluate the performance of a classification model. It compares the actual values with the predicted values and shows how many predictions were correct or incorrect.

Structure of Confusion Matrix

	Predicted: Positive	Predicted: Negative
Actual: Positive	True Positive (TP)	False Negative (FN)
Actual: Negative	False Positive (FP)	True Negative (TN)

- **Accuracy** = $(TP + TN) / (TP + TN + FP + FN)$
- **Precision** = $TP / (TP + FP)$
- **Recall** = $TP / (TP + FN)$
- **F1 Score** = $2 \times (\text{Precision} \times \text{Recall}) / (\text{Precision} + \text{Recall})$

5. What is Neural Network? Draw and explain three layers of neural network

A Neural Network is a type of Artificial Intelligence (AI) model inspired by how the human brain works. It is made of many small units called neurons that are connected to each other.

Three Layers of Neural Network

Input Layer

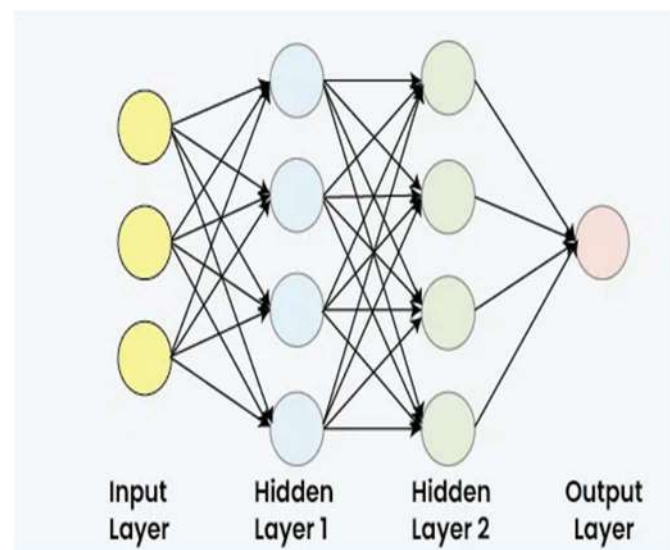
- Takes raw input data/features
- Just passes data to the next layer

Hidden Layer

- Middle layer(s) of the network
- Does calculations using weights & biases
- Learns patterns and relationships in data

Output Layer

Last layer of the network.
Produces final result or prediction



अवकाश गृह कार्य , कक्षा -10 , विषय – हिन्दी

- 1 कोई दो अनौपचारिक एवं दो औपचारिक पत्र लिखिए ।
- 2 कोई दो ई-मेल लिखिए।
- 3 कोई तीन संदेश लिखिए।
- 4 **पर्यावरण प्रदूषण , मेरे सपनों का भारत, मेरी प्रिय पुस्तक** विषयों पर 120 शब्दों में अनुच्छेद लिखिए।

AUTUMN BREAK HOME WORK

Dear Students,

You are instructed to complete the following holiday homework during the Autumn Break.

Part A: English Portfolio

Prepare and complete your English portfolio with all the prescribed activities and assignments.

Ensure that all the written work and activities assigned in class are included in the portfolio.

Part B: Literature – Prose and Poetry

I. First Flight – Prose

Answer the following five questions in about 100–120 words each.

A Letter to God: How does the story highlight Lencho's unwavering faith in God? Do you think his faith is justified?

Nelson Mandela: Long Walk to Freedom: What does Mandela mean when he says that both the oppressed and the oppressor are robbed of their humanity?

Two Stories About Flying: How does the young seagull overcome his fear of flying? What role does his mother play in helping him?

From the Diary of Anne Frank: Why does Anne Frank decide to write a diary? What does this reveal about her personality?

The Sermon at Benares: How does Kisa Gotami's experience help her understand the truth about life and death?

II. First Flight – Poetry

Answer the following five questions in about 80–100 words each.

Dust of Snow: How does a small incident bring about a change in the poet's mood?

Fire and Ice: What do fire and ice symbolise in the poem? How can these emotions lead to destruction?

A Tiger in the Zoo: Contrast the life of a tiger in the zoo with its life in the natural habitat.

How to Tell Wild Animals: How does the poet use humour and exaggeration to describe wild animals?

The Ball Poem: What does the loss of the ball teach the boy about life and responsibility?

III. Footprints Without Feet – Supplementary Reader

Answer the following five questions in about 100–120 words each.

A Triumph of Surgery: How did Tricky's excessive feeding and lack of exercise affect his health? What lesson does the story convey?

The Thief's Story: How does Anil's trust and kindness transform Hari Singh?

The Midnight Visitor: How does Ausable use his intelligence and presence of mind to outwit Max?

A Question of Trust: How does Horace Danby's overconfidence lead to his downfall?

The Making of a Scientist: What qualities and experiences helped Richard Ebright become a successful scientist?

Part C: Grammar

Attempt the following five exercises.

Tenses: Fill in the blanks with the correct form of the verbs given in brackets.

- a. By the time we reached the station, the train _____ (leave).
- b. She _____ (prepare) for her examination since morning.
- c. If he works hard, he _____ (succeed).
- d. They _____ (watch) television when the lights went out.
- e. I _____ never _____ (see) such a beautiful painting before.

Modals: Fill in the blanks with suitable modals.

- a. You _____ respect your elders.
- b. _____ I borrow your pen for a moment?
- c. Students _____ wear their uniforms to school.
- d. We _____ save water to protect the environment.
- e. He _____ be at home; all the lights are switched off.

Subject-Verb Agreement: Choose the correct verb.

- a. Each of the students (has/have) submitted the assignment.
- b. Neither the teacher nor the students (was/were) present.

- c. The quality of these products (is/are) excellent.
- d. Mathematics (is/are) my favourite subject.
- e. A number of candidates (has/have) applied for the post.

Reported Speech: Change the following sentences into reported speech.

- a. Riya said, "I am preparing for my examination."
- b. The teacher said to the students, "Complete your homework on time."
- c. Mohan said, "I have finished my project."
- d. She said to me, "Where are you going?"
- e. Rahul said, "What a beautiful painting it is!"

Error Correction: Identify and correct the error in each sentence.

- a. He do not know the answer.
- b. Each of the girls have a notebook.
- c. She is senior than me.
- d. I have seen him yesterday.
- e. The news are very shocking.

Part D: Writing Skills

Attempt all five questions.

Formal Letter: Write a letter to the Editor of a newspaper expressing your concern about the increasing use of plastic and suggesting measures to reduce plastic pollution.

Complaint Letter: Write a letter to the Municipal Commissioner complaining about the poor sanitation and irregular garbage collection in your locality.

Analytical Paragraph: Study the following data and write an analytical paragraph in 100–120 words.

Activity	Percentage of Students
Reading books	30%
Playing sports.	25%
Watching television.	20%
Using social media.	15%
Other activities.	10%

Formal Letter – Order Placement: You are the Head Boy/Head Girl of your school. Write a letter to a bookseller placing an order for English dictionaries, grammar books, and reference books for the school library.

Analytical Paragraph: Write an analytical paragraph in 100–120 words on the importance of time management among students, highlighting its benefits and suggesting ways to develop this habit.

General Instructions

All written work must be completed neatly in HW note book.

Write your name, class, section, and roll number on the first sheet.

Write the questions before answering them.

Maintain proper headings, margins, and neat handwriting.

Complete all the work independently and revise the prescribed syllabus thoroughly.

Submit the completed holiday homework after the Autumn Break.

Class 10: Autumn Holidays Home Work

Consumer rights project. (Complete in SEA note book)

1. Cover Page
2. Certificate
3. Acknowledgement
4. Index
5. Introduction
6. Objectives of the Project
7. Who Is a Consumer?
8. Importance of Consumer Awareness
9. Six Consumer Rights
10. Responsibilities of Consumers
11. Consumer Exploitation
12. Consumer Protection Act, 2019
13. Quality Marks – ISI, AGMARK and Hallmark
14. Case Study
15. Suggestions for Consumer Protection
16. Conclusion
17. Bibliography
18. Creative work: Add consumer awareness slogans, quality mark pictures, and a sample bill. (Collect and paste picture related to the project)

Subject enrichment activities

1. Prepare pie diagrams on land use pattern of India and write in your own words about reasons for the changes in land use pattern in India
2. Suggest five ways to protect Forests.
3. Map Activity-Locate /identify/label the major Multipurpose River Projects of India.
4. Map Activity- Locate /identify/label Important areas of major crops grown in India
5. Map Activity-Locate /identify/label the important Nuclear and Thermal power stations in India.
6. Map Activity-Locate/Identify/Label the major industries and industrial areas in India.

**HOLIDAY HOME
WORK 2026-27
CLASS XI**

12TH BIOLOGY HOLIDAY HOMEWORK:

CHAPTERWISE QUESTION FROM PREVIOUS YEAR CBSE
BOARD QUESTION PAPERS.PREVIOUS YEAR PREBOARD 1
QUESTION PAPER.

