Prescribed Books

1. **Hornbill:** English Reader published by National Council of Education Research and Training, New Delhi
2. **Snapshots:** Supplementary Reader published by National Council of Education Research and Training, New Delhi

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English Core
Code No. 301
Class XII (2021-22)
Term Wise Syllabus

SECTION	TERM 1	WEIGHTAGE (IN MARKS)	TERM II	WEIGHTAGE (IN MARKS)
A	**Reading Comprehension**: (Two Passages) • Unseen passage (factual, descriptive or literary/ discursive or persuasive) • Case Based Unseen (Factual) Passage	**14 (8+6 Marks)**	**Reading Comprehension**: (Two Passages) • Unseen passage (factual, descriptive or literary/ discursive or persuasive) • Case Based Unseen (Factual) Passage	**14 (8+6 Marks)**
B	**Creative Writing Skills** : **Short Writing Tasks** • Notice Writing • Classified Advertisements **Long Writing Tasks(One)** • Letter to an Editor (giving suggestions or opinion on issues of public interest) • Article Writing	**3+5 marks** **Total=08**	**Creative Writing Skills** : **Short Writing Tasks** • Formal & Informal Invitation Cards or the Replies to Invitation/s **Long Writing Tasks(One)** • Letter of Application for a Job • Report Writing	**3+5 Marks** **Total=08**
C	**Literature :** Literary-prose/poetry extracts (seen- texts) to assess comprehension and appreciation, analysis, inference, extrapolation **Questions Based on Texts to assess** comprehension and appreciation, analysis, inference, extrapolation **Book- Flamingo (Prose)** • The Last Lesson • Lost Spring • Deep Water **Book-Flamingo (Poetry)** • My Mother at Sixty-Six • An Elementary School Classroom in a Slum • Keeping Quiet **Book-Vistas (Prose)** • The Third Level • The Enemy	**11 Marks for Flamingo + 7 Marks for Vistas = 18 Marks**	**Literature:** Questions based on extracts/texts to assess comprehension and appreciation, analysis, inference, extrapolation **Book-Flamingo (Prose)** • The Rattrap • Indigo **Book-Flamingo (Poetry)** • A Thing of Beauty • Aunt Jennifer's Tigers **Book-Vistas (Prose)** • Should Wizard Hit Mommy? • On the Face of It • Evans Tries an O Level	**11 Marks for Flamingo + 7 Marks for Vistas = 18 Marks**
	TOTAL	**40**	**TOTAL**	**40**
	ASL	**10**	**ASL**	**10**
	GRAND TOTAL	**40 + 10 = 50**	**GRAND TOTAL**	**40 + 10 = 50**

Prescribed Books

1. **Flamingo**: English Reader published by National Council of Education Research and Training, New Delhi
2. **Vistas:** Supplementary Reader published by National Council of Education Research and Training, New Delhi

हिंदी (आधार) (कोड सं.– 302) कक्षा 11वीं–12वीं (2021-22)

प्रस्तावना:

