Winter break holiday homework

Class x

AI

SOLVE THE FOLLOWING QUESTIONS IN THE NOTEBOOK

Q1. An AI model made the following digital payment usage prediction in a state where government has recently launched the facility of digital payments:

Confusion Matrix		Reality	
		Yes	No
Prediction	Yes	50	40
	No	12	10

I. Identify the total number of wrong predictions made by the model.
II. Calculate precision, recall and F1 Score.

Q2. An Al model has been developed to test specimens of paddy plants to diagnose fungal,bacterial and viral infections. The model was tested on a data-set of about 630 tests and the resulting confusion matrix is as follows:

- True Positives(TP): 110 tests correctly predicted the disease.
- False Positives(FP): 60 tests incorrectly predicted the disease
- True Negatives(TN): 410 tests correctly predicted the absence of disease
- False Negatives (FN): 50 tests incorrectly predicted the absence of disease

Calculate metrics such as accuracy, precision, recall, and F1-score.

Q3. In a sentiment analysis task, a model correctly predicts 120 positive sentiments out of 200 positive instances. However, it also incorrectly predicts 40 negative sentiments as positive. What is the F1 score of the model?

Q4. From the total 43 observations conducted

- 12 observations correctly identified the fungal infection.
- 04 observations incorrectly identified the fungal infection.
- 21 observations correctly identified the absence of fungal infection
- 06 observations failed to identify the fungal infection.

Q5. Through a step-by-step process, perform text normalization for the given Corpus:

Raj and Vijay are best friends. They play together with other friends. Raj likes to play football but Vijay prefers to play online games. Raj wants to be a footballer. Vijay wants to become an online gamer.

Q6. Implement BOW for the given documents

Document 1: Akash and Ajay are best friends.

Document 2: Akash likes to play football but Ajay prefers to play online games.

WINTER BREAK HOMEWORK

CLASS X A/B

SUBJECT SCIENCE

PROJECT WORK (MAKE A SEPARATE FILE)

PHYSICS

Chapter: The Human Eye and the Defects of Vision

Class X – Physics

A. Introduction & Basic Understanding

What is the human eye? Why is it considered a natural optical instrument?

Explain the importance of the human eye in our daily life.

What is vision? How does the human eye enable us to see objects?

B. Structure of the Human Eye

Draw a neat, labelled diagram of the human eye.

Explain the structure and function of the following parts of the human eye:

Cornea,Iris,Pupil ,Eye lens,Retina,Optic nerve

What is the role of the retina in vision?

What is the function of rods and cones present in the retina?

C. Working of the Human Eye

Explain the working of the human eye with the help of a ray diagram.

What is accommodation? How does the eye adjust itself to see near and distant objects?

Define: Near point of the eye , Far point of the eye

What is the least distance of distinct vision for a normal eye?

D. Defects of Vision

What are defects of vision? Why do they occur?

Explain Myopia (Short-sightedness) with: Causes

Ray diagram

Effect on vision

Explain Hypermetropia (Long-sightedness) with: Causes

Ray diagramEffect on vision

What is Presbyopia? Why does it usually occur in old age?

How is presbyopia different from myopia and hypermetropia?

E. Correction of Defects of Vision

How is myopia corrected? Explain with a ray diagram.

How is hypermetropia corrected? Explain with a ray diagram.

How is presbyopia corrected?

Why are bifocal lenses used? Where they are commonly prescribed?

BIOLOGY

Project :- HUMAN HEART

Index

1.Introduction

2.Location of heart

3.Structure of heart

4.Chamber of heart

5.Valves of heart

6.Blood vessels connected to heart

7.Working of human heart

8.Double blood circulation

9.Heart beat

10.Diseases of heart

11.Healthy heart habits

12.Diagram of heart

13.Conclusion

SAMPLE QUESTION PAPER
CLASS X (2025-26)
ENGLISH
Code No. 184
(Language and Literature)

M.M. 80 Time 3:00 hrs

The Question paper is divided into four sections:

Section A:Reading 15 Marks

Section B:Writing 15 Marks

Section C:Grammar 15 Marks

Section D:Literature/Text Books 35 Marks

All questions are compulsory.

Marks are indicated against each question.

SECTION - A
READING – 15 MARKS

1. **Read the passage given below:**

(5 Marks)

A park created by a Maharaja, the Keoladeo Ghana National Park, 176 km. from Delhi and 55 km. west of Agra and the Taj Mahal, is perhaps the only habitat created by a Maharaja. Two kilometres away from Bharatpur town, the royal family of Bharatpur developed the area in the late 19th Century.

The Maharaja constructed small dams for water conservation, diverted water from a nearby irrigation canal and soon thousands of water birds descended. The Maharaja, wanting to celebrate his success, invited dignitaries of British and Princely India to shoot waterfowl.

The sandstone in the park records the exploitation of those days. The first recorded shoot was by Lord Curzon in 1902. In 1956, the habitat shooting reserve became a sanctuary but the shooting continued until 1964. The sanctuary was upgraded to a National Park in 1981 and renamed Keoladeo Ghana.

This 29 sq. km. fresh water shallow swamp of Keoladeo Ghana with kadam, babul (Acacia nilotica) - ber and ficus trees has a rich aquatic vegetation, 50 species of fish, five species of amphibians, 28 species of reptiles and more than 366 species of birds (which include 32 species of birds of prey) and 27 species of animals like blackbuck, sambar, spotted deer, bluebull and 379 floral species.

The painted storks, like many other birds in Bharatpur during the monsoon, are local migrants. The highlight of the park is that it is the only known wintering area of the highly endangered central population of the Siberian cranes.

Migratory birds at the park start arriving in October for wintering. That wetlands help in maintaining the freshwater flow within river systems is a known fact. In Bharatpur, the shallow aquifiers of the Gangetic plain are recharged during the monsoon and from streams and wetlands in all seasons.
According to a report by Wetlands International, one-third of the world's wetlands are located in Asia.

Complete the following sentences based on your reading of the passage in your own words:

a. The dams for water conservation served a dual purpose for the Maharaja because…….

b. The purpose of the sandstone in the park is to …….

c. The National Park is full of ……..

d. In winter the Keoladeo Ghana is visited by the famous…..……..

f.. The word in the fourth paragraph that means ‘growing or living in or near water’
is……. ……..

2. **Read the passage given below and write the option that youconsider the most appropriate in your answer sheets.**

(5 Marks)

THE DISGUISE ARTISTS

Aesop prawns start life as colourless, almost transparent infants who drift with the tide. On reaching maturity, they drift inshore, reach out to grasp the first passing seaweed and, once established upon it, they proceed to colour themselves to blend with it. After a week, their colouring is complete and they are safe from the closest scrutiny.
Should disaster strike and their chosen home be destroyed, they first try to find a new home with the same colour scheme as the first. If this proves impossible, they philosophically settle for a different coloured home and restart their own colouring process. A week zips past --- and they change colour to merge beautifully with their new homes once again. Aesop prawns also take on the colours of the day. Regularly at nightfall, they change to a deep transparent blue, reverting to their chosen house-colour as the sea lightens at dawn.

Interestingly, the “decision” to adopt a particular colour is in no way an act of will on the part of the prawn. Scattered over its body surface are small pigment cells, each containing a central bag of colours (a reservoir of primary pigments: red, yellow and blue) with five branches extending from it. These pigment cells are influenced by the light that falls directly on them or enters through the prawn’s eyes. Different coloured lights activate the hormones that control the flow of pigments. And after dark, red and yellow are withdrawn to make way for the nocturnal blue ‘night suit’ of the Aesop prawn. A system that provides the animal, at all times, with an enviable cloak of invisibility.

1. The unique feature of Aesop prawns is that……..
    a. They blend with their surroundings
    b. they drift with the tide
    c. they grasp seaweeds
    d. they are transparent

2. When Aesop prawns are rendered homeless,……
    a. they change their colour
    b. they first look for a home of the same colour
    c. they cannot survive
    d. they become transparent

3. During the night Aesop prawns
    a. change to a deep blue colour
    b. take on their chosen house-colour
    c. become red, yellow and blue
    d. revert to light colours.

4. Colour change of Aesop prawns is influenced by
    a. the will of the prawns
    b. the light that falls on their body and eyes
    c. the harmones that control the pigments
    d. the five branches of its colour bag

5. A word from the passage that means the same as ‘night like’ is……..
    a. reverting
    b. pigment
    c. nocturnal
    d. cloak

3. **Read the poem given below and write the option that you consider the most appropriate in your answer sheets:(5 Marks)**

Be the Best of Whatever You Are

Douglas Malloch

If you can’t be a pine on the top of the hill,
Be a scrub in the valley — but be
The best little scrub by the side of the rill;
Be a bush if you can’t be a tree.
If you can’t be a bush be a bit of the grass,
And some highway happier make;
If you can’t be a muskie then just be a bass—
Be the liveliest bass in the lake!
We can’t all be captains, we’ve got to be crew,
There’s something for all of us here,
There’s big work to do, and there’s lesser to do,
And the task you must do is the near.
If you can’t be a highway then just be a trail,
If you can’t be the sun be a star;
It isn’t by size that you win or fail—
Be the best of whatever you are!