11 BIOLOGY HOLIDAY HOMEWORK:

CHAPTERWISE WORKSHEETS, PREVIOUS YEAR
HALFYEARLY QUESTION PAPER

12TH PHYSICS HOLIDAY HOMEWORK:

Solving 3 last year and before that year pre board papers
and completion of record and notes of Semiconductor
electronics

11 PHYSICS HOLIDAY HOMEWORK:

Solving 3 last year and before that year half yearly
papers and completion of record and notes with
numericals

AUTUM BREAK HOLIDAY HOMEWORK

Class: XI - Science | Subject: - Computer Science (083)

Roll No.: _____ Name: _____ Date of Submission: _____

Section A

- Q1.** For a string `s` storing 'Goldy', what would `s[0]` and `s[-1]` return?
- Q2.** The last character of a string `s` is at index `len(s) - 1`. True/False.
- Q3.** For strings, `+` means (1); `*` means (2). Suggest words for positions (1) and (2).
- Q4.** Given `s1 = "spam"` and `s2 = "nil"`, what is the output of the following expressions?
 (a) "The Knights who say," + `s2` (b) `3 * s1 + 2 * s2` (c) `s1[1]`
- Q5.** What will be the result of the following expressions?
 (a) "WoW Python"[1] (b) "Strings are fun."[5] (c) `len("awesome")` (d) "Mystery"[:4]
 (e) "apple" > "pineapple" (f) "pineapple" < "Peach" (g) "cad" in "abracadabra"
 (h) "apple" in "Pineapple" (i) "pine" in "Pineapple"
- Q6.** Considering `s1 = "spam"` and `s2 = "nil"`, evaluate the following expressions:
 (a) `s1[1:3]` (b) `s1[2] + s2[:2]` (c) `s1 + s2[-1]` (d) `s1[:3] + s1[3:]` (e) `s2[:-1] + s2[-1:]`

Section B

- Q1.** Negative index -1 belongs to of string.
 (a) first character (b) last character (c) second last character (d) second character
- Q2.** Which of the following is/are not legal string operators?
 (a) `in` (b) `+` (c) `*` (d) `/`
- Q3.** Which of the following functions will return the total number of characters in a string?
 (a) `count()` (b) `index()` (c) `len()` (d) all of these
- Q4.** Which of the following will return the last three characters of a string `s`?
 (a) `s[3:]` (b) `s[:3]` (c) `s[-3:]` (d) `s[:-3]`
- Q5.** Which of the following will return the first three characters of a string `s`?
 (a) `s[3:]` (b) `s[:3]` (c) `s[-3:]` (d) `s[:-3]`
- Q6.** Which of the following functions will return the string in all caps?
 (a) `upper()` (b) `toupper()` (c) `isupper()` (d) `to-upper()`
- Q7.** Which of the following functions will return the string with every 'P' replaced with a 'z'?
 (a) `find()` (b) `index()` (c) `replace()` (d) `split()`
- Q8.** Which of the following functions will return a list containing all words of the string?
 (a) `find()` (b) `index()` (c) `partition()` (d) `split()`
- Q9.** Which of the following functions will always return a tuple of 3 elements?
 (a) `find()` (b) `index()` (c) `partition()` (d) `split()`
- Q10.** What is the output of the following code?

```
str1 = "Mission 999"
str2 = "999"
print(str1.isdigit(), str2.isdigit())
```

- (a) False True (b) False False (c) True False (d) True True

Q11. Choose the correct function to get the ASCII code of a character.

- (a) `char('char')` (b) `ord('char')` (c) `ascii('char')` (d) All of these

Q12. Which method is used to convert "Python programming is fun" to "Python Programming Is Fun"?

- (a) `capitalize()` (b) `title()` (c) `istitle()` (d) `upper()`

Q13. Guess the correct output.

```
str1 = 'Wah'
print(str1*2)
```

- (a) WahWah (b) TypeError: (c) WWaahh (d) Wah2

Q14. What is the output?

```
str = "My roll no. is 12"
print(str.isalnum())
```

- (a) True (b) False (c) Error (d) No output

Q15. Select the correct output.

```
str1 = 'Waha'
print(str1[:3] + 'Bhyi' + str1[-3:])
```

- (a) Wah Bhyi Wah (b) WahBhyiaha (c) WahBhyiWah (d) WahBhyiWaha

Q16. Select the correct output.

```
str = "my name is Anu John"
print(str.capitalize())
```

- (a) 'My name is anu john' (b) TypeError: (c) 'My name is Anu John' (d) 'My Name Is Anu John'

Q17. Choose the correct function to get the character from an ASCII number.

- (a) `ascii(number)` (b) `char(number)` (c) `chr(number)` (d) all of these

Q18. `s = ' ' (a single space)`. Then `s.isalnum()` will return:

- (a) True (b) False (c) Error (d) nothing

Q19. Which of the following functions removes all leading and trailing spaces from a string?

- (a) `lstrip()` (b) `rstrip()` (c) `strip()` (d) all of these

Q20. Which of the following functions will raise an error if the given substring is not found in the string?

- (a) `find()` (b) `index()` (c) `replace()` (d) all of these

Section C

Q1. The string indexes begin _____ onwards.

Q2. For strings, the `+` operator performs _____.

Q3. For strings, the `*` operator performs _____.

Q4. The _____ and _____ are membership operators for strings.

Q5. The _____() function returns the ASCII value of a given character.

Q6. If a string contains letters and digits, the function _____() will return True.

Q7. `'ab'.isalpha()` will return the value _____.

Q8. To get each word's first letter capitalized, the _____() function is used.

Q9. The function _____() raises an exception if the substring is not found.

Q10. The function _____() divides a line of text into individual words.

Section D

Write True or False and justify your answer.

- Q1.** Strings have both positive and negative indexes.
- Q2.** Python does not support a character type; a single character is treated as a string of length one.
- Q3.** Strings are immutable in Python, which means a string cannot be modified.
- Q4.** Like '+', all other arithmetic operators are also supported by strings.
- Q5.** Functions `capitalize()` and `title()` return the same result.
- Q6.** Functions `partition()` and `split()` work identically.
- Q7.** The `find()` and `index()` are similar functions.
- Q8.** The `find()` does not raise an exception if the substring is not found.
- Q9.** The `partition()` function's result is always a 3-element tuple.
- Q10.** The `split()` returns always a 3-element list.

Section E

In each question, an Assertion (A) and a Reason (R) are given. Choose the correct option from the following:

1. Both A and R are true and R is the correct explanation of A.
2. Both A and R are true but R is not the correct explanation of A.
3. A is true but R is false.
4. A is false but R is true.
5. Both A and R are false or not fully true.

- Q1.** Assertion. The individual characters of a string are randomly stored in memory.
Reason. Python strings are stored in memory by storing individual characters in contiguous memory locations.
- Q2.** Assertion. The position and index of string characters are different.
Reason. The positions for string's characters vary from 1...n, where n is the size of the string. The indices for string's characters vary from 0 to n-1.
- Q3.** Assertion. Operators + and * can work with numbers as well as strings.
Reason. Unlike numbers, for strings, + means concatenation and * means replication.
- Q4.** Assertion. Like numbers, ==, >, < can also compare two strings.
Reason. Comparison of Python strings takes place in dictionary order by applying character-by-character comparison rules for ASCII/Unicode.
- Q5.** Assertion. String slices and substrings, both are extracted subparts of a string.
Reason. String slices and substrings mean the same.
- Q6.** Assertion. String slices and substrings, despite being subparts of a string, are not the same.
Reason. While the substring contains a continuous subpart of the string, the slices may or may not contain continuous subparts of a string.
- Q7.** Assertion. A string slice contains a part of the string as per `s[start:end:n]`, starting at start, containing every nth character, extending up to end, not including the character at end.
Reason. A substring contains contiguous characters unlike string slices.

Section F

Q1. Out of the following operators, which ones can be used with strings in Python?

=, -, *, /, //, %, >, <>, in, not in, <=

Q2. What is the result of the following statement, if the input is 'Fun'?

```
print(input("...") + "trial" + "Ooty" * 3)
```

Q3. Which of the following is not a Python legal string operation?

(a) 'abc' + 'abc' (b) 'abc' * 3 (c) 'abc' + .3 (d) 'abc'.lower()

Q4. Suggest appropriate functions for the following tasks:

1. To check whether the string contains digits
2. To find the occurrence of a string within another string
3. To convert the first letter of a string to upper case
4. To capitalize all the letters of the string
5. To check whether all letters of the string are in capital letters
6. To remove from the right of a string all string-combinations from a given set of letters
7. To remove all white spaces from the beginning of a string

Q5. Given a string S = "CARPE DIEM". If n is length/2 (length is the length of the given string), then what would the following return?

(a) S[: n] (b) S[n :] (c) S[n : n] (d) S[1 : n] (e) S[n : length - 1]

Q6. From the string S = "CARPE DIEM", which ranges return "DIE" and "CAR"?

Q7. What happens when, from a string slice, you skip the start and/or end values of the slice?

Q8. What would the following expressions return?

- | | | |
|----------------------------------|----------------------------------|------------------------------------|
| 1. "Hello World".upper().lower() | 2. "Hello World".lower().upper() | 3. "Hello World".find("Wor", 1, 6) |
| 4. "Hello World".find("Wor") | 5. "Hello World".find("wor") | 6. "Hello World".isalpha() |
| 7. "Hello World".isalnum() | 8. "1234".isdigit() | 9. "123FGH".isdigit() |

Section G

Write the output / answer for each of the following.