दसवीं कक्षा तक हिंदी का अध्ययन करने वाला विद्यार्थी समझते हुए पढ़ने व सुनने के साथ-साथ हिंदी में सोचने और उसे मौखिक एवं लिखित रूप में व्यक्त कर पाने की सामान्य दक्षता अर्जित कर चुका होता है। उच्चतर माध्यमिक स्तर पर आने के बाद इन सभी दक्षताओं को सामान्य से ऊपर उस स्तर तक ले जाने की आवश्यकता होती है, जहाँ भाषा का प्रयोग भिन्न-भिन्न व्यवहार-क्षेत्रों की मांगों के अनुरूप किया जा सके। आधार पाठ्यक्रम, साहित्यिक बोध के साथ-साथ भाषाई दक्षता के विकास को ज्यादा महत्त्व देता है। यह पाठ्यक्रम उन विद्यार्थियों के लिए उपयोगी साबित होगा, जो आगे विश्वविद्यालय में अध्ययन करते हुए हिंदी को एक विषय के रूप में पढ़ेंगे या विज्ञान/सामाजिक विज्ञान के किसी विषय को हिंदी माध्यम से पढ़ना चाहेंगे। यह उनके लिए भी उपयोगी साबित होगा, जो उच्चतर माध्यमिक स्तर की शिक्षा के बाद किसी तरह के रोज़गार में लग जाएंगे। वहाँ कामकाजी हिंदी का आधारभूत अध्ययन काम आएगा। जिन विद्यार्थियों की रुचि जनसंचार माध्यमों में होगी, उनके लिए यह पाठ्यक्रम एक आरंभिक पृष्ठभूमि निर्मित करेगा। इसके साथ ही यह पाठ्यक्रम सामान्य रूप से तरह-तरह के साहित्य के साथ विद्यार्थियों के संबंध को सहज बनाएगा। विद्यार्थी भाषिक अभिव्यक्ति के सूक्ष्म एवं जटिल रूपों से परिचित हो सकेंगे। वे यथार्थ को अपने विचारों में व्यवस्थित करने के साधन के तौर पर भाषा का अधिक सार्थक उपयोग कर पाएँगे और उनमें जीवन के प्रति मानवीय संवेदना एवं सम्यक् दृष्टि का विकास हो सकेगा।

उद्देश्य:

- संप्रेषण के माध्यम और विधाओं के लिए उपयुक्त भाषा प्रयोग की इतनी क्षमता उनमें आ चुकी होगी कि वे स्वयं इससे जुड़े उच्चतर पाठ्यक्रमों को समझ सकेंगे।
- भाषा के अंदर सक्रिय सत्ता संबंध की समझ।
- सृजनात्मक साहित्य की समझ और आलोचनात्मक दृष्टि का विकास।
- विद्यार्थियों के भीतर सभी प्रकार की विविधताओं (धर्म, जाति, लिंग, क्षेत्र एवं भाषा संबंधी) के प्रति सकारात्मक एवं विवेकपूर्ण रवैये का विकास।
- पठन-सामग्री को भिन्न-भिन्न कोणों से अलग-अलग सामाजिक, सांस्कृतिक चिंताओं के परिप्रेक्ष्य में देखने का अभ्यास करवाना तथा आलोचनात्मक दृष्टि का विकास करना।
- विद्यार्थी में स्तरीय साहित्य की समझ और उसका आनंद उठाने की क्षमता तथा साहित्य को श्रेष्ठ बनाने वाले तत्वों की संवेदना का विकास।
- विभिन्न ज्ञानानुशासनों के विमर्श की भाषा के रूप में हिंदी की विशिष्ट प्रकृति और उसकी क्षमताओं का बोध।
- कामकाजी हिंदी के उपयोग के कौशल का विकास।
- जनसंचार माध्यमों (प्रिंट और इलेक्ट्रॉनिक) में प्रयुक्त हिंदी की प्रकृति से परिचय और इन माध्यमों की आवश्यकता के अनुरूप मौखिक एवं लिखित अभिव्यक्ति का विकास।
- विद्यार्थी में किसी भी अपरिचित विषय से संबंधित प्रासंगिक जानकारी के स्रोतों का अनुसंधान और व्यवस्थित ढंग से उनकी मौखिक और लिखित प्रस्तुति की क्षमता का विकास।

शिक्षण-युक्तियाँ:

- कुछ बातें इस स्तर पर हिंदी शिक्षण के लक्ष्यों के संदर्भ में सामान्य रूप से कही जा सकती हैं। एक तो यह है कि कक्षा में दबाव एवं तनाव मुक्त माहौल होने की स्थिति में ही ये लक्ष्य हासिल किए जा सकते हैं। चूँकि इस पाठ्यक्रम में तैयारशुदा उत्तरों को कंठस्थ कर लेने की कोई अपेक्षा नहीं है, इसलिए विषय को समझने और उस समझ के आधार पर उत्तर को शब्दबद्ध करने की योग्यता विकसित करना ही शिक्षक का काम है। इस योग्यता के विकास के लिए कक्षा में विद्यार्थियों और शिक्षिका के बीच निर्बाध संवाद जरूरी है। विद्यार्थी अपनी शंकाओं और उलझनों को जितना ही अधिक व्यक्त करेंगे, उतनी ही ज़्यादा स्पष्टता उनमें आ पाएगी।

