

CLASS-10 - A
HOLIDAY HOMEWORK 2026-27
ENGLISH

Instructions:

- Holiday Homework carries marks in Internal Assessment; therefore, submission of the work after the vacation is compulsory for every student.
- The assigned tasks must be completed neatly and presented properly in the **Fair Register (Literature or Writing)**.
- All questions must be completed in the given sequence.
- Students will be assessed on handwriting, presentation, neatness, completion of all assigned tasks, and proper indexing of the work.

Questions:

1. Write one sample of each type of formal letter:
 - Letter to the Editor
 - Letter of Complaint
 - Letter for Placing an Order
 - Letter of Enquiry
2. Write an article on the topic: "My Career Goal in the Future."
3. Write the headlines from an English newspaper for at least 15 days and briefly summarize each news report in your own words in 2–3 lines.
4. Write:
 - 10 new words with their meanings
 - 10 words with synonyms
 - 10 words with antonyms
 - 10 phrasal verbs
5. Revise and complete all the work covered till May in your Fair Register with proper index entries.

HINDI

1. 10-10 अपठित गद्यांश पद्यांश अपनी व्याकरण की पुस्तक के आधार पर करें।
 2. पाँच-पाँच ई-मेल
 3. पाँच-पाँच संदेश
 4. पाँच-पाँच विज्ञापन
 5. पाँच-पाँच अनुच्छेद
- विषय का चयन स्वयं व्याकरण की पुस्तक से करें।
सभी कार्य व्याकरण की उत्तर पुस्तिका पर करना है।

MATHS

NOTE : DO HOLIDAY HOMEWORK IN FAIR NOTE BOOK.

Q 1: IF THE PRODUCT OF ZEROES OF THE QUADRATIC POLYNOMIAL $f(x) = x^2 - 4x + K$ IS 3, FIND K ?

Q 2: IF THE SUM OF THE ZEROS OF THE QUADRATIC POLYNOMIAL $f(x) = Kx^2 - 3x + 5$ IS 1, FIND K ?

Q 3 : IF a & b are zeroes of the POLYNOMIAL $p(x) = x^2 - 2x - 1$ find :

$$\frac{1}{2a} + \frac{1}{2b} + 3ab$$

Q 4 :IF THE SUM OF THE ZEROS OF THE POLYNOMIAL $P(X) = (P+1)X^2 + (2P+3)X + (3P+4)$ IS -1, FIND P ?

Q 5: FIND A QUADRATIC POLYNOMIAL WHOSE ZEROES ARE 2 AND $-\frac{7}{5}$

Q 6 : SOLVE QUADRATIC EQUATIONS BY FACTORIZATION METHOD:

(i) $4X^2 - 2(A^2 + B^2)X + A^2B^2 = 0$

(ii) $9X^2 - 9(a+b)X + (2a^2+5ab+2b^2) = 0$

Q 7 : WHILE BOARDING AN AEROPLANE A PASSENGER GOT HURT . THE PILOT SHOWING PROMPTNESS & CONCERN MADE ARRANGEMENT TO HOSPITALIZE THE INJURED & SO THE PLANE STARTED LATE BY 30 MIN TO REACH THE DESTINATION, 1500 KM AWAY IN TIME, THE PILOT INCREASED THE SPEED BY 100 KM/HR . FIND THE ORIGINAL SPEED ?

Q 8: THE HYPOTENUSE OF RIGHT ANGLE TRIANGLE IS 6 METRES MORE THAN TWICE THE SHORTEST SIDE . IF THE THIRD SIDE IS 2 METRE LESS THAN THE HYPOTENUSE , FIND SIDES ?

Q 9 : AT PRESENT ASHA AGE IS 2 MORE THAN THE SQUARE OF HER DAUGHTER NISHA AGE . WHEN NISHA GROWS TO HER MOTHER PRESENT AGE ASHA AGE WOULD BE 1 YEAR LESS THAN 10 TIMES THE PRESENT AGE OF NISHA . FIND PRESENT AGES OF ASHA & NISHA ?

Q 10: SWATI CAN ROW HER BOAT AT A SPEED OF 5 KM/HR IN STILL WATER. IF IT TAKES HER 1 HOUR MORE TO ROW THE BOAT 5.25 KM UPSTREAM THAN TO RETURN DOWNSTREAM, FIND THE SPEED OF THE STREAM ?

SCIENCE

PHYSICS

1- Explain why, though both a plane mirror and a sheet of paper reflect light but we can see the image of our face in a plane mirror but not in a sheet of paper.