Q1(a). What is the result of the following expression?

```
print("""
1
2
3
""")
```

Q1(b). What is the result of the following expression?

```
text = "Test.\nNext line."
print (text)
```

Q1(c). What is the result of the following expression?

```
print ('One', ' Two ' * 2)
print ('One ' + 'Two' * 2)
print (len('10123456789'))
```

Q1(d). What is the result of the following expression?

```
s = '0123456789'
print(s[3], " ", s[0 : 3], " - ", s[2 : 5])
print(s[:3], " - ", s[3:], " ", s[3:100])
print(s[20:], s[2:1], s[1:1])
```

Q1(e). What is the result of the following expression?

```
s = '987654321'
print (s[-1], s[-3])
print (s[-3:], s[:-3])
print (s[-100:-3], s[-100:3])
```

Q2(a). What will be the output produced by the following code fragment?

```
y = str(123)
x = "hello" * 3
print (x, y)
x = "hello" + "world"
y = len(x)
print (y, x)
```

Q2(b). What will be the output produced by the following code fragment?

```
x = "hello" + \
"to Python" + \
"world"
for char in x :
    y = char
    print (y, ' : ', end = ' ')
```

Q2(c). What will be the output produced by the following code fragment?

```
x = "hello world"
print (x[:2], x[:-2], x[-2:])
print (x[6], x[2:4])
print (x[2:-3], x[-4:-2])
```

Q3. Carefully go through the code given below and answer the questions based on it:

```
theStr = " This is a test "
inputStr = input(" Enter integer: ")
inputInt = int(inputStr)
testStr = theStr
while inputInt >= 0 :
    testStr = testStr[1:-1]
    inputInt = inputInt - 1
testBool = 't' in testStr
print (theStr)      # Line 1
print (testStr)     # Line 2
print (inputInt)    # Line 3
print (testBool)    # Line 4
```

(i) Given the input integer 3, what output is produced by Line 1?

- (1) This is a test (2) This is a (3) is a test (4) is a (5) None of these

(ii) Given the input integer 3, what output is produced by Line 2?

- (1) This is a test (2) s is a t (3) is a test (4) is a (5) None of these

(iii) Given the input integer 2, what output is produced by Line 3?

- (1) 0 (2) 1 (3) 2 (4) 3 (5) None of these

(iv) Given the input integer 2, what output is produced by Line 4?

- (1) False (2) True (3) 0 (4) 1 (5) None of these

Q4. Carefully go through the code given below and answer the questions based on it:

```
testStr = "abcdefghi"
inputStr = input("Enter integer:")
inputInt = int(inputStr)
count = 2
newStr = ''
while count <= inputInt :
    newStr = newStr + testStr[0 : count]
    testStr = testStr[2:]      # Line 1
    count = count + 1
print (newStr)               # Line 2
print (testStr)              # Line 3
print (count)                # Line 4
print (inputInt)             # Line 5
```

(i) Given the input integer 4, what output is produced by Line 2?

- (1) abcdefg (2) aabbccddeeffgg (3) abcdeefgh (4) ghi (5) None of these

(ii) Given the input integer 4, what output is produced by Line 3?

- (1) abcdefg (2) aabbccddeeffgg (3) abcdeefgh (4) ghi (5) None of these

(iii) Given the input integer 3, what output is produced by Line 4?

- (1) 0 (2) 1 (3) 2 (4) 3 (5) None of these

(iv) Given the input integer 3, what output is produced by Line 5?

- (1) 0 (2) 1 (3) 2 (4) 3 (5) None of these

(v) Which statement is equivalent to the statement found in Line 1?

- (1) testStr = testStr[2:0] (2) testStr = testStr[2:-1] (3) testStr = testStr[2:-2]
(4) testStr = testStr – 2 (5) None of these

Q5. Carefully go through the code given below and answer the questions based on it:

```
inputStr = input(" Give me a string:")
bigInt = 0
littleInt = 0
otherInt = 0
for ele in inputStr:
    if ele >= 'a' and ele <= 'm':      # Line 1
        littleInt = littleInt + 1
    elif ele > 'm' and ele <= 'z':
        bigInt = bigInt + 1
    else:
        otherInt = otherInt + 1
print (bigInt)                        # Line 2
print (littleInt)                     # Line 3
print (otherInt)                      # Line 4
print (inputStr.isdigit())            # Line 5
```

(i) Given the input abcd, what output is produced by Line 2?

- (1) 0 (2) 1 (3) 2 (4) 3 (5) 4 (6) 5

(ii) Given the input Hi Mom, what output is produced by Line 3?

- (1) 0 (2) 1 (3) 2 (4) 3 (5) 5 (5) None of these

(iii) Given the input Hi Mom, what output is produced by Line 4?

- (1) 0 (2) 1 (3) 2 (4) 3 (5) 5 (5) None of these

(iv) Given the input 1+2 =3, what output is produced by Line 5?

- (1) 0 (2) 1 (3) True (4) False (5) None of these

(v) Given the input Hi Mom, what changes result from modifying Line 1 from if ele >= 'a' and ele <= 'm' to if ele >= 'a' and ele < 'm' ?

- (1) No change (2) otherInt would be larger (3) littleInt would be larger
(4) bigInt would be larger (5) None of these

Q6. Carefully go through the code given below and answer the questions based on it:

```
in1Str = input(" Enter string of digits: ")
in2Str = input(" Enter string of digits: ")
if len(in1Str) > len(in2Str):
    small = in2Str
    large = in1Str
else:
    small = in1Str
    large = in2Str
newStr = ''
for element in small:
    result = int(element) + int(large[0])
    newStr = newStr + str(result)
    large = large[1:]
print (len(newStr))    # Line 1
print (newStr)         # Line 2
print (large)          # Line 3
print (small)          # Line 4
```

(i) Given a first input of 12345 and a second input of 246, what result is produced by Line 1?

- (1) 1 (2) 3 (3) 5 (4) 0 (5) None of these

(ii) Given a first input of 12345 and a second input of 246, what result is produced by Line 2?

- (1) 369 (2) 246 (3) 234 (4) 345 (5) None of these

(iii) Given a first input of 123 and a second input of 4567, what result is produced by Line 3?

- (1) 3 (2) 7 (3) 12 (4) 45 (5) None of these

(iv) Given a first input of 123 and a second input of 4567, what result is produced by Line 4?

- (1) 123 (2) 4567 (3) 7 (4) 3 (5) None of these

Q7(a). Find the output if the input string is 'Test'.

```
S = input("Enter String :")
RS = " "
for ch in S :
    RS = ch + RS
print(S + RS)
```

Q7(b). Find the output if the input string is 'Test'.

```
S = input("Enter String :")
RS = " "
for ch in S :
    RS = ch + 2 + RS
print(S + RS)
```

Q8(a). Find the errors. Find the line numbers causing errors.

```
1. S = "PURA VIDA"
2. print(S[9] + S[9 : 15])
```

Q8(b). Find the errors. Find the line numbers causing errors.

```
1. S = "PURA VIDA"
2. S1 = S[: 10] +S[10 :]
3. S2 = S[10] + S[-10]
```

Q8(c). Find the errors. Find the line numbers causing errors.

```
1. S = "PURA VIDA"
2. S1 = S * 2
3. S2 = S1[-19] + S1[-20]
4. S3 = S1[-19 :]
```

Q8(d). Find the errors. Find the line numbers causing errors.

```
1. S = "PURA VIDA"
2. S1 = S[: 5]
3. S2 = S[5 :]
4. S3 = S1 * S2
5. S4 = S2 + '3'
6. S5 = S1 + 3
```

Q9. What is the output produced?

(i) `>>> "whenever".find("never")`

(ii) `>>> "whenever".find("what")`

Q10. What is the output produced?

(i) `>>> "-".join(['123','365','1319'])`

(ii) `>>> " ".join(['Python', 'is', 'fun'])`

Q11. Given a string S, write expressions to print:

1. first five characters of S

2. ninth character of S

3. reversed S

4. alternate characters from reversed S

12TH CHEMISTRY HOLIDAY HOMEWORK:

Important named reactions of organic chemistry

Sample question paper solving

11 CHEMISTRY HOLIDAY HOMEWORK:

Thermodynamics worksheet

Previous year half yearly paper solving- 2 sets

12TH MATHS HOLIDAY HOMEWORK:

Solve 2 Sets of previous year preboard
Question papers.

10 MATHS HOLIDAY HOMEWORK:

Solve 2 Sets of previous year Half-Yearly
Question papers.

10 MATHS HOLIDAY HOMEWORK:

Solve 2 Sets of previous year preboard Question
papers.

PM SHRI KENDRIYA VIDYALAYA KARIMNAGAR

AUTUMN BREAK HOMEWORK – 2026–27

Subject: English

Class: XI

General Instructions

Complete all the questions given below in your English Homework Notebook.

Write all answers neatly and in your own words.

Revise the chapters covered up to the halfway point of the syllabus.

Follow the prescribed format and word limit for all writing tasks.

The homework must be completed and submitted after the autumn break.

SECTION A: READING AND LITERATURE

I. Hornbill – Prose

1. The Portrait of a Lady

- a) How does the relationship between the narrator and his grandmother change as he grows older?
- b) How does the grandmother's character reflect traditional values and simplicity?
- c) Why was the grandmother unhappy with the narrator's education in the city?

2. We're Not Afraid to Die... if We Can All Be Together

- a) How did the family members demonstrate courage and determination during the voyage?
- b) What role did the children play in keeping up the spirits of the adults?
- c) "Courage and hope can help people overcome even the most difficult situations." Justify this statement with reference to the chapter.