- भाषा की कक्षा से समाज में मौजूद विभिन्न प्रकार के द्वंद्वों पर बातचीत का मंच बनाना चाहिए। उदाहरण के लिए संविधान में किसी शब्द विशेष के प्रयोग पर निषेध को चर्चा का विषय बनाया जा सकता है। यह समझ जरूरी है कि विद्यार्थियों को सिर्फ सकारात्मक पाठ देने से काम नहीं चलेगा बल्कि उन्हें समझाकर भाषिक यथार्थ का सीधे सामना करवाने वाले पाठों से परिचय होना जरूरी है।
- शंकाओं और उलझनों को रखने के अलावा भी कक्षा में विद्यार्थियों को अधिक-से-अधिक बोलने के लिए प्रेरित किया जाना जरूरी है। उन्हें यह अहसास कराया जाना चाहिए कि वे पठित सामग्री पर राय देने का अधिकार और ज्ञान रखते हैं। उनकी राय को प्राथमिकता देने और उसे बेहतर तरीके से पुनः प्रस्तुत करने की अध्यापकीय शैली यहाँ बहुत उपयोगी होगी।
- विद्यार्थियों को संवाद में शामिल करने के लिए यह भी जरूरी होगा कि उन्हें एक नामहीन समूह न मानकर अलग-अलग व्यक्तियों के रूप में अहमियत दी जाए। शिक्षकों को अक्सर एक कुशल संयोजक की भूमिका में स्वयं देखना होगा, जो किसी भी इच्छुक व्यक्ति को संवाद का भागीदार बनने से वंचित नहीं रखते, उसके कच्चे-पक्के वक्तव्य को मानक भाषा-शैली में ढाल कर उसे एक आभा दे देते हैं और मौन को अभिव्यंजना मान बैठे लोगों को मुखर होने पर बाध्य कर देते हैं।
- अप्रत्याशित विषयों पर चिंतन तथा उसकी मौखिक व लिखित अभिव्यक्ति की योग्यता का विकास शिक्षकों के सचेत प्रयास से ही संभव है। इसके लिए शिक्षकों को एक निश्चित अंतराल पर नए-नए विषय प्रस्तावित कर उनपर लिखने तथा संभाषण करने के लिए पूरी कक्षा को प्रेरित करना होगा। यह अभ्यास ऐसा है, जिसमें विषयों की कोई सीमा तय नहीं की जा सकती। विषय की असीम संभावना के बीच शिक्षक यह सुनिश्चित कर सकते हैं कि उसके विद्यार्थी किसी निबंध-संकलन या कुंजी से तैयारशुदा सामग्री को उतार भर न ले। तैयार शुदा सामग्री के लोभ से, बाध्यतावश ही सही मुक्ति पाकर विद्यार्थी नये तरीके से सोचने और उसे शब्दबद्ध करने के लिए तैयार होंगे। मौखिक अभिव्यक्ति पर भी विशेष ध्यान देने की जरूरत है, क्योंकि भविष्य में साक्षात्कार, संगोष्ठी जैसे मौकों पर यही योग्यता विद्यार्थी के काम आती है। इसके अभ्यास के सिलसिले में शिक्षकों को उचित हावभाव, मानक उच्चारण, पॉज, बलाघात, हाजिरजवाबी इत्यादि पर खास बल देना होगा।
