

AVB PUBLIC SCHOOL
SUMMER HOLIDAY HOMEWORK
(2026-27)
CLASS X



As the golden rays of summer brighten our days and the school corridors grow quiet, it is time to relax, rejuvenate, and enjoy a well-earned break. Summer vacation is not just a pause from regular classes; it is also a valuable opportunity to learn beyond textbooks, discover new interests, and spend meaningful time with family and friends.

Here are a few wonderful ways to make your holidays enjoyable, productive, and memorable:

- **Stay Active and Healthy:** Engage in outdoor activities such as cycling, badminton, cricket, yoga, or morning walks to keep yourself fit and energetic.
- **Lend a Helping Hand at Home:** Support your family members with daily chores and responsibilities. Small acts of care and kindness build strong values.
- **Improve Your Communication Skills:** Practice speaking in English confidently in your daily conversations to strengthen your language skills.
- **Develop Good Handwriting Habits:** Spend a little time each day improving your handwriting, as neat and beautiful writing reflects patience and discipline.
- **Read, Explore, and Imagine:** Cultivate the habit of reading by exploring inspiring books, stories, newspapers, and magazines in both Hindi and English. Reading opens the door to creativity and knowledge.

To make your vacation both enjoyable and educational, we have carefully planned holiday homework that blends revision, creativity, critical thinking, and independent learning. These activities are designed to strengthen your understanding, spark curiosity, and nurture important life skills.

Remember to maintain a healthy balance between study, recreation, and rest. Use this time wisely to learn something new, pursue your hobbies, spend quality time with loved ones, and return refreshed and motivated for the new academic session.

Wishing you a joyful, safe, healthy, and enriching Summer Vacation!

Happy Holidays!

HOLIDAY ASSIGNMENT
CLASS X (2026-27)
ENGLISH

Q1. Comic Strip on a Literary Character

Choose any one character from your English textbook and create a comic strip (6–8 panels) showing a new or extended scene from their life (not directly from the chapter).

Your comic should include:

- Speech bubbles (dialogues)
- A clear storyline (beginning–middle–end)
- The character’s original personality and traits
- A message or moral related to the chapter
- Use A-3 size sheet

Q2. Design a poster on any one theme from your textbook (e.g., freedom, courage, environment).

Below the poster, write a short explanation:

- Why you chose this theme
- How it connects to the chapter
- Use A-3 size sheet

Q3. Write a short speech on:

“Lessons I Learned from My English Textbook” in about 100–120 words.

Include:

- 2–3 chapters
- Values learned
- Personal reflection
- Use coloured A-4 size sheets

Q4. Read the chapters “*Two Gentlemen of Verona*” by A.J. Cronin and “*Mrs Packletide’s Tiger*” by Saki. Both the stories highlight contrasting human values—while Nicola and Jacopo represent responsibility, selflessness, and dedication, Mrs Packletide reflects vanity, jealousy, and a desire to show off. Keeping these ideas in mind, write a letter to the Editor of a national newspaper discussing the human values presented in these chapters. Also express your views on how modern society needs to adopt qualities like responsibility and compassion, as shown by the boys, and move away from superficial and show-off behavior like that of Mrs Packletide. (120–150 words)

Q5. Read Unit 1 “*Health and Medicine*”, Unit 2 “*Education*”, and Unit 3 “*Science and Technology*” from your Main Course Book (MCB). These units highlight important aspects of modern life and their impact on individuals and society. Keeping these ideas in mind, explain how health, education, and technology are interconnected in today’s world. Also give two suitable examples to show their interdependence and importance in daily life. Present your answer in paragraph form using appropriate sub-headings. Begin with a clear main heading, divide your answer into relevant sub-headings, and write short paragraphs under each. Also ensure neat and creative presentation by using coloured A4 size sheets, proper headings, and highlighting important keywords.

Note: Revise all the work done in the class.

WORKSHEET
CLASS X

Q1. Fill in the blanks with the correct form of the verbs given in brackets:

Last year, when I _____ (visit) my cousin in the village, I _____ (realise) how different life _____ (be) from the city. Every day, people _____ (wake) up early and _____ (start) their work before the sun _____ (rise). While I _____ (walk) through the fields one morning, I _____ (notice) that the farmers _____ (work) continuously for hours. They _____ (not/use) modern machines but still _____ (manage) their tasks efficiently. By the time I _____ (return) home, I _____ (learn) many valuable lessons about hard work and simplicity. I _____ (never/experience) such a peaceful life before, and I _____ (decide) that I _____ (visit) the village again soon.

Q2.. One word is missing in each line. Write the missing word along with the word before and after it.

S.No.	Text	Word Before	Missing Word	Word After
e.g.	She going to school daily	She	is	going
(i)	Students should take interest extracurricular activities as it helps			
(ii)	in developing confidence and improves their personality and parents			
(iii)	must encourage their children participate actively in such activities			
(iv)	as this leads overall development of a child			

Q3. Report the dialogues to complete the paragraph that follows:

Neha: Why are you not focusing on your studies these days?
 Riya: I am feeling stressed because of my exams.
 Neha: You should plan your time properly and avoid distractions.
 Riya: I will try to follow your advice and improve my performance.

Paragraph:

Neha asked Riya (a) _____ on her studies those days. Riya replied that (b) _____ stressed because of her exams. Neha advised her that (c) _____ her time properly and avoid distractions. Riya said that (d) _____ to follow her advice and improve her performance.

Q4. There is an error in each line. Identify the error and write the correct word.