II. Hornbill – Poetry

3. A Photograph

- a) What does the photograph reveal about the poet's mother and her childhood?
- b) Explain the significance of the contrast between the sea's permanence and human life.

c) How does the poet express her grief through silence?

4. The Laburnum Top

a) Describe the laburnum tree before and after the arrival of the goldfinch.

b) How does the poet use imagery to bring the tree to life?

c) Explain the significance of the goldfinch's arrival and departure.

III. Snapshots – Supplementary Reader

5. The Address

a) Why did the narrator visit Mrs Dorling's house?

b) How did the objects in the house affect the narrator emotionally?

c) Explain how the story presents the themes of loss, memory and the futility of material possessions.

6. Ranga's Marriage

a) How did Ranga's views on marriage differ from those of the villagers?

b) How did the narrator plan to bring Ranga and Ratna together?

c) What role does humour play in the development of the story?

IV. Long-Answer Questions

Answer any two of the following in 120–150 words each.

Compare the values and attitudes of the grandmother in *The Portrait of a Lady* with those of the narrator.

Discuss how teamwork, courage and hope help the family survive the crisis in *We're Not Afraid to Die... if We Can All Be Together*.

How does *The Address* show that memories and emotional attachments are not always preserved through material objects?

Describe how the narrator's wit and clever planning influence the events in *Ranga's Marriage*.

SECTION B: WRITING SKILLS

Attempt all four writing tasks. Follow the appropriate format and word limit.

1. Poster Making

Your school is organising a campaign on “Say No to Single-Use Plastic” to create awareness among students and the local community. Design an attractive poster highlighting the harmful effects of plastic and suggesting eco-friendly alternatives.

Word limit: 50 words.

2. Letter to the Editor

Write a letter to the editor of a leading newspaper expressing your concern about the increasing use of mobile phones among teenagers and its adverse effects on their studies, sleep and social relationships. Suggest practical measures to address the problem.

Word limit: 120–150 words.

3. Debate Writing

Write a debate speech either for or against the motion:

“Social Media Does More Harm Than Good to Students.”

Present logical arguments, relevant examples and a strong concluding statement.

Word limit: 120–150 words.

4. Article Writing

Write an article for your school magazine on the topic:

“The Importance of Mental Health and Emotional Well-being Among Students.”

Discuss common challenges faced by students and suggest ways to maintain a healthy balance between academic responsibilities and personal well-being.

Word limit: 120–150 words.

SECTION C: GRAMMAR AND LANGUAGE PRACTICE

1. Tenses: Fill in the blanks with the correct forms of the verbs given in brackets.

a) By the time we reached the station, the train ____ (leave).

b) She ____ (prepare) for the examination for the last three months.

c) If he works hard, he ____ (succeed) in the examination.

d) The students ____ (complete) their assignments before the teacher arrived.

2. Transformation of Sentences: Rewrite the following as directed without changing their meaning.

- a) He is too honest to tell a lie. (Rewrite using “so...that”.)
- b) As soon as the bell rang, the students rushed out. (Begin with “No sooner...”.)
- c) Although she was tired, she completed her work. (Rewrite using “In spite of”.)
- d) He worked hard to achieve his goal. (Rewrite using “so that”.)

3. Sentence Correction: Identify and correct the error in each sentence.

- a) Each of the students have submitted the assignment.
- b) She has been living here since five years.
- c) Neither the teacher nor the students was present.
- d) He is senior than me in the organisation.

IMPORTANT NOTE

All students must complete the entire autumn break homework and write it neatly in their English Homework Notebook. Literature answers should be written in complete sentences, and all four writing tasks must be attempted in the prescribed format and word limit. Students should revise the chapters and grammar topics covered in class before returning to school.

12TH MATHS HOLIDAY HOMEWORK:

Solve 2 Sets of previous year preboard
Question papers.

10 MATHS HOLIDAY HOMEWORK:

Solve 2 Sets of previous year Half-Yearly
Question papers.

10 MATHS HOLIDAY HOMEWORK:

Solve 2 Sets of previous year preboard Question
papers.

SECTION A

MULTIPLE CHOICE QUESTIONS

1 × 12 = 12

1. The Health Triangle consists of which three major aspects of living?
 - a) Physical, Mental, and Social
 - b) Physical, Emotional, and Financial
 - c) Strength, Endurance, and Flexibility
 - d) Food, Exercise, and Sleep
2. In the Diamond Structure of Physical Activity sessions, "Building fundamental skills & basics of sports" is focused for:
 - a) Grade N – 2
 - b) Grade 3 – 5
 - c) Grade 6 – 8
 - d) Grade 9 – 12
3. The standard air pressure range for a Volleyball is:
 - a) 5.8 – 6.5 PS
 - b) 7.0 – 9.0 PS
 - c) 5.5 – 16 PS
 - d) 9.0 – 11.0 PS
4. Which prop or equipment is used to measure back and hamstring flexibility?
 - a) Balance beam
 - b) Step hurdle
 - c) Sit and Reach box
 - d) Agility ladder
5. Daily or weekly inspections conducted to check conditions like debris, sanitation, and surfacing depth are called:
 - a) Low Frequency Inspections
 - b) High Frequency Inspections
 - c) Annual Inspections
 - d) Structural Maintenance
6. Which somatotype has a lean, thin body frame with narrow shoulders and hips?
 - a) Endomorph
 - b) Mesomorph
 - c) Ectomorph
 - d) Polymorph
7. Which prop is used for teaching levels of space awareness (high, mid, low) and team coordination?
 - a) Parachute
 - b) Hula hoop
 - c) Flexi pole
 - d) Training arch
8. A daily or couple-of-days breakdown of specific skills and physical activities is known as:
 - a) Macro-planning
 - b) Meso-planning
 - c) Micro-planning
 - d) Annual planning
9. Which of the following is a physical characteristic of an Endomorph body type?
 - a) Lean and thin body frame
 - b) Athletic and muscular build
 - c) Round body shape with higher fat percentage
 - d) Narrow shoulders and hips
10. Which prop is used for performing front rolls, back rolls, and crawling activities?
 - a) Gym Mat
 - b) Balance beam
 - c) Step hurdle
 - d) Sponge ring
11. Which equipment is specifically used to develop upper body strength by throwing?
 - a) Medicine ball
 - b) Football
 - c) Basketball
 - d) Tennis ball
12. While cleaning and maintaining leather balls, which of the following should be strictly avoided?
 - a) Storing in a well-ventilated space
 - b) Using a dry cloth for cleaning
 - c) Applying water directly on leather surfaces
 - d) Deflating a little air after use

SECTION B

SHORT ANSWER QUESTIONS (ANY 4) [50 - 60 words]

3 × 4 = 12

13. What is the difference between Props and Equipment?
14. What are the three body types (Somatotypes) and how do they affect physical fitness?
15. Why must props and equipment be age-appropriate?
16. Define Macro-planning, Meso-planning, and Micro-planning.
17. Write down the general maintenance and storage procedure for sports balls before and after use.
18. Why is specialization not recommended for children of the age group 8 to 11 years (Grades 3–5)?
19. What are the major components of the Health Triangle and how are they interrelated?

SECTION C

LONG ANSWER QUESTIONS (ATTEMPT ANY 4) [80 - 90 words]

4 × 4 = 16

20. Explain the difference between Low Frequency Inspection and High Frequency Inspection in sports facilities.
21. What are the various factors that influence the selection of props and equipment? Explain in detail.
22. What are the various factors that affect the development of sports in a society? Explain in detail.

OR

Explain how political factors, wars, and historical boycotts have negatively impacted international sporting events like the Olympic Games.

23. Explain the Diamond Structure of structuring physical activity sessions across different school grade levels and discuss the importance of progressive skill development.
24. Analyze how environmental/geographical advantages and technological advancements influence sporting excellence and popularity of specific games in different regions.

Section A – Multiple Choice Questions (10 × 1 = 10 Marks)

1. Which prop is specifically used to measure lower back and hamstring flexibility?
a) Agility ladder b) Sit and Reach box c) Balance beam d) Step hurdle
2. What is the recommended standard air pressure for inflating a basketball?
a) 5.5 – 16 psi b) 5.8 – 6.5 psi c) 7 – 9 psi d) 10 – 12 psi
3. Which of the following is an example of equipment rather than a prop?
a) Agility ladder b) Bean bag c) Volleyball net d) Saucer cone
4. What is a primary risk of selecting props and equipment that are not age-appropriate for younger children?
a) Risk of physical injury b) Reduced equipment cost
c) Excessive speed of drills d) Enhanced spatial awareness
5. Low-frequency inspections of a sports facility are generally scheduled:
a) Daily or weekly b) Quarterly or semi-annually
c) Hourly during play d) Only after major accidents
6. When inflating a sports ball, what precaution must be taken to protect the valve?
a) Moisten the inflating needle before insertion b) Use high-pressure electric compressors
c) Insert the needle dry and rapidly d) Overfill beyond standard limit by 5 psi
7. Why should leather sports equipment never be cleaned with water?
a) It causes immediate fading of brand labels
b) It damages the material; only a dry cloth should be used
c) It makes the equipment too heavy to store
d) It increases ball pressure automatically
8. In a makeshift or multipurpose play space, which kind of equipment is best suited?
a) Cemented, permanent goalposts b) Fixed ground-sleeved poles
c) Portable, mobile, or dismantlable equipment d) Heavy, non-movable apparatus
9. What is the primary functional use of a parachute prop in physical activity sessions?
a) Measuring upper body explosive strength
b) Teaching spatial awareness and team coordination
c) Marking pitch running boundaries
d) Testing sprint speed over short distances
10. While storing metal sports gear like shot puts and hurdles, the most critical storage condition is:
a) Keeping them in damp spaces to maintain weight
b) Storing them under direct midday sunlight
c) Keeping them in dry spaces to prevent rusting
d) Soaking them in mild detergent water

Section B – Short Answer Questions ($5 \times 2 = 10$ Marks)

11. State any three or four purposes/usages of props in physical activities.
12. Mention the primary usage of: (a) Agility ladder (b) Medicine ball
13. Why should a small amount of air be deflated from sports balls after use before putting them in storage?
14. Why must props and equipment be age-appropriate?
15. List any three routine maintenance practices required to maintain the quality of sports surfaces.