- काव्य की भाषा के मर्म से विद्यार्थी का परिचय कराने के लिए जरूरी होगा कि किताबों में आए काव्यांशों की लयबद्ध प्रस्तुतियों के ऑडियो-वीडियो कैसेट तैयार किए जाएँ। अगर आसानी से कोई गायक/गायिका मिले तो कक्षा में मध्यकालीन साहित्य के शिक्षण में उससे मदद ली जानी चाहिए।
- एन सी ई आर टी, मानव संसाधन विकास मंत्रालय के विभिन्न संगठनों तथा स्वतंत्र निर्माताओं द्वारा उपलब्ध कराए गए कार्यक्रम/ई-सामग्री,वृत्तचित्रों और सिनेमा को शिक्षण सामग्री के तौर पर इस्तेमाल करने की जरूरत है। इनके प्रदर्शन के क्रम में इन पर लगातार बातचीत के जरिए सिनेमा के माध्यम से भाषा के प्रयोग की विशिष्टता की पहचान कराई जा सकती है और हिंदी की अलग-अलग छटा दिखाई जा सकती है। विद्यार्थियों को स्तरीय परीक्षा करने को भी कहा जा सकता है।
- कक्षा में सिर्फ एक पाठ्यपुस्तक की उपस्थिति से बेहतर यह है कि शिक्षक के हाथ में तरह-तरह की पाठ्यसामग्री को विद्यार्थी देख सकें और शिक्षक उनका कक्षा में अलग-अलग मौकों पर इस्तेमाल कर सके।
- भाषा लगातार ग्रहण करने की क्रिया में बनती है, इसे प्रदर्शित करने का एक तरीका यह भी है कि शिक्षक खुद यह सिखा सकें कि वे भी शब्दकोश, साहित्यकोश, संदर्भग्रंथ की लगातार मदद ले रहे हैं। इससे विद्यार्थियों में इसका इस्तेमाल करने को लेकर तत्परता बढ़ेगी। अनुमान के आधार पर निकटतम अर्थ तक पहुँचकर संतुष्ट होने की जगह वे सही अर्थ की खोज करने के लिए प्रेरित होंगे। इससे शब्दों की अलग-अलग रंगत का पता चलेगा और उनमें संवेदनशीलता बढ़ेगी। वे शब्दों के बारीक अंतर के प्रति और सजग हो पाएँगे।
- कक्षा-अध्यापन के पूरक कार्य के रूप में सेमिनार, ट्यूटोरियल कार्य, समस्या-समाधान कार्य, समूहचर्चा, परियोजना कार्य, स्वाध्याय आदि पर बल दिया जाना चाहिए। पाठ्यक्रम में जनसंचार माध्यमों से संबंधित अंशों को देखते हुए यह जरूरी है कि समय-समय पर इन माध्यमों से जुड़े व्यक्तियों और विशेषज्ञों को भी विद्यालय में बुलाया जाए तथा उनकी देख-रेख में कार्यशालाएँ आयोजित की जाएं।
- भिन्न क्षमता वाले विद्यार्थियों के लिए उपयुक्त शिक्षण सामग्री का इस्तेमाल किया जाए तथा उन्हें किसी भी प्रकार से अन्य विद्यार्थियों से कमतर या अलग न समझा जाए।