2-A man sits in an optician's chair, looking into a plane mirror which is 2 m away from him and views the image of a chart which faces the mirror and is 50 cm behind his head. How far away from his eyes does the chart appear to be.?

3-When a spherical mirror is held towards the sun and its sharp image is formed on a piece of carbon paper for some time, a hole is burnt in the carbon paper.

(A) What is the nature of spherical mirror.?

(B) Why is a hole burnt in the carbon paper?

(C) At which point of the spherical mirror the carbon paper is placed.?

(D) What name is given to the distance between spherical mirror and carbon paper.

(E) What is the advantage of using carbon paper rather than a white paper?

4- When an object is placed at a distance of 50 cm from a concave spherical mirror, the magnification produced is, $-\frac{1}{2}$. Where should the object be placed to get a magnification of, $-\frac{1}{5}$?

5- A mirror forms an image which is 30 cm from an object and twice its height.

(A) Where must the mirror be situated?

(B) What is the radius of curvature?

(C) Is the mirror convex or concave?

6-Draw the ray diagrams for the formation of images by convex mirror.

7-An object 20 cm from a spherical mirror gives rise to a virtual image 15 cm behind the mirror. Determine the magnification of the image and the type of mirror used.

8- draw a diagram to represent a convex mirror. On this diagram mark the principal axis, principal focus, and the centre of curvature if the focal length of the convex mirror is 3 cm.

9- Explain laws of refraction of light by giving proper diagrams.

10-An arrow 2.5 cm high is placed at a distance of 25 cm from a diverging mirror of focal length 20 cm. Find the nature, position and size of the image formed.

CHEMISTRY

Q Reason Based Questions

1. Why is magnesium ribbon cleaned before burning?

2. Why does iron rust faster in humid weather?

3. Why is respiration called an exothermic reaction?

4. Why does silver jewellery turn black after some time?

5. Why does copper sulphate solution change colour when an iron nail is dipped in it?
6. Why should acids never be tasted in laboratory experiments?
7. Why does turmeric turn red in basic solution?
8. Why do acids conduct electricity?
9. Why is baking soda used in fire extinguishers?
10. Why is pH important for digestion?

Q Experiment Based Questions

Experiment 1: Burning of Magnesium Ribbon

Observation: Bright white flame and white ash formed.

1. Name the white ash formed.
2. Which type of reaction is this?
3. Write the balanced equation.

Experiment 2: Electrolysis of Water

Observation: H_2O (Acidified) $\xrightarrow{\text{E.C.}}$ $\text{H}_2 + \text{O}_2$

1. Which gas is collected at cathode?
2. Why is water acidified before electrolysis?
3. Write the balanced equation.

Q. Enlist 5 acids and 5 bases which are used in our daily life with their sources.

Q. Learn and write acids, bases and salts formulae and names.

Acids

Formulae	Name
H_2SO_4	Sulphuric Acid
HNO_3	Nitric Acid
HCl	Hydrochloric Acid
$(\text{COOH})_2$	Oxalic Acid
H_2CO_3	Carbonic Acid
CH_3COOH	Acetic Acid
H_3PO_4	Phosphoric Acid
$\text{C}_6\text{H}_8\text{O}_7$	Citric Acid
HCOOH	Formic Acid
$\text{C}_4\text{H}_6\text{O}_6$	Tartaric Acid

Bases

Formulae	Name
NaOH	Sodium Hydroxide
KOH	Potassium Hydroxide
$\text{Ca}(\text{OH})_2$	Calcium Hydroxide
$\text{Mg}(\text{OH})_2$	Magnesium Hydroxide
NH_4OH	Ammonium Hydroxide
$\text{Cu}(\text{OH})_2$	Copper Hydroxide
$\text{Zn}(\text{OH})_2$	Zinc Hydroxide
$\text{Al}(\text{OH})_3$	Aluminium Hydroxide
CaO	Calcium Oxide
ZnO	Zinc Oxide

Salts

Formulae	Name
NaCl	Sodium Chloride
NaHCO ₃	Baking Soda
Na ₂ CO ₃ ·10H ₂ O	Washing Soda
CaOCl ₂	Bleaching Powder
CaSO ₄ ·½H ₂ O	Plaster of Paris
CaSO ₄ ·2H ₂ O	Gypsum
CuSO ₄	Copper Sulphate
FeSO ₄	Ferrous Sulphate
KNO ₃	Potassium Nitrate
NH ₄ Cl	Ammonium Chloride

Biology

Chapter: Life Processes

Topics: Nutrition & Respiration

Instructions

1. Complete all questions neatly in your Science notebook.
2. Draw labelled diagrams wherever required.
3. Read NCERT thoroughly before solving.
4. Attempt all questions.