1. Being the best scrub tree is as good as being a…….
    a. bush
    b. pine
    c. valley
    d. grass

2. ‘Be the liveliest **bass** in the lake!’ Here bass means……..
    a. water plant
    b. edible fish
    c. ship
    d. sailor

3. We can’t all be captains, we’ve got to be crew means……..
    a. we can be the best wherever we are
    b. we should be a part of the crowd
    c. we should not be ambitious
    d. we should also be willing to serve

4. The message of the poem is…….

a. only the best is appreciated in life
b. if we fail the world will laugh at us
c. if we want to succeed in life, we must be strong
d. we must always be our best in anything we do

5. The tone of the poem is……
a. happy
b. sad
c. inspirational
d. educational

SECTION B
WRITING - 15 MARKS

4. **Your brother, who is in a hostel, is very fond of eating outside. As a result, he keeps getting sick often. Write a letter telling him about the harmful effects of junk food and advising him to eat healthy food in 100 words. You are Arjun/ Arpita of C- 8, Lawrence Road, Amritsar.**

OR (6 Marks)

You come across the photograph given below and are upset about even the educated people
flouting rules. Write a letter to the editor of Hindustan Times, Kasturba Gandhi Marg,
advocating the need to be law abiding citizens. (100 words)

5. You read the following article by a student in a magazine but you do not agree with the views expressed. Inspired by this, write a speech for your school assembly telling the students why schools must have a school uniform. (120 words)

Quite frankly I've had enough of uniforms. "Wear a tie.", "Button up your shirts." Seriously? If it's 46

degrees in the classroom and your school can't afford a cool environment, don't tell us to put our uniforms on. If it's 06 degrees, and we are freezing, don't tell us to take the sweaters off. We are stupid, so we must wear uniforms. Is that right? We are not smart enough to wear our own clothes? We must follow your stupid school rules just so the school rating goes up? I think school uniforms must be abolished.

(6 Marks)

OR

There have been a lot of thefts in your locality. Write a speech to be delivered at the community centre in your society on what precautions to take. Tell them, “A stitch in Time, Saves Nine.”(120 words)

6 Marks

6. It is Grandparents Day tomorrow. Your cousins and you want to give your grandparents a surprise. Plan a dialogue with your sister/ brother about what you could do to make them feel important and happy. (80 words)

OR **3 Marks**

Complete this story in 80 words: ‘It was a quiet, cold and dark night, like it usually is in winters when all retire to bed early. Suddenly a shriek jerked the people in the building out of their beds. It was distinctly the voice of ……..’

SECTION – C
GRAMMAR – 15 MARKS

7. Fill in the blanks choosing the most appropriate words from the given options.

(½ × 6 = 3 Marks)

When Alexander and his men (a) ……..the plain of Gaugamela, they found that the ground (b) …… level. The Persian chariots stood in formation, ready to attack across that flat surface. Darius (c) …….. his scythed chariots to propel themselves forcefully into the Greek forces, with (d) …….. ripping at the flesh of both horses and men. The chariots began their rapid (e) …… the army of Alexander the Great. The Greek general, (f) ……. a quick assessment of the situation, ordered the ranks of the Greek fighters to split apart.

(a) (i) were reaching (ii) reach
(iii) reached (iv) have reached

(b) (i) had been made (ii) is being made
(iii) is made (iv) was made

(c) (i) has expected (ii) did expect
(iii) had expected (iv) expected

(d) (i) there carved blades (ii) they're curved blades
(iii) their curved blades (iv) they curving blades

(e) (i) drove to (ii) drive toward
(iii) drives to (iv)driven along

(f) (i) having made (ii) have made
(iii) had to make (iv) is having to make

8. Complete the headlines by choosing the correct answersfrom the options given below: (3 Marks)

(a)12 injured as buses collide:
_____ at the K.N.P. junction yesterday.

(i) 12 persons were injured as two buses collided

(ii) 12 persons have been injured when two buses collided
(iii) 12 persons had been injured as two buses collided
(iv) 12 persons are injured as two buses collide

(b)Drive against Liquor Mafia launched

The police _____ engaged in smuggling of liquor to the state.

(i) has launched a drive against the mafia who have
(ii) have launched a drive against the mafia that is
(iii) had launched a drive against mafia that will be
(iv) had launched a drive against mafia who were

(c)China develops medical robot

A polytechnic university in China _____ that can conduct surgeries.

(i) have developed a medical robot
(ii) has developed a medical robot
(iii) is developing a medical robot
(iv) will be developing a medical robot

9. The following passage has not been edited. There is an error in each line against which a blank is given. Write the incorrect word and the correction in your answer sheet against the correct blank number as given in the example. Remember to underline the word that you have supplied: (3 Marks)

Chocolate can make <u>peoples</u> happy. peoples – <u>people</u> (example)
Chocolate are also considered very(a) …….
good in health. One (b) …….
bar off chocolate(c) …….
have more protein than one banana.(d) …….
You might had heard people saying(e) …….
that chocolates spoils the teeth.(f) …….

10. Look at the words and phrases below. Rearrange them to form meaningful
sentences as shown in the example. (3 Marks)

Example: important / it / is / to observe / rules / traffic
It is important to observe traffic rules.

(a) not / children / below / of / the age / must / drive / eighteen years.
(b) protection / our / we / must /helmets / own / wear / for
(c) phones / must / used / not / mobile / be / driving / while

11. Read the comic strip and fill in the blanks in the passage given below by choosing
the correct options. (3 Marks)

One morning while reading the paper, Raj told his wife (a)..... His wife,
Molly, said that she thought (b)..... . Rajreplied that (c).....
as the cashier had run away with Rs 5 million.

SECTION - D
TEXT BOOKS-35 MARKS

12. (a) Read the extract given below and answer the questions that follow: (4 Marks)

My dear fellow... I'm so glad, and so on...Yes, indeed, and all that sort of thing. [*Embraces and kisses Lomov*] I've been hoping for it for a long time. It's been my continual desire. [*Sheds a tear*] And I've always loved you, my angel, as if you were my own son. May God give you both — His help and His love and so on, and so much hope... What am I behaving in this idiotic way for? I'm off my balance with joy, absolutely off my balance! Oh, with all my soul...,

A. Who is the speaker of these lines?

B. What purpose did the speaker initially suspect the guest had for visiting?

C. Why was the speaker glad?

D. Why does the speaker's joy not last long?

12. (b) Read the extract given below and answer the questions that follow: (4 marks)

Her first journey — what careful, painstaking, elaborate plans she had had to make for it! She had thriftily saved whatever stray coins came her way, resisting every temptation to buy peppermints, toys, balloons, and the like, and finally she had saved a total of sixty paise. How difficult it had been, particularly that day at the village fair, but she had resolutely stifled a strong desire to ride the merry go- round, even though she had the money.

A. Who does 'her' refer to in the passage?

B. Where was her first journey made to?

C. Why had she resisted all temptations?

D. Find a word in the passage that means 'with determination'.

13. Read the extracts given below and answer the questions that follow by choosing

the most appropriate options from those given below. [Attempt any two] (3x2=6 Marks)

a. It sits looking
over harbor and city
on silent haunches
and then moves on.

A. The 'it' in these lines is……
a. a tree
b. the fog
c. a cat
d. the wind

B. "It" has been compared to a……..
a. dog
b. man
c. cat
d. night

C. The figure of speech used in these lines is……
a. simile
b. metaphor
c. personification
d. repetition

b. Pistol in his left hand, pistol in his right,
And he held in his teeth a cutlass bright,
His beard was black, one leg was wood;
It was clear that the pirate meant no good.

A. Who held the pistols?
a. a child
b. a dragon
c. a pirate
d. Belinda

B. What did the Dragon do to him ?

a. became his friend
b. scared him
c. ate him
d. screamed at him

C. What does the expression ‘the pirate meant no good’ convey?

a. that he was fierce and cruel
b. that he was brave and fearless
c. that he was going to do some harm
d. that he was not a good person

c. The leaves strain toward the glass
small twigs stiff with exertion
long-cramped boughs shuffling under the roof
like newly discharged patients
half-dazed, moving
to the clinic doors.

A. Why do the leaves strain toward the glass?

a. to breathe
b. to be with other trees
c. to escape captivity
d. to celebrate with animals

B. What are branches compared to?

a. doctor’s clinic
b. lazy persons
c. little twigs
d. patients

C. What is the figure of speech in ‘*like newly discharged patients’?*

a. Metaphor
b. personification

c. simile
d. onomatopoeia

14. Answer any three of the following questions in 40-50 words each.
(2X3=6Marks)

1. What was Valli's favourite pastime?
2. What is the story about the Kodavu people's descent?
3. When would the baker come everyday? Why did the children run to meet him?
4. After her son's death, why does Kisa Gotami go from house to house? Why does she not get what she wants?

Q 15 Answer the following question in about 80 words.
(5 Marks)

On what issues did Lomov and Natalya quarrel? What does their quarrel reveal about them?

OR

How did the Budha make Kisa Gotani understand the inevitability of death?

Q 16 Answer the following question in about 80 words.

(4 Marks)

How do the three nursery rhymes frighten Think Tank? (4 Marks)

OR

Losing a necklace changed the Course of Loisel's life. How did this happen?

17. Answer any two of the following questions in 40-50 words each. (2X3=6 Marks)

a. How did Bholi's teacher play an important role in changing the course of her life?

b. Mention any two of Ebrights' contributions to the world of science.

c. What was the lawyer's first impression of Lutkins? Was he correct?

PM SHRI KENDRIYA VIDYALAYA SEONI

HOLIDAY HOME WORK (CHEMISTRY)

CLASS-X

- Write all the equations of Chapter 1 (Chemical reactions and equations).

Answer these on SCIENCE Copy

Q.1 What is chemical equation? What are its type?

Write any 2 examples of each type of chemical reactions.