- कक्षा में शिक्षक को हर प्रकार की विविधताओं(लिंग जाति, धर्म, वर्ग आदि) के प्रति सकारात्मक और संवेदनशील वातावरण निर्मित करना चाहिए।

<u>आंतरिक मूल्यांकन हेतु</u> –

श्रवण तथा वाचन परीक्षा हेतु दिशा-निर्देश

- **श्रवण (सुनना) (5अंक)**: वर्णित या पठित सामग्री को सुनकर अर्थग्रहण करना, वार्तालाप करना, वाद-विवाद, भाषण, कवितापाठ आदि को सुनकर समझना, मूल्यांकन करना और अभिव्यक्ति के ढंग को समझना।
- **वाचन (बोलना) (5अंक)**: भाषण, सस्वर कविता-पाठ, वार्तालाप और उसकी औपचारिकता, कार्यक्रम-प्रस्तुति, कथा-कहानी अथवा घटना सुनाना, परिचय देना, भावानुकूल संवाद-वाचन।

टिप्पणी: *वार्तालाप की दक्षताओं का मूल्यांकन निरंतरता के आधार पर परीक्षा के समय ही होगा। निर्धारित 10 अंकों में से 5 श्रवण (सुनना) कौशल के मूल्यांकन के लिए और 5 वाचन (बोलना) कौशल के मूल्यांकन के लिए होंगे।*

वाचन (बोलना) एवं श्रवण (सुनना) कौशल का मूल्यांकन:

- परीक्षक किसी प्रासंगिक विषय पर एक अनुच्छेद का स्पष्ट वाचन करेगा। अनुच्छेद तथ्यात्मक या सुझावात्मक हो सकता है। अनुच्छेद लगभग 250 शब्दों का होना चाहिए।

या

- परीक्षक 2-3 मिनट का श्रव्य अंश (ऑडियो क्लिप) सुनवाएगा। अंश रोचक होना चाहिए। कथ्य/ घटना पूर्ण एवं स्पष्ट होनी चाहिए। वाचक का उच्चारण शुद्ध, स्पष्ट एवं विराम चिह्नों के उचित प्रयोग सहित होना चाहिए।
- परीक्षार्थी ध्यानपूर्वक परीक्षक/ऑडियो क्लिप को सुनने के पश्चात परीक्षक द्वारा पूछे गए प्रश्नों का अपनी समझ से मौखिक उत्तर देंगे। (1x5 =5)
- किसी निर्धारित विषय पर बोलना: जिससे विद्यार्थी अपने व्यक्तिगत अनुभवों का प्रत्यास्मरण कर सकें।
- कोई कहानी सुनाना या किसी घटना का वर्णन करना।
- परिचय देना। (स्व/ परिवार/ वातावरण/ वस्तु/ व्यक्ति/ पर्यावरण/ कवि /लेखक आदि)
- परीक्षण से पूर्व परीक्षार्थी को तैयारी के लिए कुछ समय दिया जाए।
- विवरणात्मक भाषा में वर्तमान काल का प्रयोग अपेक्षित है।
- निर्धारित विषय परीक्षार्थी के अनुभव-जगत के हों।
- जब परीक्षार्थी बोलना आरंभ करें तो परीक्षक कम से कम हस्तक्षेप करें।

कौशलों के अंतरण का मूल्यांकन

(इस बात का निश्चय करना कि क्या विद्यार्थी में श्रवण और वाचन की निम्नलिखित योग्यताएँ हैं)

क्र.	**श्रवण (सुनना)**		**वाचन (बोलना)**
1	परिचित संदर्भों में प्रयुक्त शब्दों और पदों को समझने की सामान्य योग्यता है।	1	केवल अलग-अलग शब्दों और पदों के प्रयोग की योग्यता प्रदर्शित करता है।
2	छोटे सुसंबद्ध कथनों को परिचित संदर्भों में समझने की योग्यता है।	2	परिचित संदर्भों में केवल छोटे संबद्ध कथनों का सीमित शुद्धता से प्रयोग करता है।

3	परिचित या अपरिचित दोनों संदर्भों में कथित सूचना को स्पष्ट समझने की योग्यता है।	3	अपेक्षाकृत दीर्घ भाषण में जटिल कथनों के प्रयोग की योग्यता प्रदर्शित करता है।
4	दीर्घ कथनों की शृंखला को पर्याप्त शुद्धता से समझने के ढंग और निष्कर्ष निकाल सकने की योग्यता है।	4	अपरिचित स्थितियों में विचारों को तार्किक ढंग से संगठित कर धारा-प्रवाह रूप में प्रस्तुत करता है।
5	जटिल कथनों के विचार-बिंदुओं को समझने की योग्यता प्रदर्शित करने की क्षमता है।	5	उद्देश्य और श्रोता के लिए उपयुक्त शैली को अपना सकता है।