S.No.	Text	Error	Correction
e.g.	She do not understand the importance of time.	do	does
(i)	One of the major problem faced by students are stress.		
(ii)	It not only affect their performance but also their health.		
(iii)	Many students has been ignoring the need of proper rest.		
(iv)	If they will not manage time well, they may suffers later.		

Q5. Rearrange the following jumbled words/phrases in the given passage to create a meaningful sentence:

PLAYING OUTDOOR GAMES/IS ESSENTIAL FOR/CHILDREN/PHYSICAL FITNESS/AND MENTAL WELL-BEING

Children today spend a lot of time on mobile phones and computers. This affects their overall development and health.

ग्रीष्मावकाश गृहकार्य 2026-27

विषय - हिंदी

कक्षा - दसवीं

सामान्य निर्देश- सभी कार्य स्वच्छता से करें।

समस्त लिखित कार्य मुक्त शीट(loose sheets) पर कीजिए।

रचनात्मक कार्य

(1) स्वतंत्रता आंदोलन में निम्नलिखित महिलाओं ने जो योगदान दिया है उसके बारे में संक्षिप्त जानकारी प्राप्त कीजिए व सचित्र लिखिए-

△ सरोजिनी नायडू △ अरुणा आसफ अली

△ कस्तूरबा गांधी △ भीकाजी कामा

लिखित कार्य

(2) पत्र- लेखन

• आप विकास नगर, दिल्ली के राजीव गौतम हैं। दिल्ली में डेंगू, मलेरिया, हैजा के बढ़ते प्रकोप को देखते हुए अपर्याप्त चिकित्सा सुविधाओं की ओर ध्यान आकर्षित करते हुए स्वास्थ्य विभाग को पत्र लिखिए।

• आप पटपड़गंज क्षेत्र के निवासी रमेश प्रधान हैं। आपके क्षेत्र में पार्क की स्थिति ठीक नहीं है। जगह- जगह गंदगी है, जंगली घास उग आई है। इसकी शिकायत करते हुए नगर निगम अध्यक्ष को लगभग 120 शब्दों में पत्र लिखिए।

(3) दिए गए संकेत बिंदु के आधार पर निम्नलिखित विषयों पर 100 से 125 शब्दों में अनुच्छेद लिखिए

(क) विद्यार्थी जीवन और चरित्र निर्माण

संकेत बिंदु- △ संपूर्ण जीवन की आधारशिला △ चरित्र निर्माण की आवश्यकता △ देश व समाज के लिए उपयोगी

(ख) व्यस्त जीवन की आवश्यकता : समय नियोजन

संकेत बिंदु - △ समय नियोजन का अर्थ △ समय नियोजन के उदाहरण △ समय नियोजन के परिणाम

△ निष्कर्ष

(4) आपके विद्यालय में ग्रीष्मावकाश के दौरान 'व्यक्तित्व विकास (पर्सनैलिटी डेवलपमेंट) शिविर' का आयोजन किया जा रहा है। छात्र कल्याण संगठन के सचिव होने के नाते कक्षा नवीं से बारहवीं तक के सभी छात्रों तक इस शिविर की जानकारी प्रदान करने हेतु लगभग 60 शब्दों में एक सूचना-पत्र तैयार कीजिए।

(5) निम्नलिखित प्रश्नों के उत्तर दीजिए

- (क) 'बड़े भाई साहब 'पाठ के संदर्भ में लिखिए कि तात्कालिक शिक्षा व्यवस्था में बड़े भाई साहब को क्या- क्या कमियाँ दिखाई देती थी?
- (ख) 'अहंकार मनुष्य का विनाश करता है'- इस कथन को स्पष्ट करने के लिए बड़े भाई ने क्या क्या उदाहरण दिए अपने शब्दों में लिखिए?
- (ग) विरह रूपी सर्प कबीर के अनुसार कौन हैं और मंत्र किसे कहा गया है?
- (घ) अपने अंदर का दीपक दिखाई देने पर कौन-सा अँधियारा कैसे मिट जाता है? कबीर की साखी के संदर्भ में स्पष्ट कीजिए।
- (ङ) बड़े भाई साहब ने लेखक को पूरी उम्र एक ही कक्षा में पड़े रहने का भय क्यों दिखाया?
- (च) हरिहर काका की अपने परिवार के सदस्यों से मोह भंग की शुरुआत किस प्रकार हुई ?क्या यह मोह भंग उचित था?
- (छ) ठाकुरबारी की स्थापना किस उद्देश्य से की गई थी? वह क्या-क्या काम करती थी? क्या पाठ में उसने अपना उद्देश्य पूर्ण किया है? स्पष्ट कीजिए ।
- (ज) बड़े भाई साहब की डांट फटकार सुनकर भी छोटा भाई अपने खेलने कूदने की इच्छा को दबा नहीं पाता है छोटे भाई की जगह यदि आप होते तो क्या करते? तर्क सहित उत्तर दीजिए।
- (झ) कबीर के अनुसार 'मैं'और 'हरि' में क्या विरोध है?
- (ञ) विरह रूपी सर्प कबीर के अनुसार कौन है और 'मंत्र' किसे कहा गया है?