Q.2 Differentiate between a) Displacement reaction & double displacement reaction

b) Corrosion & rancidity

c) Aerobic respiration & anaerobic respiration

d) Respiration & Photosynthesis

e) Combination & decomposition reaction

f) Oxidation reaction & reduction reaction

Solve pre board 1 and pre board 2 question paper and solve one sample paper

MATHEMATICS (BASIC) – Code No. 241
SAMPLE QUESTION PAPER
CLASS - X (2025 - 26)

Maximum marks:80 **Time :3 hour**

General Instructions

Read the following instructions carefully and follow them:

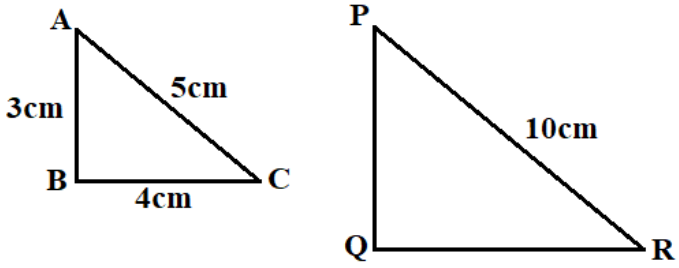
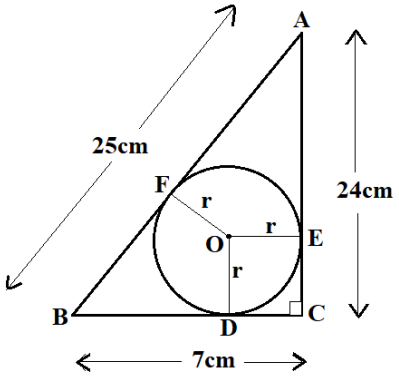
1. This question paper contains 38 questions. All Questions are compulsory.
2. This Question Paper is divided into 5 Sections A, B, C, D and E.
3. In Section A, Question numbers 1-18 are multiple choice questions (MCQs) and question no.19 and 20 are Assertion- Reason based questions of 1 mark each.
4. In Section B, Question numbers 21-25 are very short answer (VSA) type questions, carrying 02 marks each.
5. In Section C, Question numbers 26-31 are short answer (SA) type questions, carrying 03 marks each.
6. In Section D, Question numbers 32-35 are long answer (LA) type questions, carrying 05 marks each.
7. In Section E, Question numbers 36-38 are case study-based questions carrying 4 marks each with sub parts of the values of 1, 1 and 2 marks each respectively.
8. There is no overall choice. However, an internal choice in 2 questions of Section B, 2 questions of Section C and 2 questions of Section D has been provided. An internal choice has been provided in all the 2 marks questions of Section E.
9. Draw neat and clean figures wherever required. Take $\boldsymbol{\pi} = \frac{22}{7}$ wherever required if not stated.
10. Use of calculators is not allowed.

SECTION – A
(Multiple Choice Questions)
Each MCQ of 1mark, has four options with only one correct option, choose the correct option

Q. No.	Question	Marks
Q1.	The exponent of 3 in the prime factorization of 2025 is A) 1 B) 2 C) 3 D) 4	1
Q2.	If $2024\boldsymbol{x} + 2025\boldsymbol{y} = 1$; $2025\boldsymbol{x} + 2024\boldsymbol{y} = -1$, then $\boldsymbol{x} - \boldsymbol{y} =$ A) 0 B) – 2 C) 2 D) – 1	1

***Please note that the assessment scheme of the Academic Session 2024-25 will continue in the current session i.e. 2025-26**

Q3.	The number of polynomials having -2 and 5 as its zeroes is A) one B) two C) three D) Infinitely many	1
Q4.	Which of the following is **not** a quadratic equation? A) $(x+2)^2 = 2(x+3)$ B) $x^2 + 3x = (-1)(1-3x^2)$ C) $(x+2)(x-1) = x^2 - 2x - 3$ D) $x^3 - x^2 + 2x + 1 = (x+1)^3$	1
Q5.	The value of x for which $2x$, $(x + 10)$ and $(3x + 2)$ are the three consecutive terms of an AP is A) 6 B) -6 C) -2 D) 2	1
Q6.	If $1 + 2 + 3 + 4 + \cdots + 50 = 25\mathbf{k}$, then **k** = A) 50 B) 51 C) 49 D) 26	1
Q7.	The distance between the points (cos30°, sin30°) and (cos60°, – sin 60°) is A) 0 unit B) $\sqrt{3}$ units C) 1 unit D) $\sqrt{2}$ units	1
Q8.	The co-ordinates of the point which is mirror image of the point $(-3, 5)$ about x-axis are A) (3, 5) B) (3, −5) C) (−3, −5) D) (−3, 5)	1
Q9.	If in ΔABC and ΔDEF, $\frac{AB}{EF} = \frac{AC}{DE}$ then they will be similar when A) $\angle A = \angle D$ B) $\angle A = \angle E$ C) $\angle C = \angle F$ D) $\angle B = \angle E$	1

Q10.	If $\Delta ABC \sim \Delta PQR$, then perimeter of the triangle PQR (in cm) is A) 12 B) 24 C) 18 D) 20  **For visually Impaired students only** If $\Delta ABC \sim \Delta PQR$, where AB = 3cm, BC = 4cm, AC = 5cm and PR = 10cm, then perimeter of the triangle PQR (in cm) is A) 12 B) 24 C) 18 D) 20	1
Q11.	In the figure given below, radius **r** of the circle which touches the sides of the triangle is A) 3 cm B) 6 cm C) 7 cm D) 4 cm  ***For visually Impaired students only*** From a point P, which is at a distance of 26cm from the centre O of a circle with radius 10 cm, the pair of tangents PQ and PR to the circle are drawn. Then the area of the quadrilateral PQOR (in cm^2) is A) 220 B) 240 C) 260 D) 280	1
Q12.	Which one of the following is **not** equal to Unity? A) $\sin^2 \boldsymbol{x} + \cos^2 \boldsymbol{x}$ B) $\cot^2 \boldsymbol{x} - \operatorname{cosec}^2 \boldsymbol{x}$ C) $\sec^2 \boldsymbol{x} - \tan^2 \boldsymbol{x}$ D) $\tan \boldsymbol{x} . \cot \boldsymbol{x}$	1

Q13.	Consider the following frequency distribution | Class	0 – 5	5 – 10	10 – 15	15 – 20	20 – 25
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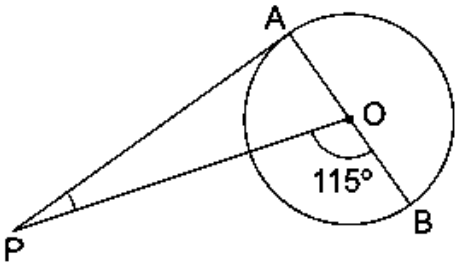
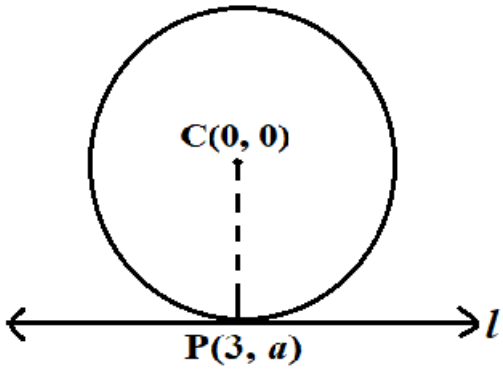
Frequency	11	12	13	9	11 | The upper limit of median class is A) 10 B) 13 C) 15 D) 20	1
Q14.	Let empirical relationship between the three measures of central tendency be **a**(Median) = Mode + **b**(Mean), then (2**b** + 3**a**) = A) 11 B) 12 C) 13 D) 14	1
Q15.	From an external point Q, the length of tangent to a circle is 12 cm and the distance of Q from the centre of circle is 13 cm. The radius of circle (in cm) is A) 10 B) 5 C) 12 D) 7	1
Q16.	In the given figure, PA is a tangent from an external point P to a circle with centre O and diameter AB. If ∠POB=115°, then measure of ∠APO is A) 25° B) 30° C) 20° D) 65°  ***For visually Impaired students only*** At one end A of a diameter AB of a circle with radius 13 cm, tangent XAY is drawn to the circle. The length of the chord CD parallel to XY and at a distance 18 cm from A is A) 24 cm B) 25 cm C) 26 cm D) 18 cm	1

Q17.	The circumferences of two circles are in the ratio 3 : 4. The ratio of their areas is A) 3 : 4 B) 4 : 3 C) 9 : 16 D) 16 : 9	1
Q18.	An event is most unlikely to happen. Its probability is A) 0.0001 B) 0.001 C) 0.01 D) 0.1	1
	Each of the following questions contains two statements i.e., ASSERTION and REASON, and has following four choices. Only one of which is the correct answer.	
Q19.	**ASSERTION (A)**: Line joining the midpoints of two sides of triangle is parallel to the third side. **REASON (R)**: If a line divides two sides of a triangle in the same ratio then it is parallel to the third side. A) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A). B) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A). C) Assertion (A) is true but reason (R) is false. D) Assertion (A) is false but reason (R) is true.	1
Q20.	**ASSERTION (A)**: Two coins are tossed simultaneously. Possible outcomes are two heads, one head and one tail, two tails. Hence, the probability of getting two heads is $\frac{1}{3}$. **REASON (R)**: Probabilities of 'equally likely' outcomes of an experiment are always equal. A) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A). B) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A). C) Assertion (A) is true but reason (R) is false. D) Assertion (A) is false but reason (R) is true.	1