परियोजना कार्य - कुल अंक 10

- विषय वस्तु - 5 अंक
- भाषा एवं प्रस्तुति - 3 अंक
- शोध एवं मौलिकता - 2 अंक

  - हिन्दी भाषा और साहित्य से जुड़े विविध विषयों/ विधाओं / साहित्यकारों / समकालीन लेखन / साहित्यिक वादों / भाषा के तकनीकी पक्ष / प्रभाव / अनुप्रयोग / साहित्य के सामाजिक संदर्भो एवं जीवन मूल्य संबंधी प्रभावों आदि पर परियोजना कार्य दिए जाने चाहिए।
  - सत्र के प्रारंभ में ही विद्यार्थी को विषय चुनने का अवसर मिले ताकि उसे शोध, तैयारी और लेखन के लिए पर्याप्त समय मिल सके ।

  - **वाचन -श्रवण कौशल एवं परियोजना कार्य का मूल्यांकन विद्यालय स्तर पर आंतरिक परीक्षक द्वारा ही किया जाएगा।**

परियोजना-कार्य

'परियोजना' शब्द योजना में 'परि' उपसर्ग लगने से बना है। 'परि' का अर्थ है 'पूर्णता' अर्थात ऐसी योजना जो अपने आप में पूर्ण हो परियोजना कहलाती है। किसी विशेष लक्ष्य की प्राप्ति हेतु जो योजना बनाई और कार्यान्वित की जाती है, उसे परियोजना कहते हैं। यह किसी समस्या के निदान या किसी विषय के तथ्यों को प्रकाशित करने के लिए तैयार की गई एक पूर्ण विचार योजना होती है।

राष्ट्रीय पाठ्यचर्चा की रूपरेखा, नई शिक्षा नीति 2020 तथा केन्द्रीय माध्यमिक शिक्षा बोर्ड द्वारा समय-समय पर अनुभवात्मक अधिगम, आनंदपूर्ण अधिगम की बात की कही गई है। उच्चतर माध्यमिक स्तर पर विद्यार्थियों के लिए हिंदी का अध्ययन एक सृजनात्मक, साहित्यिक, सांस्कृतिक और विभिन्न प्रयुक्तियों की भाषा के रूप में करने और करवाने के लिए परियोजना कार्य अत्यंत महत्वपूर्ण व लाभदायक सिद्ध होता है।

परियोजना का महत्व

- व्यक्तिगत स्तर पर खोज , कार्रवाई और ग्यारहवीं-बारहवीं कक्षा के दौरान अर्जित ज्ञान और कौशल, विचारों आदि पर चिंतन का उपयोग ।
- सैद्धांतिक निर्माणों और तर्कों का उपयोग करके वास्तविक दुनिया के परिदृश्यों का विश्लेषण और मूल्यांकन
- एक स्वतंत्र और विस्तारित कार्य का निर्माण करने के लिए महत्वपूर्ण और रचनात्मक सोच कौशल और क्षमताओं के अनुप्रयोग का प्रदर्शन
- उन विषयों पर कार्य करने का अवसर जिनमें शिक्षार्थियों की रुचि है
- नए ज्ञान की ओर अग्रसर

- खोजी प्रवृत्ति में वृद्धि
- भाषा ज्ञान समृद्ध एवं व्यावहारिक
- समस्या समाधान की क्षमता का विकास