Section C – Long Answer Questions ($5 \times 4 = 20$ Marks)

16. Differentiate between Low-Frequency and High-Frequency inspections of sports facilities on the basis of schedule, focus, personnel required, and typical outcomes.
17. Identify five common props or equipment and state their primary usage.
18. Detail the complete procedure and precautions to be followed for the care and maintenance of sports balls: (a) Before use (b) during inflation (c) After use and during storage
19. Why is it essential for props and equipment to be age-appropriate, and what are the consequences of selecting non-age-appropriate gear?
20. What are the key safety and maintenance checkpoints for inspecting a play area?

**HOLIDAY HOME
WORK 2026-27
CLASS XII**

12TH BIOLOGY HOLIDAY HOMEWORK:

CHAPTERWISE QUESTION FROM PREVIOUS YEAR CBSE
BOARD QUESTION PAPERS.PREVIOUS YEAR PREBOARD 1
QUESTION PAPER.

11 BIOLOGY HOLIDAY HOMEWORK:

CHAPTERWISE WORKSHEETS, PREVIOUS YEAR
HALFYEARLY QUESTION PAPER

12TH PHYSICS HOLIDAY HOMEWORK:

Solving 3 last year and before that year pre board papers
and completion of record and notes of Semiconductor
electronics

11 PHYSICS HOLIDAY HOMEWORK:

Solving 3 last year and before that year half yearly
papers and completion of record and notes with
numericals

12TH CHEMISTRY HOLIDAY HOMEWORK:

Important named reactions of organic chemistry

Sample question paper solving

11 CHEMISTRY HOLIDAY HOMEWORK:

Thermodynamics worksheet

Previous year half yearly paper solving- 2 sets

AUTUM BREAK HOME WORK

COMPUTER SCIENCE – CLASS XII

Roll No.: _____ Name: _____ Date of Submission: _____

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A has 21 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 03 Short Answer type questions carrying 03 marks each.
6. Section D has 04 Long Answer type questions carrying 04 marks each.
7. Section E has 02 questions carrying 05 marks each.
8. All programming questions are to be answered using Python Language only.

SECTION-A		
S. No	Question	Marks
1	State True or False. “In a Python program, if a break statement is given in a nested loop, it terminates the execution of all loops in one go.”	1
2	In a table in the MYSQL database, an attribute A of datatype varchar(20) has the value "Keshav". The attribute B of datatype char(20) has the value "Meenakshi". How many characters are occupied by attribute A and attribute B? (a) 20,6 (b) 6,20 (c) 9,6 (d) 6,9	1
3	What will be the output of the following statement: Print(3-2**2**3+99/11) (a) 244 (b) 244.0 (c) -244.0 (d) Error	1
4	Select the correct output of the code: s = "Python is fun" p = s.split () s_new = "_" .join([p[0].upper(), p[1], p[2].capitalize()]) print(s_new) (a) PYTHON-IS-Fun (b) PYTHON-is-Fun (c) Python-is-fun (d) PYTHON-IS-Fun	1
5	In MYSQL database, if a table, Alpha has degree 5 and cardinality 3, and another table, Beta has degree 3 and cardinality 5, what be the degree and cardinality of the Cartesian product of Alpha and Beta? (a) 5,3 (b) 8, 15 (c) 3, 5 (d) 15, 8	1
6	Riya wants to transfer pictures from her mobile phone to her laptop. She uses Bluetooth Technology to connect two devices. Which type of network will be formed in this case? (a) PAN (b) LAN	1

	(c) MAN (d) WAN	
7	Which will delete key-value pair for key = "Red" from a dictionary D1? (a) delete D1 ("Red") (b) del D1 ["Red"] (c) del.D1 ["Red"] (d) D1.del["Red"]	1
8	Consider the statements given below and then choose the correct output pride="#G20 Presidency" print(pride [-2:2:-2]) (a) ndsr (b) ceieP0 (c) ceieP (d) yndsr	1
9	Which statements) would give an error during the execution of the following code? tup = (20,30,40,50,80,79) print(tup) #Statement 1 print(tup[3] + 50) #Statement 2 print(max(tup)) #Statement 3 tup [4]=80 #Statement 4 (a) Statement 1 (b)Statement 2 (c)Statement 3 (d)Statement 4	1
10	What is not true in respect of DBMS ? (a) Database enforces standards (b) Database increases redundancy (c) Database facilitates sharing of data (d) Database helps to maintain integrity	1
11	The modem at the sender's computer end acts as a (a) Model (b) Modulator (c) Demodulator (d) Convertor	1
12	Consider the code given below: b=100 def test(a): _____ # missing statement b=b+a print (a,b) test (10) print (b) Which of the following statements should be given in the blank for #missing statement, if the output produced is 110? (a) global a (b) global b=100 (c) global b (d) global a=100	1
13	State whether the following statement is True or False: An exception may be raised even if the program is syntactically correct.	1
14	Which of the following statements is FALSE about keys in a relational database? (a) Any candidate key is eligible to become a primary key. (b) A primary key uniquely identifies the tuples in a relation. (c) A candidate key that is not a primary key is a foreign key. (d) A foreign key is an attribute whose value is derived from the primary key of another	1

	relation.	
15	In case of _____ switching, before a communication starts, a dedicated path is identified between the sender and the receiver. (a) Message (b) Packet (c) Circuit (d) Data	1
16	Which functions changes the position of file pointer and returns its new position? (a) flush() (b) tell() (c) seek() (d) offset()	1
17	Degree refers to total (a) number of rows in a table (b) number of columns in a table (c) number of data items in a table (d) none of the above	1
18	Find and write the output of the following python code: x = "abcdef" i = "a" while i in x: print(i, end = " ")	1
19	Which of the following attributes can be considered as a choice for the primary key ? (a) Name (b) Street (c) RollNo (d) Subject	1
	Directions:Q.17 and Q.18 are ASSERTION(A) and REASONING(R) based questions	
20	Assertion(A): List is an immutable data type. Reasoning(R): When an attempt is made to update the value of an immutable variable, the old variable is destroyed and a new variable is created by the same name in memory. (a) Both A and R are true and R is the correct explanation for A. (b) Both A and R are true and R is not the correct explanation for A. (c) A is True but R is False. (d) A is false but R is True.	1
21	Assertion(A): Python standard library consists of number of modules. Reasoning(R): A function in a module is used to simplify the code and avoids repetition. (a) Both A and R are true and R is the correct explanation for A. (b) Both A and R are true and R is not the correct explanation for A. (c) A is True but R is False. (d) A is false but R is True.	1
	SECTION-B	
22	Predict the output of the Python code given below: Text1=" IND-23" Text2="" I=0 while I<len (Text1) : if Text1[I]>="0" and Texti [I]<="9": Val = int (Text1[I]) Val = Val + 1 Text2=Text2 + str(Val) elif Text1[I]>="A" and Text1[I]<="Z" : Text2=Text2 + (Text1 [I + 1]) else: Text2=Text2 + "*"	2

	<pre>I+=1 print (Text2)</pre>	
23	A list named studentAge stores age of students of a class. Write the Python command to import the required module and built-in function to display the most common age value from the given list.	1+1
24	(a) Write a function countNow (PLACES) in Python, that takes the dictionary, PLACES as an argument and displays the names (in uppercase) of the places whose names are longer than 5 characters. For example, Consider the following dictionary PLACES={1: "Delhi", 2: "London", 3: "Paris", 4: "New York", 5: "Doha" } The output should be: • LONDON • NEW YORK (OR) (b) Write a function, lenWords (STRING), that takes a string as an argument and returns a tuple containing length of each word of a string. For example, if the string is "Come let us have some fun", the tuple will have (4, 3, 2, 4, 4, 3)	2
25	What possible outputs(s) will be obtained when the following code is executed? <pre>import random myNumber=random.randint (0,3) COLOR=["YELLOW", "WHITE", "BLACK", "RED"] for I in range (1, myNumber) : print (COLOR [I], end="**") print ()</pre> (a) RED* WHITE* BLACK* (b) WHITE* BLACK* (c) WHITE*WHITE* BLACK*BLACK* (d) YELLOW* WHITE*WHITE* BLACK-BLACK-BLACK*	2
26	The code given below accepts a number as an argument and returns the reverse number. Observe the following code carefully and rewrite it after removing all syntax and logical errors. Underline all the corrections made. <pre>define revNumber (num) : rev = 0 rem = 0 While num > 0: rem ==num %10 rev = rev*10 + rem num = num/ /10 return rev print (revNumber(1234))</pre>	2
27	(I) Ms Shalini has just created a table named "Employee" containing columns Ename, Department and Salary. After creating she realized that she has forgotten to add a primary key column in the table. Help her in writing an SQL command to add primary key column Empld of integer type to the table Employee. OR Help her in adding Not Null constraint to the column Ename. (II) Zack is working in a database named SPORT, in which he has created a table named	2