SECTION – B
(Very Short Answers)
This section comprises of VSA of 2 marks each

Q21.	**(A)** Show that the number $2 \times 5 \times 7 \times 11 + 11 \times 13$ is a composite number. **OR** **(B)** Find the smallest number which is divisible by both 306 and 657.	2
Q22.	Find the radius of the circle with centre at origin, if line l given by $x + y = 5$ is tangent to the circle at point P.  ***For visually Impaired students only*** Find the radius of the circle whose end points of a diameter are (0, 0) and (6, 8).	2
Q23.	If the zeroes of the quadratic polynomial $x^2 + (a + 1)x + b$ are 2 and – 3, then find the values of a and b.	2
Q24.	Find the nature of roots of the quadratic equation $x^2 + 4x - 3\sqrt{2} = 0$.	2
Q25.	**(A)** Evaluate : $2 \sin 30° \tan 60° - 3 \cos^2 60° \sec^2 30°$ **OR** **(B)** If $\sin x = \frac{7}{25}$, where x is an acute angle, then find the value of $\sin x . \cos x (\tan x + \cot x)$.	2

***Please note that the assessment scheme of the Academic Session 2024-25 will continue in the current session i.e. 2025-26**

SECTION – C
(Short Answers)

This section comprises of SA type questions of 3 marks each

Q26. Show that $\sqrt{2} - \sqrt{5}$ is an irrational number. **3**

Q27. **(A)** The frequency distribution table of agriculture holdings in a village is given below: **3**

Area of land (in hectares)	1 – 3	3 – 5	5 – 7	7 – 9	9 – 11	11 – 13
No. of families	20	45	80	55	40	12

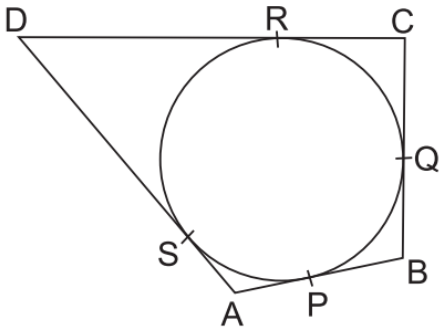
Find the modal agriculture holdings of the village.

OR

(B) If the mean of the following distribution is 54, find the value of *p.*

Class Interval	0 – 20	20 – 40	40 – 60	60 – 80	80 – 100
Frequency	7	*p*	10	9	13

Q28. A quadrilateral ABCD is drawn to circumscribe a circle, as shown in the given figure. Show that $\frac{AB + CD}{AD + BC} = 1$ **3**

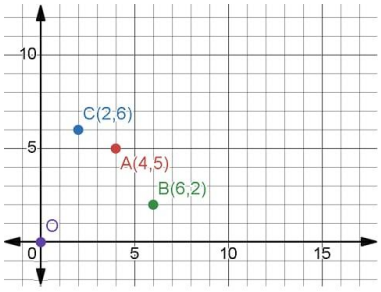


For visually Impaired students only

Show that parallelogram circumscribing a circle is a rhombus.

***Please note that the assessment scheme of the Academic Session 2024-25 will continue in the current session i.e. 2025-26**

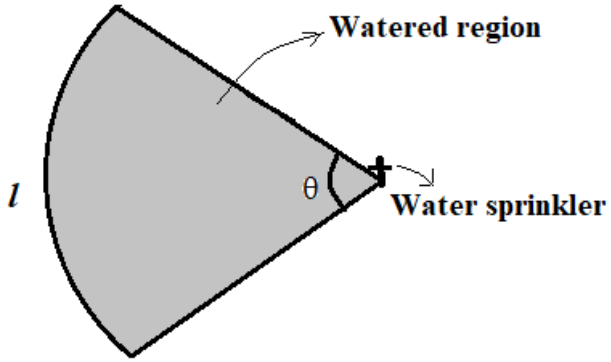
Q29.	**(A)** On a particular day, 50000 people attended a Cricket Test Match between India and Australia in Sydney Cricket Ground. Let $\boldsymbol{x}$ be the number of adults attended the cricket match and $\boldsymbol{y}$ be the number of children attended the cricket match. Cost of an adult ticket was ₹1000 while cost of a child ticket was ₹200. On that day Revenue earned by selling all 50,000 tickets, was ₹4,20,00,000. Find how many adults and how many children attended the cricket match? **OR** **(B)** Solve for $\boldsymbol{x}$ and $\boldsymbol{y}$, **graphically**: $2\boldsymbol{x} + \boldsymbol{y} = 6;\ \boldsymbol{x} + \boldsymbol{y} = 5$ **For visually Impaired students only** **(A)** On a particular day, 50000 people attended a Cricket Test Match between India and Australia in Sydney Cricket Ground. Let $\boldsymbol{x}$ be the number of adults attended the cricket match and $\boldsymbol{y}$ be the number of children attended the cricket match. Cost of an adult ticket was ₹1000 while cost of a child ticket was ₹200. On that day Revenue earned by selling all 50,000 tickets, was ₹4,20,00,000. Find how many adults and how many children attended the cricket match. **OR** **(B)** A 2-digit number is 6 times the sum of its digits. The number formed by reversing the digits is 9 less than the given number. Find the number.	3
Q30.	Prove that : $(\sin\boldsymbol{x} - \cos\boldsymbol{x} + 1).(\sec\boldsymbol{x} - \tan\boldsymbol{x}) = (\sin\boldsymbol{x} + \cos\boldsymbol{x} - 1)$	3
Q31.	The sum of first $\boldsymbol{n}$ terms of an AP is $5\boldsymbol{n}^2 - \boldsymbol{n}$. Find the $\boldsymbol{n}^{\text{th}}$ term of the AP.	3
	SECTION – D **(Long Answers)** *This section comprises of LA type questions of 5 marks each*	
Q32.	Prove that a line drawn parallel to one side of a triangle intersecting other two sides in distinct points, divides the other two sides in the same ratio.	5
Q33.	**(A)** The numerator of a fraction is 3 less than its denominator. If 2 is added to both of its numerator and denominator then the sum of the new fraction and original fraction is $\frac{29}{20}$. Find the original fraction. **OR** **(B)** A train covers a distance of 300 km at a uniform speed. If the speed of the train is increased by 5 km/hr, it takes 2 hours less in the journey. Find the original speed of the train.	5

Q34.	**(A)** The angle of elevation of the top of a chimney from the foot of a tower is 60° and the angle of depression of the foot of the chimney from the top of the tower is 30°. If the height of the tower is 40 meters, find the height of the chimney. Also, find the length of the wire tied from the top of the chimney to the top of tower. **OR** **(B)** The angles of depression of the top and bottom of a 50m high building from the top of a tower are 45° and 60° respectively. Find the height of the tower and the horizontal distance between the tower and the building. (*Use* $\sqrt{3}$ *= 1.73*)	5
Q35.	A solid toy is in the form of a hemisphere surmounted by a right circular cone of height 2cm and diameter of base 4cm. If a right circular cylinder circumscribes the toy, find the difference of the volumes of the cylinder and the toy. [*Use π = 3.14*]	5
	SECTION - E **(Case-study Based Questions)** *This section comprises of 3 case-study based questions of 4 marks each with three sub-parts.*	
Q36.	Carpooling is the sharing of car journeys so that more than one person travels in a car, and prevents the need for others to have to drive to a location themselves. By having more people using one vehicle, carpooling reduces each person's travel costs such as: fuel costs, tolls, and the stress of driving. Carpooling is also a more environmentally friendly and sustainable way to travel as sharing journeys reduces air pollution, carbon emissions, traffic congestion on the roads, and the need for parking spaces.   Three friends Amar, Bhavin and Chetanya live in societies represented by the points A(4,5), B(6,2) and C(2,6) respectively. They all work in offices located in a same building represented by the point O(0,0). Since they all go to same building every day, they decided to do carpooling to save money on petrol. Based on the above information, answer the following questions. i) What is the distance between B and C? ii) If Bhavin and Chetanya planned to meet at a club situated at the mid-point of the line joining the points B and C, find the coordinates of this point. iii) **(A)** Which society is farthest from the office? Also find its distance from the office. **OR** **(B)** Out of B and C which society is nearer to A? Also find their distances.	1 1 2

***Please note that the assessment scheme of the Academic Session 2024-25 will continue in the current session i.e. 2025-26**

Q37. A water sprinkler is a device used to irrigate agricultural crops, lawns, landscapes, golf courses, and other areas. Water sprinklers can be used for residential, industrial, and agricultural usage.

. A water sprinkler is set to shoot a stream of water a distance of 21 m and rotate through an angle which is equal to complementary angle of 10°.



i) What is the area of sector in terms of arc length? 1

ii) What is the area of the watered region (in terms of $\boldsymbol{\pi}$)? 1

iii) **(A)** If the radius(***r***) changes to 28m, find the angle θ so that the area of the watered region remains the same. 2

OR

(B) If the radius(***r***) is increased from 21m to 28m and the angle remains the same, what is the increase in the area of the watered region?

***Please note that the assessment scheme of the Academic Session 2024-25 will continue in the current session i.e. 2025-26**

Q38. One of four main blood types can be found in a human body. They are known as A, B, AB and O. Each blood type can be further classified as either a Rhesus positive (+) or Rhesus negative (−).For example, a possible combination is blood type O and Rhesus negative which is written as O^-

The data below shows the distribution of the blood types and Rhesus types of given blood type for a **Blood Donation Center** recorded (in percentages) for the year 2023.