परियोजना कार्य निर्धारित करते समय ध्यान देने योग्य बातें

- परियोजना कार्य शिक्षार्थियों में योग्यता आधारित क्षमता को ध्यान में रखकर दिए जाएँ जिससे वे विषय के साथ जुड़ते हुए उसके व्यावहारिक पक्ष को समझ सकें। वर्तमान समय में उसकी प्रासंगिकता पर भी ध्यान दिया जाए।
- सत्र के प्रारम्भ में ही विद्यार्थियों को विषय चुनने का अवसर मिले ताकि उसे शोध, तैयारी और लेखन के लिए पर्याप्त समय मिल सके।
- अध्यापिका/अध्यापक द्वारा कक्षा में परियोजना-कार्य को लेकर विस्तारपूर्वक चर्चा की जाए जिससे विद्यार्थी उसके अर्थ, महत्व व प्रक्रिया को भली-भाँति समझने में सक्षम हो सकें ।
- हिंदी भाषा और साहित्य से जुड़े। विविध विषयों/ विधाओं/ साहित्यकारों/ समकालीन लेखन/ भाषा के तकनीकी पक्ष/ प्रभाव/ अनुप्रयोग/ साहित्य के सामाजिक संदर्भों एवं जीवन-मूल्य संबंधी प्रभावों आदि पर परियोजना कार्य दिए जाने चाहिए।
- शिक्षार्थी को उसकी रुचि के अनुसार विषय का चयन करने के छूट दी जानी चाहिए तथा अध्यापक/ अध्यापिका को मार्गदर्शक के रूप में उसकी सहायता करनी चाहिए।
- परियोजना – कार्य करने समय निम्नलिखित आधार को अपनाया जा सकता है-
    1. प्रमाण – पत्र
    2. आभार ज्ञापन
    3. विषय-सूची
    4. उद्देश्य
    5. समस्या का बयान
    6. परिकल्पना
    7. प्रक्रिया (साक्ष्य संग्रह, साक्ष्य का विश्लेषण)
    8. प्रस्तुतीकरण (विषय का विस्तार)
    9. अध्ययन का परिणाम
    10. अध्ययन की सीमाएँ
    11. स्त्रोत
    12. अध्यापक टिप्पणी
- परियोजना – कार्य में शोध के दौरान सम्मिलित किए गए चित्रों और संदर्भों के विषय में उचित जानकारी दी जानी चाहिए। उनके स्त्रोत को अवश्य अंकित करना चाहिए।
- चित्र, रेखाचित्र, विज्ञापन, ग्राफ, विषय से संबंधित आँकड़े, विषय से संबंधित समाचार की कतरनें एकत्रित के जानी चाहिए।
- प्रमाणस्वरूप सम्मिलित किए गए आँकड़े, चित्र, विज्ञापन आदि के स्त्रोत अंकित करने के साथ-साथ समाचार-पत्र, पत्रिकाओं के नाम एवं दिनांक भी लिखने चाहिए।
- साहित्यकोश, संदर्भ-ग्रंथ, शब्दकोश की मदद लेनी चाहिए।
- परियोजना-कार्य में शिक्षार्थियों के लिए अनेक संभावनाएँ हैं । उनके व्यक्तिगत विचार तथा उनकी कल्पना के विस्तृत संसार को अवश्य सम्मिलित किया जाए।

परियोजना – कार्य के कुछ विषय सुझावात्मक रूप में दिए जा रहे हैं।

भाषा और साहित्य से जुड़े विविध विषयों/ विधाओं/ साहित्यकारों/ समकालीन लेखन के आधार पर

- हिंदी कविता में प्रकृति चित्रण (पाठ – जयशंकर प्रसाद) विभिन्न कवियों की कविताओं का तुलनात्मक अध्ययन, भाषा शैली, विशेषताएँ, वर्तमान के साथ प्रासंगिकता इत्यादि।

- भारतीय ग्रामीण का जीवन (पाठ – सूरदास की झोपड़ी)
  - आज़ादी से पहले, बाद में तथा वर्तमान में स्थिति
  - सुधार की आवश्यकताएँ
  - आपकी भूमिका/ योगदान/ सुझाव

- संघर्षों की जूझता पहाड़ी जीवन (पाठ – आरोहण)
  - बदलते समय के साथ बदलता जीवन
  - विश्लेषणात्मक व तथ्यात्मक प्रस्तुति
  - भौगोलिक स्थितियाँ, आपदाएँ
  - कारण और निवारण
  - आपकी भूमिका

- समकालीन विषय
  - कोविड -19 और हम
  - भूमिका – क्या है, क्यों है आदि का विवरण
  - विभिन्न देशों में प्रभाव
  - भारत के साथ तुलनात्मक अध्ययन
  - कारण और निवारण
  - आपकी भूमिका/ योगदान/ सुझाव