(6) निम्नलिखित रेखांकित पदबंधों के भेद लिखिए

(क) क्षितीज चटर्जी का फटा हुआ सिर देखकर आँख मिच जाती थी।

(ख) प्रतिदिन व्यायाम करने वाले व्यक्ति स्वस्थ रहते हैं।

- (ग) हमारे क्षेत्र में आजकल चोरी की घटनाएं बढ़ती चली जा रही है।
- (घ) वह तीर के समान तैरता हुआ एक दूसरे के नारे पर पहुंच गया
- (ङ) शेर की तरह दहाड़ने वह आज चुप बैठा है।
- (च) दो दिन पहले लापता हुआ बालक मिल गया।
- (छ) रात को पहरेदारी करने वाला चौकीदार दिन में सोता है
- (ज) विरोध करने वाले व्यक्तियों में कोई नहीं बोला।
- (झ) बड़ी-बड़ी बातें करने वाले तुम कभी सफल नहीं हो सकते।
- (ञ) ततारा एक नेक और मददगार व्यक्ति था।

(7) निम्नलिखित मुहावरों का अर्थ लिखिए

- (क) आटे दाल का भाव मालूम होना
- (ख) आड़े हाथों लेना
- (ग) नामो- निशान मिटाना
- (घ) जमीन पर पांव ना रखना
- (ङ) पैसे- पैसे के लिए मोहताज होना
- (च) सिर पर नंगी तलवार लटकना
- (छ) पहाड़ टूट पड़ना
- (ज) साये से भागना

(8) निम्नलिखित के लिए मुहावरा लिखिए

- (क) छोटी सी बात को बहुत बड़ा चढ़ा कर कहना
- (ख) चोरी- चोरी आना
- (ग) अयोग्य को कोई महत्वपूर्ण वस्तु मिलना।
- (घ) बहुत परिश्रम करना
- (ङ) थोड़े में बहुत कुछ कह देना।
- (च) लाभ ही लाभ होना

(घ) उदासी दूर होना

(ज) बहुत दिनों बाद दिखाई देना

(झ) चुगली करना

विषय – संस्कृतम्

1) अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानाम् उत्तराणि संस्कृतेन लिखत -

उत्साहः, उदासीनता, निराशा चेति तिस्रः मनसः अवस्थाः। शिशवः सदा उत्साहशीलाः इति विदितमेव। युवानः अपि प्रायेण उत्साहशीलाः। अनेके वृद्धाः अपि तथैव। वयसः उत्साहस्य च नास्ति सम्बन्धः। उत्साहः मानवस्य सहजः स्वभावः। स मनसः शरीरस्य च विकासाय भवति। शिशुः उत्साहेन सर्वं ग्रहीतुं, सर्वं खादितुं सर्वं सह खेलितुं च प्रवर्तते, प्रतिबन्धे कृते रोदिति। उपहासे कृते क्रोधं प्रकटयति किन्तु निराशो न भवति। वस्तुतः आशैव जीवनम् अस्ति। निराशैव मृत्युः अस्ति। वयं जीवनमेव वरेण्याम् न कदापि मृत्युः। उत्साहं वर्धयितुम् आध्यात्मिक जीवनम् आचरितवान् अस्माकं दृष्टिकोणः आशावान् भवेत्। अस्यैव जीवने सफलाः उपलब्धयः भविष्यति ।

I. एकपदेन उत्तरत। (केवलं प्रश्नद्वयम्)

- (i) मनसः कति अवस्था सन्ति?
- (ii) कः मानवस्य सहजः स्वभावः?
- (iii) उत्साहस्य सम्बन्धः केन सह अस्ति?

II. पूर्णवाक्येन उत्तरत। (केवलं प्रश्नद्वयम्)

- (i) कस्य कस्य नास्ति सम्बन्धः?
- (ii) मनसः तिस्रः अवस्थाः काः?
- (iii) प्रतिबन्धे कृते कः रोदिति।

III. अस्य अनुच्छेदस्य समुचितं शीर्षकं लिखत।

IV. यथानिर्देशम् उत्तरत। (केवलं प्रश्नत्रयम्)

(i) 'अनेके वृद्धाः' – इत्यनयोः पदयोः विशेषणपदं किम् ?

(क) वृद्धाः

(ख) अनेके

(ग) मनसः

(घ) शिशवः

(ii) युवानः अपि प्रायेण उत्साहशीलाः। अस्मिन् वाक्ये कः विशेष्य पदम् अस्ति ?

(क) युवानः

(ख) प्रायेण

(ग) अपि

(घ) अस्मिन्

(iii) 'शिशुः उत्साहेन सर्वं गृहीतुं प्रवर्तते' इत्यत्र कर्तृपदं किम् ?

(क) शिशुः

(ख) उत्साहेन

(ग) गृहीतुं

(घ) सर्वं

(iv) उपर्युक्तगद्यांशे 'युवानः' इत्यस्य विलोमपदं किम् ?

(क) वृद्धाः

(ख) शिशवः

(ग) मनसः

(घ) वयसः

खण्डः ख – रचनात्मकं कार्यम्

2 – भवतः अनुजः तनिष्कः पठनं त्यक्त्वा चलदूरभाषयन्त्रेण क्रीडने सर्वदा व्यस्तः भवति। तं पठनार्थं प्रेरयन् लिखितं पत्रं मञ्जूषायां प्रदत्तैः पदैः पूरयित्वा पुनः लिखत ।

परीक्षा भवनात्,

नवदिल्लीतः।

दिनाङ्कः

प्रिय (i)

शुभाशीषः।

ह्यः एव मातुः (ii) प्राप्तम्। माता अद्यत्वे पठने तव (iii) दृष्ट्वा चिन्तिता अस्ति। त्वं पठनं त्यक्त्वा (iv) चलदूरभाषयन्त्रेण (v) रतः भवसि। अर्धवार्षिक परीक्षायाम् अपि तव (vi) न्यूनाः आगताः। एतद् तु न (vii) । यद्यपि क्रीडनम् अपि (viii) आवश्यकं परं तत् शारीरिकं भवेत्। क्रीडनेन सह पठनम् अपि अत्यावश्यकम्। ये चलदूरभाषयन्त्रेण अत्यधिकं समयं वृथा यापयन्ति ते न केवलं (ix)