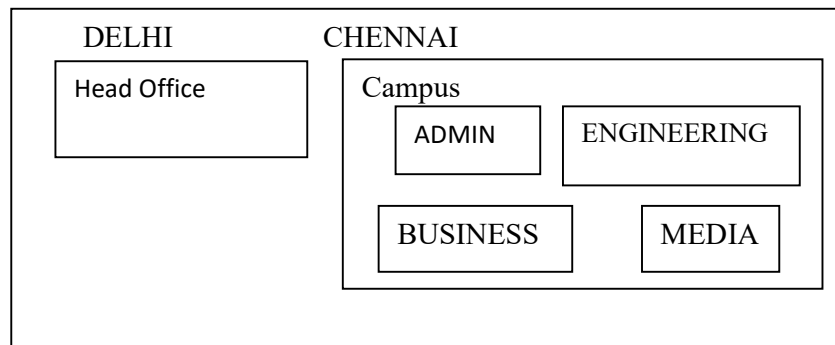
	"Sports" containing columns Sportid, SportName, no_of_players, and category. After creating the table, he realized that the primary key constraint of the table Sportid to be removed Help him in removing primary key constraint from the column Sportid (OR) Help him writing query to add the column UID to the table and make it as unique and not null	
28	(a) (i) Expand the following: POP3, URL (ii) Write two points of difference between Hub and Switch. (OR) (b) (i) Write two points of difference between Packet Switching and Circuit Switching. (ii) Name the protocol used for sending and receiving the E-mails.	2
	SECTION-C	
29	(a) Write a function in Python to read a text file, Alpha.txt and displays those lines which begin with the word 'You'. (OR) (b) Write a function, vowelCount() in Python that counts and displays the number of vowels in the text file named Poem.txt.	2+1
30	A list, List contains following record as list elements: [City, Country, distance from Delhi] Each of these records are nested together to form a nested list. Write the following user defined functions in Python to perform the specified operations on the stack named travel. i. Push_element(NList): It takes the nested list as an argument and pushes a list object containing name of the city and country. which are not in India and distance is less than 3500 km from Delhi. ii. Pop_element(): It pops the objects from the stack and displays them. Also, the function should display "Stack Empty" when there are no elements in the stack. For example: If the nested list contains the following data: NList=[["New York", "U.S.A.", 11734], ["Naypyidaw", "Myanmar", 3219], ["Dubai", "UAE", 2194], ["London", "England", 6693], ["Gangtok", "India", 1580], ["Columbo", "Sri Lanka", 3405]] The stack should contain: ['Naypyidaw', 'Myanmar'], ['Dubai', 'UAE'], ['Columbo', 'Sri Lanka'] The output should be: ['Columbo', 'Sri Lanka'] ['Dubai', 'UAE'] ['Naypyidaw', 'Myanmar'] Stack Empty (OR) Write the definition of a user-defined function 'push_even(N)' which accepts a list of integers in a parameter 'N' and pushes all those integers which are even from the list 'N' into a Stack named 'EvenNumbers'. Write function pop_even() to pop the topmost number from the stack and returns it. If the stack is already empty, the function should display "Empty". Write function Disp_even() to display all element of the stack without deleting them. If the stack is empty, the function should display 'None'. For example: If the integers input into the list 'VALUES' are: [10, 5, 8, 3, 12] Then the stack 'EvenNumbers' should store: [10, 8, 12]	3
31	(a) Predict the output of the following code: S = "LOST"	3

	<pre>L = [10, 21, 33, 4] D={} for I in range(len(S)) : if I%2==0: D[L.pop()] = S[I] else: D[L.pop()] = I+3 for K, V in D.items() : print (K,V, sep="**")</pre> (OR) Predict the output of the following code: <pre>line=[4,9,12,6,20] for I in line: for j in range(1,I%5): print(j,'#',end="") print()</pre>																																																																		
	SECTION-D																																																																		
32	Consider the tables PRODUCT and BRAND given below: Table: PRODUCT <table><tr><th>PCode</th><th>PName</th><th>UPrice</th><th>Rating</th><th>BID</th></tr><tr><td>P01</td><td>Shampoo</td><td>120</td><td>6</td><td>M03</td></tr><tr><td>P02</td><td>Toothpaste</td><td>54</td><td>8</td><td>M02</td></tr><tr><td>P03</td><td>Soap</td><td>25</td><td>7</td><td>M03</td></tr><tr><td>P04</td><td>Toothpaste</td><td>65</td><td>4</td><td>M04</td></tr><tr><td>P05</td><td>Soap</td><td>38</td><td>5</td><td>M05</td></tr><tr><td>P06</td><td>Shampoo</td><td>245</td><td>6</td><td>M05</td></tr></table> TABLE:BRAND <table><tr><th>BID</th><th>BName</th></tr><tr><td>M02</td><td>Dant Kanti</td></tr><tr><td>M03</td><td>Medimix</td></tr><tr><td>M04</td><td>Pepsodent</td></tr><tr><td>M05</td><td>Dove</td></tr></table> Write SQL queries for the following: - Display product name and brand name from the tables PRODUCT and BRAND. - Display the structure of the table PRODUCT. - Display the average rating of Medimix and Dove brands. - Display the name, price, and rating of products in descending order of rating (OR) Consider the table ORDERS as given below <table><tr><th>O Id</th><th>C Name</th><th>Product</th><th>Quantity</th><th>Price</th></tr><tr><td>1001</td><td>Jitendra</td><td>Laptop</td><td>1</td><td>12000</td></tr><tr><td>1002</td><td>Mustafa</td><td>Smartphone</td><td>2</td><td>10000</td></tr><tr><td>1003</td><td>Dhwani</td><td>Headphone</td><td>1</td><td>1500</td></tr></table> Note: The table contains many more records than shown here. A) Write the outputs of following queries: (I) SELECT C_Name, Quantity as Total_Quantity from ORDERS where quantity <5; (II) SELECT * FROM ORDERS ORDER BY PRICE ; (III) SELECT DISTINCT C_Name from ORDERS; (IV) SELECT MAX(PRICE) FROM ORDERS;	PCode	PName	UPrice	Rating	BID	P01	Shampoo	120	6	M03	P02	Toothpaste	54	8	M02	P03	Soap	25	7	M03	P04	Toothpaste	65	4	M04	P05	Soap	38	5	M05	P06	Shampoo	245	6	M05	BID	BName	M02	Dant Kanti	M03	Medimix	M04	Pepsodent	M05	Dove	O Id	C Name	Product	Quantity	Price	1001	Jitendra	Laptop	1	12000	1002	Mustafa	Smartphone	2	10000	1003	Dhwani	Headphone	1	1500	4
PCode	PName	UPrice	Rating	BID																																																															
P01	Shampoo	120	6	M03																																																															
P02	Toothpaste	54	8	M02																																																															
P03	Soap	25	7	M03																																																															
P04	Toothpaste	65	4	M04																																																															
P05	Soap	38	5	M05																																																															
P06	Shampoo	245	6	M05																																																															
BID	BName																																																																		
M02	Dant Kanti																																																																		
M03	Medimix																																																																		
M04	Pepsodent																																																																		
M05	Dove																																																																		
O Id	C Name	Product	Quantity	Price																																																															
1001	Jitendra	Laptop	1	12000																																																															
1002	Mustafa	Smartphone	2	10000																																																															
1003	Dhwani	Headphone	1	1500																																																															
33	Vedansh is a Python programmer working in a school. For the Annual Sports Event, he has created a csv file named Result.csv, to store the results of students in different sports events. The structure of Result.csv is: [St Id, St Name, Game Name, Result]	4																																																																	