Section A – Very Short Answer Questions (1 Mark)

1. Define nutrition.
2. Name the mode of nutrition in Amoeba.
3. Which enzyme is present in saliva?
4. What is the function of hydrochloric acid in the stomach?
5. Name the finger-like projections present in the small intestine.
6. Which pigment is responsible for photosynthesis?
7. What is the end product of anaerobic respiration in yeast?
8. Name the organ where digestion of proteins begins.
9. What is the role of bile juice?
10. Write the balanced equation of aerobic respiration.

Section B – Short Answer Questions (2 Marks)

1. Differentiate between autotrophic and heterotrophic nutrition.
2. Why do plants require nitrogen?
3. Explain the process of nutrition in Amoeba with diagram.
4. State two functions of the small intestine.
5. Why is the rate of breathing faster during exercise?
6. Differentiate between aerobic and anaerobic respiration.
7. What is the role of mucus in the stomach?
8. Why do we feel muscle cramps after heavy exercise?
9. Mention two differences between breathing and respiration.
10. Why is the small intestine longer in herbivores than in carnivores?

Section C – Case-Based Questions (CBSE Pattern)

Case Study – 1

Riya observed that after running for a long time she started breathing rapidly and felt pain in her leg muscles. Her teacher explained that this happens due to anaerobic respiration in muscles.

1. Why does anaerobic respiration occur in muscles?
2. Which acid is formed during this process?
3. Write one difference between aerobic and anaerobic respiration.
4. Name the cell organelle where aerobic respiration occurs.

Case Study – 2

A student was advised by the doctor to eat more roughage and drink plenty of water for proper digestion.

1. What is roughage?
2. Name one food rich in roughage.
3. Why is roughage important for our body?
4. In which part of alimentary canal is maximum absorption completed?

Section D – Long Answer Questions (3 Marks)

1. Explain autotrophic nutrition in plants.
2. Describe the process of digestion in human beings.
3. Explain how exchange of gases occurs in alveoli.
4. Draw a labelled diagram of human digestive system.
5. Describe the pathway of food in the alimentary canal.

6. Explain the process of respiration in plants.
7. Why is the release of energy important during respiration?
8. Explain the role of enzymes in digestion.

Section E – Assertion & Reason (CBSE Competency Based)

Options:

- A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- B. Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- C. Assertion is true but Reason is false.
- D. Assertion is false but Reason is true.

1. Assertion: Mitochondria are called the powerhouse of the cell.

Reason: They release energy during respiration.

2. Assertion: Hydrochloric acid is present in the stomach.

Reason: It makes the medium acidic for pepsin to act.

3. Assertion: Anaerobic respiration releases less energy.

Reason: Glucose is partially broken down.

4. Assertion: Salivary amylase digests proteins.

Reason: Saliva contains digestive enzymes.

5. Assertion: Plants prepare food by photosynthesis.

Reason: Chlorophyll absorbs sunlight.

Section F – Diagram Based Questions

1. Draw and label the following:

- Human digestive system
- Human respiratory system
- Structure of alveoli
- Nutrition in Amoeba

Section G – HOTS Questions

1. Why do athletes breathe faster after completing a race?
2. What would happen if there were no hydrochloric acid in the stomach?
3. Why can humans not digest cellulose?
4. Why is respiration considered an exothermic reaction?
5. Explain why overeating may cause indigestion.

Multiple Choice Questions (MCQs)

1. The site of complete digestion of food is:
 a) Mouth b) Stomach c) Small intestine d) Large intestine
2. The energy currency of the cell is:
 a) DNA b) ATP c) RNA d) Enzyme
3. Anaerobic respiration in yeast produces:
 a) Lactic acid b) Alcohol and CO₂ c) Water d) Oxygen
4. The function of villi is:
 a) Digestion b) Respiration c) Absorption d) Excretion
5. Which gas is released during photosynthesis?
 a) Nitrogen b) Carbon dioxide c) Oxygen d) Hydrogen

Activity Work

1. Prepare a colourful chart showing “Human Digestive System and Functions of Digestive Organs”.
2. Collect information and paste pictures of aerobic and anaerobic respiration.

Revision Task

- Learn digestive enzymes and their functions.
- Learn balanced equations of photosynthesis and respiration.
- Practice important NCERT diagrams.

SOCIAL SCIENCE

Project Work – Complete the project file neatly with proper formatting and keep it ready.

Both works are different and must be completed separately. One task is for notebook work and the other is for file/project work.

Both assignments will be submitted after the summer vacation.