अस्वस्थाः भवन्ति अपितु जीवने असफलाः अपि भवन्ति। अतः मम (x) अस्ति यत् समयस्य महत्त्वम् अवगत्य ध्यानेन पठ्।

मातृपितृचरणयोः मे प्रणामाः कथनीयाः।

तव अग्रजः

मोहितः

मञ्जूषा - त्वम्, मानसिकरूपेण, पत्रम्, स्वास्थ्याय, अरुचिम्, तनिष्क, अङ्काः, क्रीडेन्, उचितम्, परामर्शः।

3 मञ्जूषायां प्रदत्तशब्दानां सहायतया 'वृक्षारोपणम्' इति विषयम् अधिकृत्य पञ्चवाक्यानि संस्कृतेन लिखत ।

मञ्जूषा - वृक्षाः, फलानि, छाया, पुष्पाणि, संरक्षणम्, मित्राणि, पर्यावरणस्य, शोभा, भूमौ संरक्षणं, यच्छन्ति, मनुष्याणां, भवन्ति, वर्धयन्ति, प्रकृतेः, अस्मभ्यं, फलानि रक्षकाः।

4 रिक्तस्थानानि पूरयित्वा अधोलिखित संवादं पुनः लिखत ।

छात्रा : आचार्य ! नमो नमः।

योगाचार्यः शुभमस्तु। (i)

छात्रा मम नाम अनुप्रिया अस्ति। योगशिक्षां प्रति मम रुचिः अस्ति।

योगाचार्यः शोभनम् (ii)

छात्रा अहं दशमकक्षायां पठामि। आचार्य ! (iii)

योगाचार्यः योगः तु सर्वेभ्य एव अतीव लाभकरः। विद्याध्ययने तु योगशिक्षा उपयोगिनी एव।

छात्रा मया श्रुतं यद् अधुना सम्पूर्ण विश्वे योगदिवसः मान्यते।

योगाचार्यः (iv)

छात्रा मम अनुजः किञ्चिद् अस्वस्थः वर्तते। किं तस्य कृते अपि योगः लाभकरः ?

योगाचार्यः (v)

• मञ्जूषा

आम् स्वास्थ्याय योगः अनिवार्यः अतः तेन अपि योगः कर्तव्यः।

भवत्याः नाम किम् ?

किं योगः छात्राणां कृते उपयोगी अस्ति?

भवती कस्यां कक्षायां पठति ?

सम्यक् श्रुतं त्वया, जूनमासस्य एकविंशतितमे दिवसे प्रतिवर्षम् अन्तर्राष्ट्रिय योगदिवसः मन्यते ?

5 अधोलिखितां कथां मञ्जूषायाः सहायतया पूरयित्वा पुनः लिखत ।

बाल्यकाले (i) साँदीपन (ii)..... गुरुकुले अध्ययनं कृत्वा अगच्छत्। तत्र स सुदामा सह अपठत्। एकस्मिन् दिने (iii)..... काले (iv)..... मेघाः अवर्षत् । आश्रमे भोजन पचनार्थं काष्ठं नासीत्। गुरुमात्रा आज्ञया सुदामा कृष्णश्च वनम् अगच्छताम्। गुरुमाता तौ कश्चिद् (v)..... अयच्छत्। कृष्णः सुदामा अकथयत् अहम् वृक्षस्य उपरि आरूढं भूत्वा काष्ठानि भूमौ अपतन् त्वं तान् (vi)..... एकत्रीकरणं कुरु। सुदामा अचिन्तयत् यावत् कृष्णः (vii)..... त्रोटयन्तितावत् अहम् स्वभागस्य चणकं भक्षयिष्यामि। काष्ठानि त्रोटयित्वा कृष्णः अवदत् । अहं बुभुक्तोऽस्मि । अधुना आवाम् चणकं खादावः। सुदामा (viii)..... अहं तु पूर्वमेव सर्वे चणकः अखादम्। श्रीकृष्णः क्रुद्धः (ix)..... दारिद्र्यस्य शापं अददात्। अनन्तरं कृष्णः अवदत् सुदामा शाप काले त्वं मया (x)..... आगच्छानि अहं त्वाम् शापात् मोक्षयिष्यामि:

मञ्जूषा सकाशे, श्रीकृष्णः, चित्वा, प्रावृट्, अकथयत्, ऋषेः, भीषणाः, भूत्वा, काष्ठानि, चणकः।

6 रचनात्मक कार्यम् – सूक्ति-काष्ठ-कला (Wooden/Cardboard Bookmark): पुराने गते या आइसक्रीम स्टिक का उपयोग करके 3-4 सुंदर बुकमार्क (Bookmark) बनाएँ। इन्हें पारंपरिक भारतीय डिज़ाइनों से सजाएँ और प्रत्येक पर विद्या, परिश्रम या मित्रता से जुड़ा एक प्रेरक श्लोक या सूक्ति कैलीग्राफी (सुलेख) में लिखें।

MATHEMATICS

WORKSHEET

Chapter – 4 (Quadratic Equation)