BLOOD GROUP	RHESUS FACTOR	NUMBER OF PERSONS (in %)
O	O^-	x
	O^+	30
A	A^-	8
	A^+	24
B	B^-	6
	B^+	18
AB	AB^-	1
	AB^+	3

i) Find the value of x. 1

ii) Find the probability that a randomly selected person has a Rhesus negative blood type. 1

iii) **(A)** What is the probability that the person selected from the record is Rhesus positive but neither blood type A nor B? 2

OR

(B) People with blood type AB positive (AB^+) are known as the universal recipient and with blood type O negative (O^-) are known as universal donor. Find the probability of a selected person to be neither universal recipient nor universal donor.

***Please note that the assessment scheme of the Academic Session 2024-25 will continue in the current session i.e. 2025-26**

MATHEMATICS STANDARD – Code No.041
SAMPLE QUESTION PAPER
CLASS – X (2025-26)

Maximum Marks: 80 **Time: 3 hours**

General Instructions:

Read the following instructions carefully and follow them:

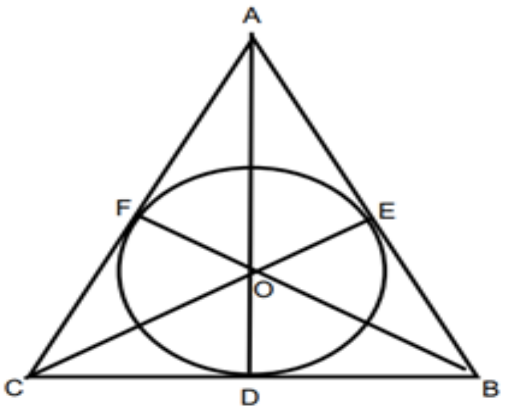
1. This question paper contains 38 questions. All Questions are compulsory.
2. This Question Paper is divided into 5 Sections A, B, C, D and E.
3. In Section A, Question numbers 1-18 are multiple choice questions (MCQs) and questions no. 19 and 20 are Assertion- Reason based questions of 1 mark each.
4. In Section B, Question numbers 21-25 are very short answer (VSA) type questions, carrying 02 marks each.
5. In Section C, Question numbers 26-31 are short answer (SA) type questions, carrying 03 marks each.
6. In Section D, Question numbers 32-35 are long answer (LA) type questions, carrying 05 marks each.
7. In Section E, Question numbers 36-38 are case study-based questions carrying 4 marks each with sub parts of the values of 1, 1 and 2 marks each respectively.
8. There is no overall choice. However, an internal choice in 2 questions of Section B, 2 questions of Section C and 2 questions of Section D has been provided. An internal choice has been provided in all the 2 marks questions of Section E.
9. Draw neat and clean figures wherever required. Take $\pi = \frac{22}{7}$ wherever required if not stated.
10. Use of calculators is not allowed.

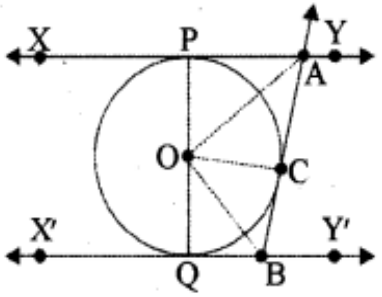
(Section A) **Section A consists of 20 questions of 1 mark each.**		
Q.No.	**Questions**	**Marks**
1.	If $a = 2^2 \times 3^x$,$b = 2^2 \times 3 \times 5$,$c = 2^2 \times 3 \times 7$ and LCM $(a, b, c) = 3780$, then x is equal to (A) 1 (B) 2 (C) 3 (D) 0	**1**
2.	The shortest distance (in units) of the point (2,3) from y-axis is (A) 2 (B) 3 (C) 5 (D) 1	**1**
3.	If the lines given by 3*x* +2k*y* =2 and 2*x*+5*y* +1=0 are not parallel, then k has to be (A) $\frac{15}{4}$ (B) $\neq\frac{15}{4}$ (C) any rational number (D) any rational number having 4 as denominator	**1**

4.	A quadrilateral ABCD is drawn to circumscribe a circle. If BC=7cm, CD=4cm and AD=3cm, then the length of AB is (A) 3cm (B) 4cm (C) 6cm (D) 7cm	**1**
5.	If $sec\theta + tan\theta = x$,then $sec\theta - tan\theta$ will be (A) x (B) x^2 (C) $\frac{2}{x}$ (D) $\frac{1}{x}$	**1**
6.	Which one of the following is not a quadratic equation? (A) $(x+2)^2 = 2(x+3)$ (B) $x^2 + 3x = (-1)(1-3x)^2$ (C) $x^3 - x^2 + 2x + 1 = (x+1)^3$ (D) $(x+2)(x+1) = x^2 + 2x + 3$	**1**
7.	Given below is the picture of the Olympic rings made by taking five congruent circles of radius 1cm each, intersecting in such a way that the chord formed by joining the point of intersection of two circles is also of length 1cm.Total area of all the dotted regions (assuming the thickness of the rings to be negligible) is  (A) $4[\frac{\pi}{12} - \frac{\sqrt{3}}{4}]$ cm^2 (B) $[\frac{\pi}{6} - \frac{\sqrt{3}}{4}]$ cm^2 (C) $4[\frac{\pi}{6} - \frac{\sqrt{3}}{4}]$ cm^2 (D) $8[\frac{\pi}{6} - \frac{\sqrt{3}}{4}]$ cm^2 **For Visually Impaired candidates** The area of the circle that can be inscribed in a square of 6 cm is (A) 36πcm^2 (B) 18πcm^2 (C) 12πcm^2 (D) 9πcm^2	**1**
8.	A pair of dice is tossed. The probability of not getting the sum eight is (A) $\frac{5}{36}$ (B) $\frac{31}{36}$ (C) $\frac{5}{18}$ (D) $\frac{5}{9}$	**1**
9.	If $2\sin 5x = \sqrt{3}$,$0^\circ \leq x \leq 90^o$, then x is equal to (A) 10^o (B) 12^o (C) 20^o (D) 50^o	**1**
10.	The sum of two numbers is 1215 and their HCF is 81, then the possible pairs of such numbers are (A) 2 (B) 3 (C) 4 (D) 5	**1**

***Please note that the assessment scheme of the Academic Session 2024-25 will continue in the current session i.e. 2025-26**

11.	If the area of the base of a right circular cone is 51cm^2 and it's volume is 85cm^2, then the height of the cone is given as (A) $\frac{5}{6}$ cm (B) $\frac{5}{3}$cm (C) $\frac{5}{2}$cm (D) 5cm	**1**
12.	If zeroes of the quadratic polynomial ax^2 + bx +c (a, c ≠0) are equal, then (A) c and b must have opposite signs (B) c and a must have opposite signs (C) c and b must have same signs (D) c and a must have same signs	**1**
13.	The area (in cm^2) of a sector of a circle of radius 21cm cut off by an arc of length 22cm is (A) 441 (B) 321 (C) 231 (D) 221	**1**
14.	If ∆ABC ~∆DEF, AB=6cm, DE=9cm, EF=6cm and FD=12cm, then the perimeter of ∆ABC is (A) 28cm (B) 28.5cm (C) 18cm (D) 23cm	**1**
15.	If the probability of the letter chosen at random from the letters of the word "Mathematics" to be a vowel is $\frac{2}{2x+1}$, then x is equal to (A) $\frac{4}{11}$ (B) $\frac{9}{4}$ (C) $\frac{11}{4}$ (D) $\frac{4}{9}$	**1**
16.	The points A(9,0), B(9, -6) ,C(-9,0) and D(-9,6) are the vertices of a (A) Square (B) Rectangle (C) Parallelogram (D) Trapezium	**1**
17.	The median of a set of 9 distinct observation is 20.5. If each of the observations of a set is increased by 2,then the median of a new set (A) is increased by 2 (B) is decreased by 2 (C) is two times the original number (D) Remains same as that of original observations	**1**
18.	The length of a tangent drawn to a circle of radius 9 cm from a point at a distance of 41cm from the centre of the circle is (A) 40cm (B) 9cm (C) 41cm (D) 50cm	**1**
	DIRECTIONS: In the question number 19 and 20, a statement of **Assertion (A)** is followed by a statement of **Reason (R)**. **Choose the correct option:** (A) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A) (B) Both assertion (A) and reason (R) are true and reason (R) is not the explanation of assertion (A) (C) Assertion (A) is true but reason (R) is false. (D) Assertion (A) is false but reason (R) is true.	