FRONT PAGE

PROJECT WORK

Subject: Social Science (SST)

Submitted By: Name _____

Class: X _____

Roll No.: _____

School Name: _____

Submitted To: _____
Session: 2026–27

CERTIFICATE

This is to certify that _____ of Class X _____ has successfully completed the Social Science project on “Sustainable Development & Geography Map Work” under the guidance of the subject teacher for the academic session 2026–27.
The project is based on the student’s own work and effort.

Teacher’s Signature:

Principal Signature:

ACKNOWLEDGEMENT

Acknowledgement

I would like to express my special thanks to my subject teacher, (Miss. Aastha Ma’am) as well as our principal ma’am (Mrs. Komal Chandiok Sharma) who gave me a golden opportunity to do this wonderful project.

This project also helped me in doing a lot of research and I came to know about many new things. I am also extremely grateful to my parents who gave valuable suggestions and guidance for the completion of this project.

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Topics / Index

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Topic Name

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MAP BASE QUESTIONS

1. Geography Map Work
2. Locate and label major dams in India.
3. Mark important soil regions on the map.
4. Locate major coal mines and oil fields.
5. Mark important ports of India.
6. Locate major wheat and rice producing states.

CONCLUSION

D. Which state has made rooftop rainwater harvesting compulsory?

- a) Punjab b) Rajasthan c) Tamil Nadu d) Kerala

Q7. Fill in the Blanks*

7.1 Resources that are surveyed but not used are called * _ * _.

7.2 * _ * _ soil is found in the Deccan Plateau.

7.3 Land degradation in Punjab is due to * _ * _.

Q8.very short Answer .

8.1 What is Agenda 21?

8.2 Name two factors responsible for soil formation.

Q9. Short Answer*

9.1 Classify resources on the basis of exhaustibility with examples.

9.2 Suggest three steps to conserve land resources.

Q10. Map Work*

On the given outline map of India, locate and label:

- A. An area of Alluvial Soil B. Thar Desert C. Area of Black Soil

SECTION C – POLITICAL SCIENCE*

***Ch-1: Power Sharing**

Q11. MCQs*

A. Which country faced civil war due to majoritarianism?

- a) Belgium b) Sri Lanka c) India d) Lebanon

B. Power sharing between different organs of government is called:

- a) Horizontal distribution b) Vertical distribution
c) Federal d) Unitary

C. In Belgium, the percentage of Dutch-speaking people is:

- a) 40% b) 59% c) 80% d) 1%

D. Which of the following is not a benefit of power sharing?

- a) Reduces conflict b) Increases stability
c) Delays decision making d) Upholds democracy

Q12. Fill in the Blanks*

12.1 Brussels has a separate government for * _ * _ community.

12.2 In Sri Lanka, * _ * _ is an official language.

12.3 Power shared among different social groups is called * _ * _ power sharing.

Q13. Very Short Answer

13.1 What is 'ethnic'?

13.2 State one prudential reason for power sharing.

Q14. Short Answer

14.1 Contrast the power sharing arrangements in Belgium and Sri Lanka.

14.2 Why is power sharing good for democracy? Give two moral reasons.

Q15. Long Answer

Explain 'checks and balances' with reference to power sharing among organs of government.

SECTION D – ECONOMICS

***Ch-1: Development |**

Q16. MCQs

Which is the most important attribute for development?

- a) Per Capita Income b) Literacy Rate c) IMR d) HDI

UNDP compares countries based on:

- a) Income b) Education c) Health d) All of these

Per Capita Income is calculated by:

- a) National Income / Population b) Total Income / Working Population
c) GDP / Population d) Both a & c

Which state in India has the highest literacy rate as per 2011 census?

- a) Maharashtra b) Kerala c) Tamil Nadu d) Punjab

Q17. Fill in the Blanks*

17.1 Full form of HDI is * _ * _.

17.2 Average income is also called * _ * _.

Q18. Very Short Answer*

18.1 What are 'public facilities'? Give one example.

18.2 Define 'Infant Mortality Rate'.

Q20. Short Answer*

20.1 Why do different persons have different notions of development? Explain with 3 examples.

20.2 Besides income, what other attributes are important for development?

Q21. Long Answer*

"Money cannot buy all the goods and services that you may need." Explain.

OR

Compare the development criteria used by the World Bank and UNDP.

Artificial Intelligence

Q.1 Draw a flowchart showing the AI Project Cycle.

Q.2 Write a real life example where AI can create bias.

Q.3 Make a mind map of AI ethics principles.

Q.4 Prepare a mini project on "Ethics in Artificial Intelligence".