- In the quadratic equation $5x^2 - 4x + 5 = 0$, which one of them has the following roots?
(a) Real and Unequal (c) Real and Equal
(b) Non-real and Equal (d) Not real
- The discriminant of the equation $9x^2 + 6x + 1 = 0$ is
(a) 0 (b) 1 (c) 2 (d) 3
- Which of the following is not a quadratic equation?
(a) $(x + 1)^2 = 2(x - 3)$ (b) $x^2 + 3x + 1 = (x - 2)^2$
(c) $(x + 2)^2 = 2x(x^2 - 2)$ (d) $(x - 3)(2x - 1) = (x - 2)^2$
- Zeros of $p(x) = x^2 - 4$ are
(a) 2 and -2 (b) 1 and 3 (c) 0 and 2 (d) 0 and -2
- If $ax^2 + bx + c = 0$ has equal roots, then $c =$ **(CBSE, 2023)**
(a) $\frac{-b}{2a}$ (b) $\frac{b}{2a}$ (c) $\frac{-b^2}{4a}$ (d) $\frac{b^2}{4a}$
- For what value of c , the equation $ax^2 + 2bx + c = 0$ has equal roots is
(a) $\frac{b^2}{a}$ (b) $\frac{b^2}{4a}$ (c) $\frac{a^2}{b}$ (d) $\frac{a^2}{4b}$
- If $x^2 + k(4x + k - 1) + 2 = 0$ has equal roots, then $k =$ **(CBSE, 2023)**
(a) $\frac{-2}{3}, 1$ (b) $\frac{2}{3}, -1$ (c) $\frac{3}{2}, \frac{1}{3}$ (d) $-\frac{3}{2}, -\frac{1}{3}$
- Find the roots of the equation $x^2 - 3x - m(m + 3) = 0$, where m is a constant.
- Find the value of m so that the quadratic equation $mx(x - 7) + 49 = 0$ has two equal roots.
- Three consecutive natural numbers are such that the square of the middle number exceeds the difference of the squares of the other two by 60. Find the numbers.
- Solve the following quadratic equations by factorization method:
 - $x^2 + 2\sqrt{2}x - 6 = 0$ **(CBSE, 2022)**
 - $4x^2 - 4ax + (a^2 - b^2) = 0$ **(CBSE, 2012)**
 - $4x^2 - 4a^2x + (a^2 - b^4) = 0$ **(CBSE, 2004,2015)**
 - $\frac{1}{a+b+x} = \frac{1}{a} + \frac{1}{b} + \frac{1}{x}, a + b \neq 0$ **(CBSE, 2005)**
- A train travels at a certain average speed for a distance of 63 km and then travels a distance of 72 km at an average speed of 6 km/h more than its original speed. If it takes 3 hours to complete the total journey, what is its original average speed?

13. Solve the equation: $\frac{3}{x+1} - \frac{1}{2} = \frac{2}{3x-1}$; $x \neq -3, -1$ for x .
14. Solve for x : $\frac{1}{(x-1)(x-2)} + \frac{1}{(x-2)(x-3)} = \frac{2}{3}$, $x \neq 1, 2, 3$
15. Find the values of k for which the given equation has real and equal roots:
- (i) $(k + 1)x^2 - 2(k - 1)x + 1 = 0$ **(CBSE, 2015)**
- (ii) $x^2 - 2x(1 + 3k) + 7(3 + 2k) = 0$ **(CBSE, 2002 C)**
- (iii) $(k - 12)x^2 + 2(k - 12)x + 2 = 0$ **(CBSE, 2013, 17)**
- (iv) $(k + 4)x^2 + (k + 1)x + 1 = 0$ **(CBSE 2000C, 13)**
16. If -5 is a root of the quadratic equation $2x^2 + px - 15 = 0$ and the quadratic equation $p(x^2 + x) + k = 0$ has equal roots, find the value of k . **(CBSE, 2002, 09, 14)**
17. Determine the positive values of 'k' for which the equation $x^2 + kx + 64 = 0$ and $x^2 - 8x + k = 0$ will both have real roots. **(CBSE, 2016)**
18. If the roots of the equation $x^2 + 2cx + ab = 0$ are real unequal, prove that the equation $x^2 - 2(a + b)x + a^2 + b^2 + 2c^2 = 0$ has no real roots. **(CBSE, 2016)**
19. Seven years ago, Rahul's age was five times the square of Rena's age. Three years hence, Rena's age will be two fifth of Rahul's age. Find their present ages.
20. One fourth of a herd of camel was seen in the forest. Twice the square root of the herd had gone to the mountains and the remaining 15 camels were seen on the bank of the river. Find the total number of camels.

WORKSHEET
Chapter – 8 (INTRODUCTION TO TRIGONOMETRY)