19.	**Assertion (A):** The number 5^n cannot end with the digit 0, where n is a natural number **Reason (R):** A number ends with 0, if its prime factorization contains both 2 and 5	**1**
20.	**Assertion (A):** If cosA + $\cos^2$A=1, then $\sin^2$A + $\sin^4$A =1 **Reason (R):** $\sin^2$A + $\cos^2$A =1	**1**
	(Section – B) **Section B consists of 5 questions of 2 marks each.**	
21.(A) **(B)**	The A.P 8, 10, 12,……. has 60 terms. Find the sum of last 10 terms. **OR** Find the middle term of A.P 6,13, 20, ……., 230	**2**
22.	If $sin(A+B) = 1$ and $cos(A-B) = \frac{\sqrt{3}}{2}$,$0° < A, B < 90°$, find the measure of angles A and B.	**2**
23.	If AP and DQ are medians of triangles ABC and DEF respectively, where ∆ABC~ ∆DEF, then prove that $\frac{AB}{DE} = \frac{AP}{DQ}$	**2**
24. **(A)** **(B)**	A horse, a cow and a goat are tied, each by ropes of length 14m, at the corners A, B and C respectively, of a grassy triangular field ABC with sides of lengths 35m, 40m and 50 m. Find the area of grass field that can be grazed by them. **OR** Find the area of the major segment (in terms of π) of a circle of radius 5cm, formed by a chord subtending an angle of 90˚ at the centre.	**2**
25.	A ∆ABC is drawn to circumscribe a circle of radius 4 cm such that the segments BD and DC are of lengths 10 cm and 8 cm respectively. Find the lengths of the sides AB and AC, if it is given that ar(∆ABC) = 90cm^2  **For Visually Impaired candidates:** A circle is inscribed in a right-angled triangle ABC, right angled at B. If BC=7cm and AB=24cm, find the radius of the circle	**2**

	(Section – C) **Section C consists of 6 questions of 3 marks each.**	
26.	In Figure, XY and X′Y′ are two parallel tangents to a circle with centre O and another tangent AB with point of contact C intersecting XY at A and X′Y′ at B. Prove that ∠ AOB = 90°  **For Visually Impaired candidates:** Two tangents PA and PB are drawn to a circle with centre O from an external point P. Prove that ∠APB= 2(∠OAB)	**3**
27.	In a workshop, the number of teachers of English, Hindi and Science are 36, 60 and 84 respectively. Find the minimum number of rooms required, if in each room the same number of teachers are to be seated and all of them being of the same subject.	**3**
28.	Find the zeroes of the quadratic polynomial $2x^2 - (1 + 2\sqrt{2})\,x + \sqrt{2}$ and verify the relationship between the zeroes and coefficents of the polynomial.	**3**
29.	If $sin\theta + cos\theta = \sqrt{3}$,then prove that $tan\theta + cot\theta = 1$ **OR** Prove that $\frac{cosA - sinA + 1}{cosA + sinA - 1}$ =cosecA + cotA	**3**
30.	On a particular day, Vidhi and Unnati couldn't decide on who would get to drive the car. They had one coin each and flipped their coin exactly three times. The following was agreed upon: 1. If Vidhi gets two heads in a row, she would drive the car 2. If Unnati gets a head immediately followed by a tail, she would drive the car. Who has greater probability to drive the car that day? Justify your answer.	**3**
31.(A)	The monthly income of Aryan and Babban are in the ratio 3:4 and their monthly expenditures are in ratio 5:7. If each saves ₹ 15,000 per month, find their monthly incomes. **OR**	**3**
(B)	Solve the following system of equations graphically: $2x + y$ =6, 2 $x - y$ – 2=0. Find the area of the triangle so formed by two lines and x -axis. **For Visually Impaired candidates**: Five years hence, fathers age will be three times the age of son. Five years ago, father was seven times as old as his son. Find their present ages.	

(Section – D)
Section D consists of 4 questions of 5 marks each

32. A train travels at a certain average speed for a distance of 63km and then travels at a distance of 72km at an average speed of 6km/hr more than its original speed. If it takes 3 hours to complete the total journey, what is the original average speed? **5**

33. Prove that if a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the sameratio. **5**

Hence in ΔPQR, prove that a line ℓ intersects the sides PQ and PR of a ΔPQR at L and M respectively such that LM II QR. If PL = 5.7cm, PQ=15.2cm and MR=5.5cm, then find the length of PM (in cm)

34.(A) From a solid right circular cone, whose height is 6cm and radius of base is 12cm, a right circular cylindrical cavity of height 3cm and radius 4cm is hollowed out such that bases of cone and cylinder form concentric circles. Find the surface area of the remaining solid in terms of π. **5**

OR

(B) An empty cone of radius 3cm and height 12cm is filled with ice-cream such that the lower part of the cone which is $(\frac{1}{6})^{th}$ of the volume of the cone is unfilled (empty) but a hemisphere is formed on the top. Find the volume of the ice-cream.

35.(A) If the mode of the following distribution is 55, then find the value of x. Hence, find the mean. **5**

Class Interval	$0-15$	$15-30$	$30-45$	$45-60$	$60-75$	$75-90$
Frequency	10	7	x	15	10	12

OR

(B) A survey regarding heights (in cm) of 51 girls of class X of a school was conducted and the following data was obtained:

Heights (in cm)	Number of girls
less than 140	04
less than 145	11
less than 150	29
less than 155	40
less than 160	46
less than 165	51

Find the median height of girls. If mode of the above distribution is 148.05, find the mean using empirical formula.

(Section – E)
Section E consists of 3 case study-based questions of 4 marks each.

36. In a class, the teacher asks every student to write an example of A.P. Two boys Aryan and Roshan writes the progression as $-5, -2, 1, 4, \ldots\ldots$ and 187, 184, 181, …. respectively. Now the teacher asks his various students the following questions on progression.

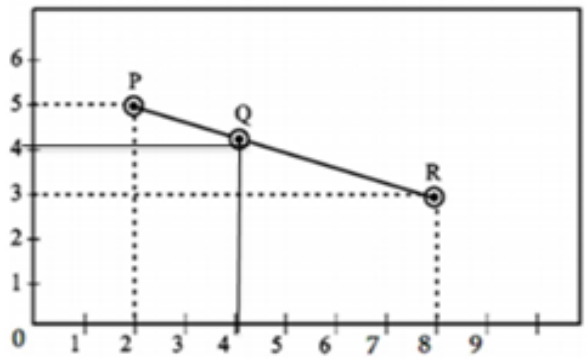
Help the students to find answers for the following:

i. Find the sum of the common difference of two progressions. **1**
ii. Find the 34^{th} term of progression written by Roshan. **1**
iii. (A) Find the sum of first 10 terms of the progression written by Aryan. **2**

OR

(B) Which term of the progressions will have the same value? **2**

37. A group of class X students goes to picnic during winter holidays. The position of three friends Aman, Kirti and Chahat are shown by the points P, Q and R



(i) Find the distance between P and R. **1**
(ii) Is Q, the midpoint of PR? Justify by finding midpoint of PR. **1**
(iii) (A) Find the point on x-axis which is equidistant from P and Q. **2**

OR

(B) Let S be a point which divides the line joining PQ in ratio 2:3. Find the coordinates of S. **2**

For Visually Impaired Candidates:

A group of class X students goes to picnic during winter holidays. Aman, Kirti and Chahat are three friends. The position of three friends Aman, Kirti and Chahat are shown by the points P, Q and R.
The co-ordinates of P (2,5), Q (4,4) and R (8,3) are given.

(i) Find the distance between P and R. **1**
(ii) Is Q the midpoint of PR? Justify by finding midpoint of PR. **1**
(iii) (A) Find the point on x-axis which is equidistant from P and Q. **2**

OR

(B) Let S be a point which divides the line joining PQ in ratio 2:3. Find the coordinates of S. **2**

38.	India gate (formerly known as All India war memorial) is located near Karthavya path. (formerly Rajpath) at New Delhi. It stands as a memorial to 74187 soldiers of Indian Army, who gave their life in the first world war. This 42m tall structure was designed by Sir Edwin Lutyens in the style of Roman triumphal arches. A student Shreya of height 1 m visited India Gate as a part of her study tour. 	
	i. What is the angle of elevation from Shreya's eye to the top of India Gate, if she is standing at a distance of 41m away from the India Gate?	**1**
	ii. If Shreya observes the angle of elevation from her eye to the top of India Gate to be 60^{o}, then how far is the she standing from the base of the India Gate?	**1**
	iii. (A) If the angle of elevation from Shreya's eye changes from 45° to 30°, when she moves some distance back from the original position. Find the distance she moves back.	**2**
	OR	
	(B) If Shreya moves to a point which is at a distance of $\frac{41}{\sqrt{3}}$m **from** the India Gate, then find the angle of elevation made by her eye to the top of India Gate.	**2**

***Please note that the assessment scheme of the Academic Session 2024-25 will continue in the current session i.e. 2025-26**

SOCIAL SCIENCE-Code- 087
SAMPLE QUESTION PAPER
CLASS: X (2025-26)

Time Allowed: 3 Hours **Maximum Marks: 80**

General Instructions:

1. There are 38 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 20 Marks and has MCQs, VSA, SA, LAs and CBQ.
4. Very Short Answer Type Questions (VSA), carry 2 marks each. Answers to each question should not exceed 40 words.
5. Short Answer Type Questions (SA), carry 3 marks each. Answers to each question should not exceed 60 words.
6. Long answer type questions (LA), carry 5 marks each. Answers to each question should not exceed 120 words.
7. There are case based questions (CBQ) with three sub questions and are of 4 marks each. Answers to each question should not exceed 100 words.
8. The map-based questions, carry 5 marks with two parts- Q9. In Section A-History (2 marks) and Q19. In Section B -Geography (3 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.
10. In addition to this, NOTE that a separate question has been provided for Visually Impaired candidates in lieu of questions having visual inputs, map etc. Such questions are to be attempted by Visually Impaired candidates only.

Sr.No **SECTION A** **Marks**
HISTORY (20 marks)

1. Match the following and Choose the correct option: **1**

	COLUMN I		**COLUMN II**
A	Frederic Sorrieu	1	Torch of enlightenments
B	Statue of Liberty	2	Shattered remains of absolutist Institutions
C	Foreground in front of the Statue of Liberty	3	Democratic and Social Republics
D	Sorrieu's utopian vision.	4	French Artist

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

2. Identify and name the leader shown in the picture given below: - **1**

Source-India and the Contemporary World-II, NCERT

A. Lala Lajpat Rai
B. Bal Gangadhar Tilak
C. Gopal Krishan Gokhale
D. Raja Rammohan Roy

Note: The following question is for Visually Impaired Candidates only in lieu of Q. No. 2

Which one option from the following is the appropriate reason for the formation of the Swaraj party?