	Where St_Id is Student ID (integer) ST_name is Student Name (string) Game_Name is name of game in which student is participating (string). Result is result of the game whose value can be either 'Won','Lost' or 'Tie'. For efficiently maintaining data of the event, Vedansh wants to write the following user defined functions: Accept - to accept a record from the user and add it to the file Result.csv. The column headings should also be added on top of the cs file. wonCount - to count the number of students who have won any event. As a Python expert, help him complete the task.																															
34	Consider the table Personal given below: Table: Personal <table><tr><td>P_ID</td><td>Name</td><td>Desig</td><td>Salary</td><td>Allowance</td></tr><tr><td>P01</td><td>Rohit</td><td>Manager</td><td>89000</td><td>4800</td></tr><tr><td>P02</td><td>Kashish</td><td>Clerk</td><td>NULL</td><td>1600</td></tr><tr><td>P03</td><td>Mahesh</td><td>Supervisor</td><td>48000</td><td>NULL</td></tr><tr><td>P04</td><td>Salil</td><td>Clerk</td><td>31000</td><td>1900</td></tr><tr><td>P05</td><td>Ravina</td><td>Supervisor</td><td>NULL</td><td>2100</td></tr></table> Based on the given table, write SQL queries for the following: i. Increase the salary by 5% of personals whose allowance is known. ii. Display Name and Total Salary (sum of Salary and Allowance) of all personals. The column heading 'Total Salary' should also be displayed. iii. Delete the record of Supervisors who have salary greater than 25000. iv. (A) To display average of salary from the table personal designation wise. (OR) (B) To Display designation and sum of salary designation wise	P_ID	Name	Desig	Salary	Allowance	P01	Rohit	Manager	89000	4800	P02	Kashish	Clerk	NULL	1600	P03	Mahesh	Supervisor	48000	NULL	P04	Salil	Clerk	31000	1900	P05	Ravina	Supervisor	NULL	2100	4
P_ID	Name	Desig	Salary	Allowance																												
P01	Rohit	Manager	89000	4800																												
P02	Kashish	Clerk	NULL	1600																												
P03	Mahesh	Supervisor	48000	NULL																												
P04	Salil	Clerk	31000	1900																												
P05	Ravina	Supervisor	NULL	2100																												
35	Kabir wants to write a program in Python to insert the following record in the table named Student in MYSQL database, SCHOOL: • rno(Roll number) - integer • name(Name) - string • DOB (Date of birth) - Date • Fee - float Note the following to establish connectivity between Python and MySQL: • Username - root • Password - tiger • Host - localhost The values of fields rno, name, DOB and fee has to be accepted from the user. Help Kabir to write the program in python. The function should also display all records in the table.	4																														
SECTION-E																																
36	A Binary file, CINEMA.DAT has the following structure [MNO,MNAME,MTYPE] Where • MNO - Movie Number • MNAME - Movie Name • MTYPE is Movie Type (i) Write a user defined function to insert details of movies in the binary file CINEMA.DAT (ii)Write a user defined function, findType(mtype), that accepts mtype as parameter and displays all the records from the binary file CINEMA.DAT, that have the value of Movie Type as mtype. (iii) Write a function, copyData(), that reads contents from the file CINEMA.DAT and copies movies records that have MTYPE as “TOLLYWOOD” to the file named TOLLYWOOD.DAT. The function should return the total number of records copied to the file TOLLYWOOD.DAT.	5																														
37	Meticulous EduServe is an educational organization. It is planning to setup its India campus	5																														

at Chennai with its head office at Delhi.

The Chennai campus has 4 main buildings - ADMIN, ENGINEERING, BUSINESS and MEDIA.



Block to Block distances (in Mtrs.)

From	To	Distance
ADMIN	ENGINEERING	55 m
ADMIN	BUSINESS	90 m
ADMIN	MEDIA	50 m
ENGINEERING	BUSINESS	55 m
ENGINEERING	MEDIA	50 m
BUSINESS	MEDIA	45 m
DELHI HEAD OFFICE	CHENNAI CAMPUS	2175 km

Number of computers in each of the blocks/Center is as follows:

ADMIN 110

ENGINEERING 75

BUSINESS 40

MEDIA 12

DELHI HEAD 20

i. Suggest and draw the cable layout to efficiently connect various blocks of buildings connecting the digital devices.

ii. Which network device will be used to connect computers in each block to form a local area network.

iii. Which block, in Chennai Campus should be made the server? Justify your answer.

iv. Which fast and very effective wireless transmission medium should preferably be used to connect the head office at DELHI to the campus in CHENNAI?

v. (A) Suggest a device/software to be installed in the CHENNAI Campus to take care of data security.

(OR)

(B) What type of network (PAN, LAN, MAN, or WAN) will be set up among the computers connected in the CHENNAI campus?

HOLIDAY HOME WORK CLASS X
ARTIFICIAL INTELLIGENCE (843) – CLASS XII

Based on Sample Question Paper – 1 (Session 2024-25)

Roll No.: _____ Name: _____ Date of Submission: _____

SECTION A – OBJECTIVE TYPE QUESTIONS

Q1. Employability Skills (1 mark each)

i. During a group discussion, Priya is explaining her point of view on a project idea. Midway through her explanation, Arun interrupts and starts sharing his own thoughts without letting Priya complete her sentence. If you were in Arun's place and wanted to follow the T of RESPECT in active listening, what should you do?

- (a) Interrupt politely if you feel your point is important.
- (b) Start speaking as soon as you think you understand her point.
- (c) Speak at the same time so both ideas are heard together.
- (d) Wait until Priya finishes speaking, then respond to her points.

ii. _____ is a trait, wherein, individuals show tendency towards anxiety, self-doubt, depression, shyness and other similar negative feelings. (Fill in the blank)

iii. Match the following skills with their correct descriptions:

Column A: 1. Positive thinking 2. Result orientation 3. Self-awareness

Column B: a. To be aware of your strengths and make the best out of them. b. To think that one can get things done and be happy. c. To dream big and achieve the desired or set goals.

(a) 1→b, 2→c, 3→a (b) 1→a, 2→b, 3→c (c) 1→b, 2→a, 3→c (d) 1→c, 2→a, 3→b

iv. What happens when you change the layout of a slide?

- (a) The arrangement of content (text, images, shapes) changes
- (b) The format of the text changes
- (c) New slide is inserted
- (d) The title gets aligned to the center of the slide

v. Assertion (A): Economists, psychologists, sociologists, and management experts define entrepreneurs differently. Reason (R): The definition of an entrepreneur varies depending on whether the focus is on resources, psychological drive, societal contribution, or vision with action.

- (a) Both correct, R explains A (b) Both correct, R does not explain A
- (c) A correct, R not correct (d) A not correct, R correct

vi. Appropriate technology is small-scale, environment-friendly technology suited to local needs. It gets the job done using locally available resources in a sustainable manner. (State whether this is True/False)

Q2. (1 mark each)

i. Match the correct question from Column A to the correct step of the Data Science Methodology in Column B.

Column A: 1. In what way can the data be visualized to get to the required answer? 2. How can you use the data to answer the question? 3. What is the problem that you are trying to solve? 4. Is the data collected representative of the problem to be solved?

Column B: a. Data Understanding b. Business understanding c. Analytic approach d. AI Modelling

(a) 1→a, 2→b, 3→c, 4→d (b) 1→d, 2→c, 3→b, 4→a (c) 1→b, 2→a, 3→d, 4→c (d) 1→c, 2→b, 3→a, 4→d

ii. The given diagram shows the working of a vision-based system that identifies objects in an image. What is the other name for this technology?



iii. Which law suggests that increasing computing power over time makes it easier to handle large volumes of data?

- (a) Boyle's Law (b) Murphy's Law (c) Newton's Law (d) Moore's Law

iv. An Artificial Neural Network (ANN) with two or more hidden layers is known as a _____.



v. What will come in place of '1' and '2'?

vi. In the context of data storytelling, a valuable and meaningful observation or understanding derived from analysing data is called:

- (a) Prediction (b) Pattern (c) Insight (d) Correlation

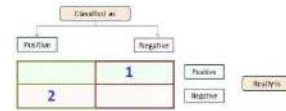
Q3. (1 mark each)

i. _____ is the process of selecting, modifying, or creating new features from raw data to improve the performance of machine learning models. (Fill in the blank)

ii. What will come in place of 1 and 2?

(a) True Positive, False Positive (b) False Positive, True Negative

(c) True Negative, False Negative (d) False Negative, False Positive



iii. Match the image processing technique in Column A with its correct description in Column B.

Column A: 1. Edge Detection 2. Corner Detection 3. Texture Analysis 4. Colour-based Feature Extraction

Column B: a. Finds points where two or more edges meet b. Identifies boundaries between regions with large intensity change c. Extracts features like smoothness or repetition d. Measures colour distribution to distinguish objects

(a) 1→a, 2→b, 3→c, 4→d (b) 1→a, 2→c, 3→b, 4→d (c) 1→b, 2→a, 3→c, 4→d (d) 1→c, 2→b, 3→a, 4→d

iv. Big Data refers to extremely large and complex datasets that regular computer programs and databases cannot handle. Which of the following is **NOT** one of its main sources?

(a) Printed Library catalogue data (b) Transactional data (c) Machine data (d) Social data

v. Identify the **odd one** out from the following activation functions:

(a) Sigmoid Function (b) Tanh Function (c) ReLU (Rectified Linear Unit) (d) Linear Regression



vi. Refer to the Venn diagram that illustrates the three key elements of Data Storytelling: Narrative, Visuals, and Data. What term should replace the question mark (?) in the center, where all three elements intersect?

Q4. (1 mark each)

i. Assertion (A): The diagnostic measures phase is used to ensure that the model is working as intended and to refine it if necessary. Reason (R): In this phase, predictive models can be evaluated using decision trees, while descriptive models can be tested with known outcomes to check alignment with the design.

(a) Both correct, R explains A (b) Both correct, R does not explain A

(c) A correct, R not correct (d) A not correct, R correct



ii. When a computer processes an image, it perceives it as a collection of tiny squares known as _____.

iii. Which emerging technology in Big Data analytics promises unprecedented processing power and can solve complex problems much faster than classical computers?

(a) Cloud Computing (b) Quantum Computing (c) Edge Computing (d) Parallel Processing

iv. In a neural network, which component defines how weights and biases are adjusted during training?

(a) Activation function (b) Learning rule (c) Loss function (d) Hidden layer

v. Name the two neural networks used in a Generative Adversarial Network (GAN).

vi. Match the type of Generative AI application to the correct AI tool.