1. What is the minimum value of $\sin A$, $0 \leq A \leq 90^\circ$
 (a) -1 (b) 0 (c) 1 (d) $\frac{1}{2}$
2. If $\cos A = \frac{4}{5}$, then $\sin A$ and $\sec A$ respectively are
 (a) $\frac{3}{4}, \frac{4}{3}$ (b) $\frac{5}{3}, \frac{3}{4}$ (c) $\frac{3}{5}, \frac{5}{4}$ (d) None of these
3. If $\sin \theta + \sin^2 \theta = 1$, then $\cos^2 \theta + \cos^4 \theta =$
 (a) -1 (b) 0 (c) 1 (d) 2
4. If $x \tan 45^\circ \sin 30^\circ = \cos 30^\circ \tan 30^\circ$, then x is equal to
 (a) $\sqrt{3}$ (b) $\frac{1}{2}$ (c) $\frac{1}{\sqrt{2}}$ (d) 1
5. $(\cos \theta + \sin \theta)^2 + (\cos \theta - \sin \theta)^2 =$
 (a) -2 (b) 0 (c) 1 (d) 2
6. $\frac{1-\cos A}{\sin A}$ is equal to
 (a) $\frac{\sin A}{1-\cos A}$ (b) $\frac{\sin A}{1+\cos A}$ (c) $\frac{\cos A}{1-\cos A}$ (d) $\frac{\cos A}{1+\cos A}$
7. $\sqrt{\frac{1-\sin \theta}{1+\sin \theta}} = ?$
 (a) $\sin \theta - \cos \theta$ (b) $\sec \theta - \tan \theta$
 (c) $\sec \theta + \tan \theta$ (d) $\sin \theta + \cos \theta$
8. If in $\triangle ABC$, $\angle C = 90^\circ$, then $\sin(A+B) =$
 (a) 0 (b) $\frac{1}{2}$ (c) $\frac{1}{\sqrt{2}}$ (d) 1
9. The value of $(1 + \tan^2 A)(1 - \sin A)(1 + \sin A) = ?$
 (a) 0 (b) 1 (c) 2 (d) $\frac{1}{2}$

10. Solve the equation for θ : $\frac{\cos^2 \theta}{\cot^2 \theta - \cos^2 \theta} = 3$.

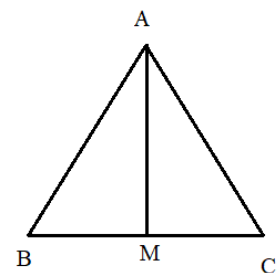
11. If $3 \cot \theta = 4$. Find $\frac{4 \sin \theta - 3 \cos \theta}{4 \sin \theta + 3 \cos \theta}$.

12. If $x = 30^\circ$, verify that $\tan 2x = \frac{2 \tan x}{1 - \tan^2 x}$.

13. Prove the identities:

(a) $\frac{\cos^2 \theta + \tan^2 \theta - 1}{\sin^2 \theta} = \tan^2 \theta$

(b) $\frac{\cos A}{1 + \sin A} + \frac{1 + \sin A}{\cos A} = 2 \sec A$



$$(c) \quad \frac{\tan \theta + \sin \theta}{\tan \theta - \sin \theta} = \frac{\sec \theta + 1}{\sec \theta - 1}$$

$$(d) \quad \frac{\tan \theta}{1 - \cot \theta} + \frac{\cot \theta}{1 - \tan \theta} = 1 + \sec \theta \operatorname{cosec} \theta$$

$$(e) \quad \frac{\tan^3 \theta - 1}{\tan \theta - 1} = \sec^2 \theta + \tan \theta$$

$$(f) \quad \frac{1 + \cos \theta + \sin \theta}{1 + \cos \theta - \sin \theta} = \frac{1 + \sin \theta}{\cos \theta}$$

14. If $\tan \alpha = \sqrt{3}$ and $\tan \beta = \frac{1}{\sqrt{3}}$ where $0 < \alpha, \beta < 90^\circ$, find the value of $\cot(\alpha + \beta)$.

15. If $\sin \theta - \cos \theta = 0$, find the value of $\sin^4 \theta + \cos^4 \theta$.

16. If $7\sin^2 A + 3\cos^2 A = 4$, then find the value of $\tan A$.

17. If $\sec \theta - \tan \theta = x$, show that $\sec \theta = \frac{1}{2}\left(x + \frac{1}{x}\right)$ and $\tan \theta = \frac{1}{2}\left(\frac{1}{x} - x\right)$.

18. Prove that: $\sin A(1 + \tan A) + \cos A(1 + \cot A) = \sec A + \operatorname{cosec} A$

SCIENCE

CHEMISTRY

- 1) Why should an acid be added slowly to water and not water be added to an acid?
- 2) Name the plant from which we obtain litmus solution.
- 3) Write the chemical reactions for the following:
 - i. When sodium carbonate reacts with dilute hydrochloric acid.
 - ii. When sodium hydrogen carbonate reacts with dilute hydrochloric acid.
 - iii. When carbon dioxide gas is passed through lime water.
- 4) Why do we have tooth decay?
- 5) What is the color of phenolphthalein? What happens when it is added to an acid and a base?
- 6) What makes a cake fluffy and spongy?
- 7) What is dead burnt plaster?
- 8) Which compound turns milky when passed through it?
- 9) Name the acid released by ant sting.
- 10) Which acid is present in tamarind?
- 11) What are amphoteric oxides?
- 12) Name the compound of which the tooth enamel is made up?
- 13) Why do Na_2CO_3 and NaOH do not react?
- 14) What is the chemical formula of sodium zincate?
- 15) The scale for measuring hydrogen ion concentration is known as

BIOLOGY

- 1) Define Life Processes. Name the basic life processes essential for maintaining life.
- 2) Differentiate between Autotrophic Nutrition and Heterotrophic Nutrition with one example each.
- 3) Why are enzymes important in digestion? Name the list of all digestive enzymes with their location and functions.

- 4) Explain the process of Respiration. Differentiate between aerobic and anaerobic respiration.
- 5) Draw and label the structure of a Human Heart. Mention the function of: a) Arteries b) Veins c) Capillaries
- 6) Explain how oxygen and carbon dioxide are transported in human beings.
- 7) Explain the role of stomata in plants. How do they help in photosynthesis and respiration?
- 8) Describe the process of transport of water and minerals in plants.
- 9) Answer the following:
 - a) What is excretion?
 - b) Name the functional unit of the kidney.
 - c) Write two functions of kidneys in humans.