A. To ask for Poorna Swaraj for Indians.
B. To return to Council Politics.
C. To ask Dominion State for India.
D. To oppose Simon Commission.

3. Thousands of people fled Europe for America in the 19th century due to - **1**

A. Widespread poverty and deadly diseases
B. Frequent famines and poor living conditions
C. Continuous wars and political instability
D. Harsh climate and repeated natural disasters

4. Louise-Sebastien Mercier proclaimed “Tremble, therefore, tyrants of the world! Tremble before the virtual writer!” Who are referred to as the tyrants in this context? **1**

A. Educated classes who wanted to change the society
B. Absolutist institutions like monarchy and church
C. Authors of the new books
D. Printing press

5A. "The Silk route was a good example of vibrant pre-modern trade and cultural links between distant parts of the world." Explain the statement with any two examples. **2**

OR

5B. 'Sometimes the new crops could make the difference between life and death.'. Explain the statement with any two examples.

6 A. 'A variety of cultural processes played an important role in developing a sense of nationalism in India'. Support the statement with suitable examples. **3**

OR

6 B. Salt March 'became an effective tool of resistance against colonialism.' Analyse the statement with suitable reasons.

7A. 'In Britain the formation of the nation-state was not the result of a sudden upheaval or revolution but was the result of a long-drawn-out process.' Analyse this statement with suitable reasons. **5**

OR

7B. 'The Treaty of Vienna was drawn up in 1815 with the object of undoing most of the changes that had come about in Europe during the Napoleonic wars.' Highlight the significant provisions of this treaty.

8. Read the given text and answer the following questions:(4)

Why Newspapers?

Krishnaji Trimbuck Ranade inhabitant of Poona intends to publish a Newspaper in the Marathi Language with a view of affording useful information on every topic of local interest. It will be open for free discussion on subjects of general utility, scientific investigation and the speculations connected with the antiquities, statistics, curiosities, history and geography of the country and of the Deccan especially... the patronage and support of all interested in the diffusion of knowledge and Welfare of the People is earnestly solicited.

Bombay Telegraph and Courier, 6 January 1849

"The task of the native newspapers and political associations is identical to the role of the Opposition in the House of Commons in Parliament in England. That is to critically examine government policy to suggest improvements, by removing those parts that will not be to the benefit of the people, and also by ensuring speedy implementation.

These associations ought to carefully study the particular issues, gather diverse relevant information on the nation as well as on what are the possible and desirable improvements, and this will surely earn it considerable influence".

Source: Native Opinion, 3 April 1870

8.1. Explain the main reason for publishing newspapers by Krishna ji. **1**

8.2. How was the task of native newspaper and political association seen identical to the role of the opposition? **1**

8.3. Analyze the reasons for the popularity of newspapers during the 19th century. **2**

MAP SKILL-BASED QUESTION (2 marks)

9. Two places A and B have been marked on the given outline map of India. Identify them and write their correct names on the lines marked on the map. **(1+1= 2)**

A) The place where the Civil Disobedience Movement was launched.
B) The city where Indian National Congress session was held in September 1920.

Note: The following question is for Visually Impaired Candidates only in lieu of Question 9.
A) The place where the Civil Disobedience Movement was launched.
B) The place where Indian National Congress session was held in September 1920

SECTION B
GEOGRAPHY (20 marks)

10. What is essential for resource development to contribute to overall development? **1**

A. The availability of resources alone is enough.
B. The presence of foreign invaders and their governance.
C. Technological development and institutional changes.
D. Only human resources can contribute to development.

11. Identify the appropriate option to fill in the empty boxes: **1**

Classification of Soils

Alluvial	**?**	**?**
Ideal for the growth of sugarcane, paddy, wheat and other cereal and pulse crops.	Ideal for growing cotton	suitable for crops like cashew nut.

A. Black soil, Red and Yellow soils
B. Laterite soil, Black soil.
C. Red & Yellow soils & Black soil.
D. Black soil & Laterite soil.

12. A total of 628 tigers died in India during the past five years due to natural causes and other reasons, including poaching, according to government data. Meanwhile, 349 people were killed in tiger attacks during this period, with one state alone recording 200 deaths. **1**

[*source:* https://www.ptinews.com/story/national/628-tigers-died-in-india-in-past-five-years-govt-data/1685133t/]

Which of the following is the most significant indirect consequence of poaching on the tiger population?

A. Reduction in the prey species, dwindling tiger's food supply.
B. Increase in human-wildlife conflicts in protected areas
C. Rise in the tiger population.
D. Decrease in tourism revenue in national parks

13. Based on the classification of forests, which of the following statements would most likely apply to places like Jammu and Kashmir, Andhra Pradesh, and Kerala etc.? **1**

A. These places mostly have forests managed as reserved or protected forests for conservation.
B. They rely on unclassed forests and local community management for forest conservation.
C. They have forest resources and primarily focus on industrial development.
D. There are no classified forests and forest management is entirely left to private ownership.

14. Which one of the following states has made roof top water harvesting compulsory in India? **1**

A. Haryana
B. Punjab
C. Assam
D. Tamil Nadu.

15. Which of the following statements best evaluates the overall goal of the *Pradhan Mantri Krishi Sinchaee Yojana*? **1**

A. Addressing the negative ecological effects of large dams by reducing water usage.
B. To provide better irrigation systems and sustainable water conservation practices for farmers.
C. Shifting farmers from traditional crops to more commercial, water-intensive crops.
D. Preserve the natural river flow and prevent the fragmentation of aquatic ecosystems.

16. Rice is grown as a commercial crop in Haryana and Punjab, but as a subsistence crop in Odisha. Using your understanding of geographical factors and economic practices, explain why rice cultivation differs in these regions. **2**

17A. Person P is willing to establish a mineral based industry. He has been advised to set up a bauxite industry in Odisha as a suitable way to make a profitable venture. Analyse the possible reasons behind the advice given to her. **5**

OR

17B. 'Coal is the most important and abundant fossil fuel in India.' Justify the statement by evaluating the significant role it plays in the growth of the Indian economy in its different forms.

18. Read the given text and answer the following questions:(1+2+1=4) **4**

Global pollution is rising due to rapid economic growth, population increases, and insufficient environmental management. This poses serious health risks for people and ecosystems, particularly in low- and middle-income countries. Contributing to these challenges, the global economy relies on deeply intertwined supply chains, sustained by more than 100 billion tons of raw materials entering the system each year. Intensive material consumption depletes natural resources and causes negative environmental impacts at every stage of the product lifecycle. Global waste is expected to increase to 3.4 billion tons by 2050.

Pollution of all types hinders development outcomes. Exposure to air pollution, water pollution, and hazardous chemicals and wastes like mercury, lead and persistent organic pollutants (POPs) causes debilitating and fatal illnesses, creates harmful living conditions, and destroys ecosystems. Pollution undermines sustainable economic growth, exacerbates poverty and inequality in both urban and rural areas, and significantly contributes to climate change. Poor people, who cannot afford to protect themselves from the negative impacts of pollution, end up suffering the most. Pollution is the largest environmental cause of disease and premature death. It is estimated to be several times more deaths than from AIDS, tuberculosis, and malaria combined. Global health crises, such as the COVID-19 pandemic, are reminders of the strong linkages between environment and health and of the need to address such linkages systematically. *[Source:* https://www.worldbank.org/en/topic/pollution]

18.1 Why do you think is global waste expected to increase by 2050?

18.2 How do manufacturing industries cause pollution of different types? Explain with examples.

18.3 Is it correct to consider pollution as a possible cause for worsening of the current global trends of poverty and inequality? Justify.

MAP SKILL-BASED QUESTION (3 marks)

19. On the same outline map of India locate and label the following with suitable symbols**:** **1**

I.(p) The dam in the Sutlej-Beas river basin, which is being used both for hydel power production and irrigation.

OR

(q) The dam in the Mahanadi basin that integrates conservation of water with flood control.

II. Any two of the following: **(1x2= 2)**

(i) A major sea port in West Bengal
(ii) An international airport in Tamil Nadu
(iii) An international airport in Punjab

Note: The following question is for Visually Impaired Candidates only in lieu of Q. No. 19.

b) Answer **any three** of the following:

i Name the dam in the Mahanadi basin that integrates conservation of water with flood control.
ii Specify the name of a major sea port in West Bengal.
iii Name an international airport in Tamil Nadu.
iv State the name of an international airport in Punjab.

SECTION C
POLITICAL SCIENCE (20 marks)

20. Which of the following statement(s) are true with respect to the ethnic composition of Belgium? **1**

I. 59 percent of the total population of Belgium lives in the Wallonia region and speaks French.
II. 40 percent live in the Flemish region and speak Dutch.
III. One percent of the Belgians speak German.
IV. In the capital city Brussels, 80 percent people speak French while 20 per cent are Dutch speaking.

Choose the correct option:

A. I and II
B. III and IV
C. I, II and III
D. I and IV

21. The cartoon below depicts Germany's government that was formed after the 2005 elections. It included the two major parties of the country, namely the Christian Democratic Union and the Social Democratic Party. The two parties are historically competing with each other. Which of the following options best explains the cartoon? **1**

Source-Democratic Politics, NCERT

A. Coalition Government.
B. Two Party System.
C. Democratic government.
D. Bi-party system.

Note: The following question is for Visually Impaired Candidates only in lieu of Q. No. 21

Consider the following statements on Power Sharing and choose the correct statement(s) -

I. Imposing the will of the majority community over others.
II. It helps in reducing the possibility of conflict between the social groups.
III. Power Sharing is a good way to ensure the stability of political order.
IV. It brings socio- political opposition among parties.