Column A: 1. Stable Diffusion 2. ChatGPT 3. Google's Lumiere 4. Meta's AI Voicebox (AI Tool)

Column B: a. Audio Generation b. Text Generation c. Video Generation d. Image Generation

(a) 1→c, 2→d, 3→a, 4→b (b) 1→a, 2→c, 3→b, 4→d (c) 1→d, 2→b, 3→c, 4→a (d) 1→c, 2→b, 3→d, 4→a

Q5. (1 mark each)

i. Feedback is the last stage of data science methodology that helps to refine the model and assess it for performance and impact. (State whether this is True/False)

ii. Assertion (A): Image normalization adjusts the pixel values of an image so they fall within a consistent range, such as 0–1 or -1 to 1.

Reason (R): It ensures that all images in a dataset have a similar scale, which helps the model learn better.

(a) Both correct, R explains A (b) Both correct, R does not explain A

(c) A correct, R not correct (d) A not correct, R correct



iii. The image shows bounding boxes and labels for multiple objects like a bicycle, dog, and car. Which computer vision task does this represent?

(a) Image Classification (b) Object Detection (c) Instance Segmentation (d) Semantic Segmentation

iv. Match the type of neural network in Column A with its corresponding task in Column B.

Column A: 1. Perceptron 2. Convolutional Neural Network (CNN) 3. Recurrent Neural Network (RNN)

Column B: a. Classification b. Object detection c. Machine translation

(a) 1→c, 2→a, 3→b (b) 1→a, 2→b, 3→c (c) 1→b, 2→c, 3→a (d) 1→c, 2→b, 3→a

v. _____ is the compressed representation of the actual data in Variational Autoencoders.

vi. A chart used in stock, forex, commodity, and option trading that shows price movements (open, high, low, close) is a _____.

(a) Line chart (b) Bar chart (c) Facet grid chart (d) Candle stick chart

SECTION B – SUBJECTIVE TYPE QUESTIONS

Employability Skills (2 marks each) – answer each question in 20 – 30 words.

Q6. Wow! Oh no! Thanks! Help! What are these words known as? Explain. [2]

Q7. Write any two steps a person can take to overcome personality disorders. [2]

Q8. In a spreadsheet, you can position the text in a cell to the left, right, or center. (a) Name this feature of a spreadsheet. (b) How are numbers and text positioned in a cell by default? [2]

Q9. Identify the type of attitude the following entrepreneur is showing: (a) Ganesh was always interested in hairstyling. He knew the latest international styles and would keep trying them on his friends. But his family wanted him to work in a software company. Encouraged by friends, he spoke to his family, and convinced them of his talent and business skills. With their support, he set up his own salon. (b) Malvika has a book selling business. One day, a shipment of her books gets lost. This creates a lot of problems for her customers. She apologises to them and works hard for two days to get a new shipment by the next day. [2]

Q10. What is meant by waste exchange? How does waste exchange help in reducing waste disposal? [2]

Subject Specific Skills (2 marks each) – answer each question in 20 – 30 words.

Q11. Define Data Science Methodology. How many steps are there in it? [2]

Q12. Computer vision, a vital part of artificial intelligence, faces several hurdles as it strives to make sense of the visual world around us. Explain any two challenges related to computer vision. [2]

Q13. Differentiate between Batch Processing and Stream Processing. [2]

Q14. Consider the following perceptron that predicts the academic performance of a student with inputs, weights, and a bias of -2 . Calculate Output/Predicted outcome ($\hat{y}$) for the given scenario. Factor (Input, Weight): Study Hours (1, 6); Distractions (TV/Games) (0, 3); Sleep Quality (1, 2). [2]

Q15. What distinguishes generative models from discriminative models? [2]

Q16. List the steps involved in creating a compelling story through data. [2]

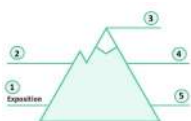
Subject Specific Skills (4 marks each) – answer each question in 50 – 80 words.

Q17. Validating the machine learning model during the training and development stages is crucial for ensuring accurate predictions. Differentiate between the Train–Test Split and Cross-Validation methods, and support your answer with a neat, labelled diagram. [4]

Q18. A global e-commerce company handles millions of transactions every day. Identify the characteristics of Big Data you can relate to in the following scenarios and explain them in detail: (a) Customers place orders online, and the website records thousands of clicks, searches, and transactions every second. (b) The company's servers store petabytes of customer orders, payment details, and product listings collected over years. (c) The stored data comes in different formats — structured (databases of products), semi-structured (XML, JSON order files), and unstructured (customer reviews, product photos, videos). (d) Sometimes, the system collects incomplete or duplicate records, and before analysis, the team removes errors to ensure the information is accurate and trustworthy. [4]

Q19. Explain the role of neural networks in the future of AI. [4]

Q20. Explain how Meta's LLaMA is unique compared to traditional LLMs with a neat diagram. [4]



Q21. The image illustrates Freytag's Pyramid, a classic narrative structure. While (1) Exposition introduces the story and characters, identify and briefly explain the stages labeled as 2, 3, 4, and 5 in the diagram. [4]

AUTUMN BREAK HOLIDAY HOMEWORK – 2026

Class: XII

Subject: English Core (301) – Language and Literature

Dear Students,

The following holiday homework is assigned to help you revise the prescribed syllabus, strengthen your language skills, and prepare for the upcoming assessments. Complete all the questions carefully and independently.

Part A: Project

Complete and organise your English project with all the prescribed activities, assignments, and written work.

Ensure that the project is neat, complete, and presented systematically.

Part B: Reading Skills

Attempt the following 5 questions/exercises.

Practise one unseen passage of approximately 400–450 words and answer 10 comprehension questions based on inference, vocabulary, analysis, and understanding.

Practise one case-based factual passage with a chart, table, or statistical information and answer 5 questions based on data interpretation and comprehension.

Identify the central idea, tone, purpose, and target audience of an unseen passage of your choice.

Find five unfamiliar words from an unseen passage, write their meanings, and use each in an original sentence.

Write a brief summary of an unseen passage in about 100 words, retaining only its main ideas.

Part C: Literature – Flamingo

Answer the following 5 questions in about 120–150 words each.

The Last Lesson: How does the story bring out the importance of language as a symbol of identity and freedom?

Lost Spring: How does Anees Jung highlight the cycle of poverty and exploitation through the lives of Saheb and Mukesh?

Deep Water: How does Douglas overcome his fear of water? What does his experience teach us about determination and courage?

Indigo: How did Gandhi's leadership and methods help the peasants of Champaran achieve justice?

The Rattrap: How does Edla Willmansson's kindness bring about a transformation in the peddler?

Part D: Poetry – Flamingo

Answer the following 5 questions in about 100–120 words each.

My Mother at Sixty-Six: How does Kamala Das convey her fear of separation and the pain of ageing in the poem?

Keeping Quiet: How can silence and introspection help humanity overcome conflict and destruction?

A Thing of Beauty: Explain how beauty provides lasting joy and comfort in human life.

A Roadside Stand: How does the poet expose the economic inequality between rural people and the wealthy urban population?

Aunt Jennifer's Tigers: How do the tigers symbolise freedom and strength in contrast to Aunt Jennifer's oppressed life?

Part E: Supplementary Reader – Vistas

Answer the following 5 questions in about 120–150 words each.

The Third Level: How does Charley's experience of the third level reflect his desire to escape the stress of modern life?

The Tiger King: How does Kalki use satire to criticise arrogance, misuse of power, and the belief in fate?

Journey to the End of the Earth: What does the Antarctic expedition teach us about climate change and the interconnectedness of life?

The Enemy: How does Dr Sadao's decision to save the wounded American soldier reveal the conflict between professional duty and patriotism?

On the Face of It: How does Mr Lamb help Derry develop a more positive attitude towards life and himself?

Part F: Writing Skills

Attempt all 5 questions.

Notice Writing: You are the Cultural Secretary of your school. Draft a notice informing students about an inter-house literary competition to be held in the school.

Invitation and Reply: Draft a formal invitation inviting a distinguished author to inaugurate your school's literary festival. Also write an appropriate formal reply accepting the invitation.

Letter to the Editor: Write a letter to the Editor of a national daily expressing concern about the increasing pressure on students due to academic competition and suggesting practical solutions.

Job Application: You have seen an advertisement for the post of an English teacher in a reputed school. Write an application with a bio-data/resume highlighting your qualifications and relevant experience.

Article Writing: Write an article in 150–200 words on “Responsible Use of Artificial Intelligence in Education”, discussing its benefits, limitations, and ethical use.

General Instructions

The entire Autumn Break holiday homework must be done in the English homework notebook.

Write each question before its answer and maintain proper headings.

Complete all the questions in the prescribed word limits.

Use neat handwriting and maintain proper presentation.

Revise the prescribed chapters, poems, and writing formats thoroughly.

Complete the work independently and submit the notebook after the Autumn Break.

Make the most of the break by revising regularly and completing your work sincerely.

12TH MATHS HOLIDAY HOMEWORK:

Solve 2 Sets of previous year preboard
Question papers.

10 MATHS HOLIDAY HOMEWORK:

Solve 2 Sets of previous year Half-Yearly
Question papers.

10 MATHS HOLIDAY HOMEWORK:

Solve 2 Sets of previous year preboard Question
papers.