PHYSICS

1. A concave mirror produces two times magnified real image of an object placed at 10 cm in front of it . Find the position of the image .
2. An object of 5 cm in size is placed at a distance of 20 cm from a concave mirror of focal length 15 cm . At what distance from the mirror ,should a screen be placed to get the sharp image ? Also calculate the size of the image .
3. Light enters from air into diamond which has a refractive index of 2.42. Calculate the speed of light in diamond. The speed of light in air is 3×10^8 m/s.
4. A concave mirror produces three times magnified (enlarged) real image of an object placed at 10cm in front of it .Where is the image located?
5. Draw a ray diagram to locate the position of the image, when object is placed anywhere between infinity and pole of a convex mirror .
6. “The magnification produced by a spherical mirror is -3”. List four information you obtain from this statement about the mirror/ image.
7. (a) A ray of light strikes the mirror at an angle of 20° . What is the angle of reflection? (b) Give the angle of incidence and reflection for normal incidence.
8. A candle is kept in front of plane mirror at distance of 15 cm. What is distance between candle & its image?

SOCIAL SCIENCE

Activity Based Question

Prepare a project on any one of the following topics.

- i) Consumer Awareness
- ii) Sustainable Development
- iii) Social issues (Any three)

Note : Start your project with acknowledgement page, followed by list of contents, make your project catchy by pasting relevant pictures and lastly your project length should be 10 pages only.

GEOGRAPHY ASSIGNMENT

Chapter 1 Resources and Development

One mark questions

1. Name the report which introduced the concept of 'Sustainable Development'.
2. Define contour ploughing.
4. Which soil is also known as cotton soil?
5. What is Agenda 21?
6. Mention any two methods for reducing fallow land.
7. What is waste land?
8. Which is the most widely spread soil in India?
9. Give two examples of National resources.
10. Which soil is formed due to intense leaching?
12. Define sustainable development.
13. What is the most satisfying feature of land use patterns in India?
15. Which soil has the maximum moisture holding capacity?

Three mark questions

2. Land is a resource. Explain
3. "Indiscriminate use of natural resources has led to numerous problems." Justify the statement.
4. Name the soil type which is widely found in western Rajasthan. Explain two important characteristics of this soil which makes it

unsuitable for cultivation.

5. "In India, some regions are rich in certain types of resources but are deficient in some other resources." Do you agree with this statement? Support your answer with three examples.
6. Distinguish between Red and Laterite soil. (any three points)
7. Explain any three methods to prevent soil erosion.
8. Differentiate between Potential and Developed resources.

Five marks questions

1. Discuss the distribution of different types of soils in India.
2. "In India, different states have different reasons for the degradation of land" Justify the statement.
3. What is resource planning? Why is it essential for a country like India?
4. Explain the human activities responsible for land degradation in India.
5. Give important features of the Arid soils.

ASSIGNMENT – HISTORY

CHAPTER NATIONALISM IN EUROPE

1. How did Romanticism seek to develop a particular form of nationalist sentiments during eighteenth century?
2. What was the main aim of the French revolutionaries?
3. What was the meaning of liberalism in the early nineteenth century in Europe?
4. Describe the steps taken by French revolutionaries to create a sense of collective identity among the French people?
5. List any three features of the Civil Code of 1804 usually known as the Napoleonic Code.
6. Explain any three reasons for the nationalist upsurge in the 19th century Europe.
7. Explain the conditions that were viewed as obstacles to the economic exchange and growth by the new commercial classes during the nineteenth century in Europe.
8. "The first clear expression of nationalism came with the French Revolution in 1789." Explain the meaning of nationalism and throw light on the statement.
9. "The decade of 1830 had brought great economic hardship in Europe." Support the statement with arguments.

10. Examine the role of women in the nationalist struggles of Europe.
11. Explain the 1848 revolution of the liberals. What were the political, social and economic ideas supported by the liberals?
12. Briefly describe the process of German unification.
13. Examine the conditions of Italy before unification.
14. Describe the process by which Italy was unified.
15. Explain the role of Giuseppe Mazzini in the unification of Italy.
16. With reference to Scotland and Ireland, explain how British nationalism grew at the cost of other cultures.
17. Explain the objectives of the 'Treaty of Vienna' of 1815.
18. Examine the main features of the process of German unification under the leadership of Otto Von Bismarck.
19. Describe the process of Unification of Britain.
20. Explain any four reasons how the initial enthusiasm of the people of France soon turned to hostility after Napoleon's takeover of France.

Sub: Political Science

ASSIGNMENT

CHAPTER: Power Sharing

Q.1 Given below are four options against each question. Choose the option which you consider the most appropriate as your answer:

Q.1.1 59 per cent of the country's total population who speaks Dutch, lives in

- | | |
|---------------------|-------------------|
| (a) Wallonia region | (b) Brussels |
| (c) Flemish region | (d) None of these |

Q.1.2 Why did the Sri Lankan Tamils launch parties and struggle?

- (a) to adopt majoritarianism
- (b) to recognize Sinhalese as the only official language
- (c) to recognize Tamil as an official language
- (d) to dominate other language

Q.1.3 Main significance of Belgium Model of Power Sharing

- | | |
|-------------------------------------|---|
| (a) Majoritarianism. | (b) power shared in all ethnic groups according to their population |
| (c) on the basis of adult franchise | (d) none of the above |

Q.1.4 What is a coalition government? (a) power shared among different social group

(b) power shared among different levels of government

(c) power shared among different political parties

(d) power shared among different organs of government

Q.1.5 Where is the parliament of European Union?