Choose the correct option:

A. I and II
B. I and III
C. II and IV
D. II and III

22. Consider the following case and choose the correct option- **1**

Suppose the Government of India plans to issue new currency notes of different denominations in order to curb the influence of black money. The Government of one state is opposed to this policy of the Central Government. Can the state government stop the union government from implementing this policy?

A. Yes, because Currency is the subject of State List
B. No, because Currency is a subject of Union List
C. Yes, because the approval of both the governments is necessary to implement this change.
D. No, because any such change must be approved by the local government also.

23. Two statements are given as Assertion (A) and Reason(R). Study the statements carefully and identify the correct alternative: **1**

ASSERTION (A): Exclusive attention to caste can produce negative results in democracy.

REASON (R): It can divert attention from other important issues thus leading to tensions, conflicts and even violence.

Choose the correct option:

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

24. Highlight any two key features of federalism. **2**

25. 'Women in India face discrimination, disadvantages and oppression in many ways.' Highlight any two aspects of life where you witness this inequality. **2**

26. 'Democracy leads to peaceful and harmonious life among citizens in every sphere.' Support this statement with suitable arguments. **3**

27A. 'Political parties play a significant role in the effective working of a democracy.' Explain. **5**

OR

27B. Analyse how the issue of leadership succession poses a challenge to political parties in India.

28. **Read the given text and answer the following questions**:(1+1+2=4) **4**

Sri Lanka emerged as an independent country in 1948. The leaders of the Sinhala community sought to secure dominance over government by virtue of their majority. As a result, the democratically elected government adopted a series of MAJORITARIAN measures to establish Sinhala supremacy. Over the years, it created feelings of alienation among the Sri Lankan Tamils. They felt that none of the major political parties led by the Buddhist Sinhala leaders was sensitive to their language and culture. As a result, the relations between the Sinhala and Tamil communities strained over time. On the other hand, the Belgian leaders took a different path. They recognised the existence of regional differences and cultural diversities. Between 1970 and 1993, they amended their constitution four times to work out an arrangement that would enable everyone to live together within the same country. *Source-Adapted from Power Sharing,NCERT*

28. 1 State any two demands of Tamils in Sri Lanka.

28. 2 State the results of the Majoritarian Government in Sri Lanka.

28. 3 Explain any two provisions of the Belgian model of power sharing.

SECTION D
ECONOMICS (20 marks)

29. Underemployment is caused when - **1**

A. More workers are employed than actually required
B. Fewer workers are employed than actually required
C. Workers are paid more than their actual output
D. Jobs are given only to highly educated workers

30. What can be inferred about the limitations of using per capita income (average income) to compare well-being across countries? Choose the correct option as the answer. **1**

A. It shows how equally or unequally income is distributed among the people in a country.
B. The only measure needed to understand a country's development is Per capita income.
C. It gives a basic idea of economic well-being but hides the income inequality.
D. It only reflects the industrial growth of a country and does not consider other important factors.

31. Which of the following examples best demonstrates how the tertiary sector supports both the primary and secondary sectors? **1**

A. Farmers grow vegetables and sell them directly to consumers, with no transportation or storage involved.
B. A factory makes shoes and uses raw materials like leather to create the product, relying on transport and retail stores to distribute the shoes.
C. A bakery bakes bread and uses delivery services to send the bread to local shops for sale, without any direct involvement of raw materials.
D. A company produces furniture from wood, but does not require any transport or retail services to sell the product.

32. Which one of the following issues currency notes in India? **1**

A. Finance Ministry.
B. Reserve Bank of India.
C. State Bank of India.
D. Central Bank of India.

33. Person Z tries to explain how the requirement of a double coincidence of wants in a barter system limits trade and exchange. Which of the following justification do you think will be used by him/her? **1**

A. It makes trade more complicated, as each person must have what the other person wants, limiting the pool of potential trade partners.
B. The barter system allows trade to be conducted more efficiently since both parties already know what they need from the transaction.
C. It increases the number of exchanges because each person can trade for exactly what they want.
D. The system creates value for goods by ensuring that both parties have a direct need for each other's goods.

34. Recognize and choose the option that correctly matches the effects and consequent outcomes of globalization. **1**

Column A (Effects of globalisation)	Column B (Outcomes)
1.Increased foreign investment	i. Expansion of global markets and access to technology
2.Cultural exchange and awareness	ii. Loss of traditional jobs due to automation and cheaper labor elsewhere
3.Techonological exchange and awareness	iii. Spread of cultural practices, ideas, and values across borders
4.Growth of multinational corporations	iv. Large companies becoming dominant players in global markets

Choose the correct option:
A. 1-iii, 2-ii, 3-i, 4-iv
B. 1-iv, 2-ii, 3-i, 4-iii
C. 1-ii, 2-iv, 3-iii, 4-i
D. 1-i, 2-iii, 3-ii, 4-iv

35. Evaluate the utility of public services in contributing to the overall well-being of individuals and society. **3**

36. 'Expanding access to loans in the formal sector is important, yet it is equally critical that these loans are accessible to all people for national development.' Justify the statement. **3**

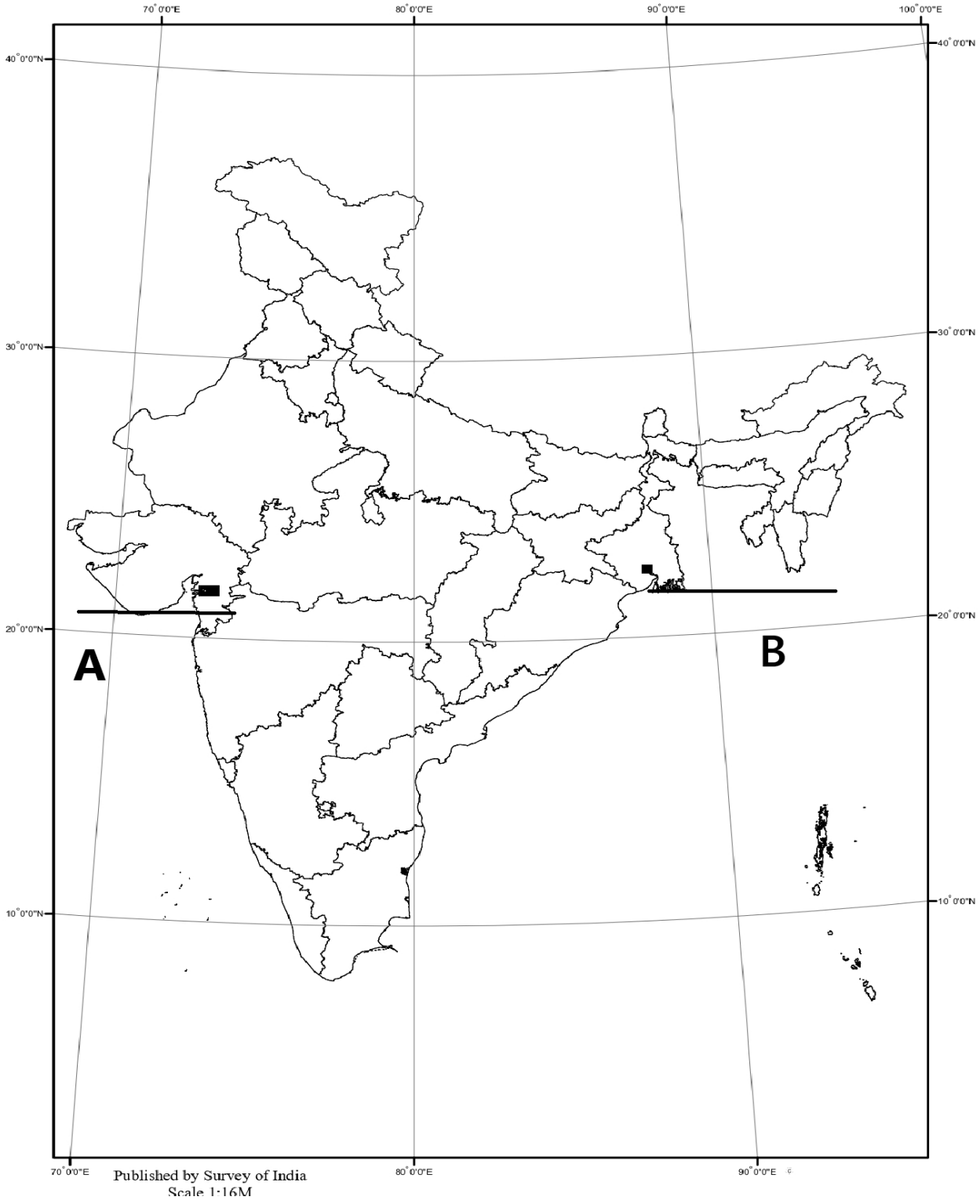
37. Highlight the significant three factors that have contributed to the growth of globalisation. **3**

38A. A research student spoke with two people, M and N to learn about their work-related differences. On the basis of the interview conducted with both of them, the student concludes that while person M was working in an organized sector, person N was an employee of a workplace that was functioning in an unorganised way. Analyse the key differences between the two sectors that must have enabled the research student to come to this conclusion. **5**

OR

38B. Privatisation can have both positive and negative effects on the economy. Support the statement with argument.

Map for Q. no. 9 (Section A) & Q. no. 19 (Section B)



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