(a) Belgium

(b) Britain

(c) Germany

(d) France

Q.1.6 Which of the following community is in majority in Sri Lanka?

(a) Tamil.

(b) Sinhala

(c) Buddhist

(d) Hindu

Q.1.7 Which one of the following is the 3rd tier of government in India?

(a) Community Government

(b) State Government

(c) Panchayati Raj Government

(d) b & c

Q.1.8 Federalism is:

(a) a form of unitary government

(b) a government with two or multi levels of government

(c) a form of autocratic government

(d) a & c.

Q.1.9 Which of the following is not a federal country?

(a) India.

(b) Belgium

(c) USA

(d) Malaysia

Q.1.10 Which of the following is an example of holding together federation?

- (a) Spain
- (b) Australia
- (c) India
- (d) a & c

Q.1.11 How many languages are scheduled in the Indian Constitution?

- (a) 22.
- (b) 21
- (c) 18
- (d) 20

Q.1.12 How many subjects are enlisted in the Concurrent List?

- (a) 66
- (b) 62
- (c) 47
- (d) 66

Q.1.13 When did the Panchayati Raj System become a constitutional entity?

- (a) 1992
- (b) 1991
- (c) 1993
- (d) 1995

Q.1.14 Which of the following is very important factor for better understanding between Center and State's government?

- (a) Emergence of regional political party
- (b) the beginning of the era of coalition government
- (c) when no single party got a clear majority
- (d) all the above factors

Q.1.15 Why is there a need for third level of government in India?

- (a) a large number of problems and issues which are best settled at the local level
- (b) Indian states are large and internally very diverse
- (c) a & b
- (d) none of above.

Q.1.16 How many people speak French and Dutch in the capital city of Brussels?

- (a) 60 percent French 40 percent Dutch
- (b) 50% Dutch 50% French
- (c) 80% French 20% Dutch
- (d) 80% Dutch 20% French

Q.1.17 How many times the leaders of Belgium amended their constitution?

- (a) Two times (b) Three times
(c) Four times (d) Six times

Q.1.18 Which one of the following is correct regarding power sharing?

- A. It leads to conflict between different groups.
B. It ensures the stability of the country.
C. It helps to reduce the conflict between different groups.

- (a) Only A is true
(b) Only B is true
(c) Both A and B are true
(d) Both B and C are true

Q.1.19 Which is the only official language of Sri Lanka?

- (a) Tamil
(b) Malayalam
(c) Sinhala
(d) none of the mentioned above

Q.1.20 Which community was rich and powerful in Belgium?

- (a) German (b) French
(c) Dutch (d) none of the mentioned above

Q.21 to Q.25 are long answer type questions. Answer the questions in about 100-120 words.

Q.21: Examine the majoritarian measures implemented by the Sri Lankan government to establish Sinhala supremacy in the country. How did it lead to civil war in Sri Lanka? What was its impact?

Q.22: Analyze the Belgium model of power Sharing.

Q.23: Discuss the various power sharing mechanism of the modern democracies.

Q.24: Analyze the impact of majoritarian measures of the Sri Lankan government on Tamil population of Sri Lanka.

Q.25: "Power is shared among different social groups". Explain with the help of examples.

CLASS – X (2026-2027)

ARTIFICIAL INTELLIGENCE HOLIDAY HOMEWORK

I. Case Study Activity

Choose any one AI application (Chatbot, Self-driving Car, Face Recognition, Recommendation System, etc.) and write:

- Uses
- Advantages
- Risks/ethical issues
- Your opinion (in 150–200 words)

II. Activity Work Create a simple AI model example from daily life such as:

- Weather prediction
- Spam email detection
- Face unlock system
- YouTube recommendations

III. Subject Enrichment Activity E-Poster Making Create an e-poster using any software on any one topic:

- “AI for Good”
- “Ethical Use of AI”
- “Future of Artificial Intelligence” Instructions : Submit the Case Study activity, Activity work and Subject Enrichment activity in file/ folder.

IV. Python Programming Complete the practical files with the following Python programs with Output : (Refer Python Practical Questions given on page no.489-495 of textbook)

Program 1: Write a program to add the elements of the two lists.

Program 2: Write a program to calculate mean, median and mode using NumPy of the following list of distance travelled by a car in a week.

Program 3: Write a Python code to take the input of a number n and then find and display its factorial (n!). For example, $5! = 5 \times 4 \times 3 \times 2 \times 1$ i.e., 120.

Program 4: Write a program to display line chart from (2,5) to (9,10).

Program 5: Write a program to display a scatter chart for the following points (2,5), (9,10) , (8,3), (5,7), (6,18).

Program 6: Write a program to input a string and display the string in the reverse order.

Program 7: Write a program to input a string and display the count of vowels and consonants in the string.

Program 8: Write a Python code to input the lengths of the three sides of a triangle and display whether a triangle can be formed with the inputs or not. If a triangle can be formed then display whether the triangle will be scalene, isosceles or equilateral triangle.

Program 9: Write a program to input a number and display whether it is a palindrome or not.

Program 10: Write a program to input a number and display whether it is a prime number or not.

Program 11: Write a program to input two numbers and swap both the numbers without using the third number.

Program 12: Write a program to input two numbers and swap both the numbers without using the third number.

Program 13: Using Matplotlib and the given data, plot a bar chart: No. of people voted= [23,45,31,40,35] Area covered=['a1', 'a2', 'a3', 'a4', 'a5']