उपर्युक्त विषय सुझाव के रूप में प्रस्तुत किए गए हैं। आप दिशानिर्देशों के आधार पर अन्य विषयों का चयन कर सकते है।

परियोजना की शब्दसीमा लगभग 2000 शब्दों की होनी चाहिये।

कक्षा 12वीं हिंदी 'आधार' परीक्षा हेतु पाठ्यक्रम विनिर्देशन 2021-2022 (कोड सं. 302) प्रथम सत्र

परीक्षा भार विभाजन				
	विषयवस्तु		उपभार	कुलभार
1	**अपठित गद्यांश (चिंतन क्षमता एवं अभिव्यक्ति कौशल पर बहुविकल्पात्मक प्रश्न पूछे जाएंगे)**		**15**	
	अ	दो अपठित गद्यांशों में से कोई एक गद्यांश करना होगा। (450-500 शब्दों के) (1 अंक x 10 प्रश्न)	10	**10**
	ब	दो अपठित पद्यांशों में से कोई एक पद्यांश करना होगा। (250-250 शब्दों के) (1 अंक x 5 प्रश्न)	05	**05**
2	**कार्यालयी हिंदी और रचनात्मक लेखन ('अभिव्यक्ति और माध्यम' पुस्तक के आधार पर)**		**05**	
	अ	अभिव्यक्ति और माध्यम पुस्तक से बहुविकल्पात्मक प्रश्न (1 अंक x5 प्रश्न)	05	**05**
3	**पाठ्यपुस्तक आरोह भाग – 2 से बहुविकल्पात्मक प्रश्न**		**15**	
	अ	पठित काव्यांश पर पाँच बहुविकल्पीय प्रश्न (1 अंक x 05 प्रश्न)	05	
	ब	पठित गद्यांश पर पाँच बहुविकल्पीय प्रश्न। (1 अंक x 05 प्रश्न)	05	
	स	पठित पाठों पर पाँच बहुविकल्पीय प्रश्न। (1 अंक x 05 प्रश्न)	05	
4	**अनुपूरक पाठ्यपुस्तक वितान भाग-2 से बहुविकल्पात्मक प्रश्न**		**05**	
	अ	पठित पाठों पर पाँच बहुविकल्पीय प्रश्न। (1 अंक x 05 प्रश्न)	05	
5	**आंतरिक मूल्याङ्कन**			**10**
		श्रवण तथा वाचन	10	
कुल अंक				**50**

सत्र-1 2021-22 में निम्नलिखित पाठ सम्मिलित किए गए हैं –

पाठ्यपुस्तक - आरोह भाग – 2

काव्य खंड	**गद्य खंड**
1. हरिवंश राय बच्चन - एक गीत	**1.** महादेवी वर्मा - भक्तिन
2. कुँवर नारायण - कविता के बहाने	**1.** जैनेन्द्र कुमार - बाज़ार दर्शन
2. रघुवीर सहाय - कैमरे में बंद अपाहिज	**1.** धर्मवीर भारती - काले मेघा पानी दे
2. गजानन माधव मुक्तिबोध - सहर्ष स्वीकारा है	
अभिव्यक्ति और माध्यम	**अनुपूरक पाठ्यपुस्तक - वितान भाग – 2**
विभिन्न माध्यमों के लिए लेखन	मनोहर श्याम जोशी - सिल्वर वैडिंग
पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया	आनंद यादव - जूझ

कक्षा 12वीं हिंदी 'आधार' परीक्षा हेतु पाठ्यक्रम विनिर्देशन 2021-2022 (कोड सं. 302) द्वितीय सत्र				
	विषयवस्तु		उप भार	कुलभार
1	**कार्यालयी हिंदी और रचनात्मक लेखन**			**20**
	1	दिए गए तीन नए और अप्रत्याशित विषयों में से किसी एक विषय पर लगभग 150 शब्दों में रचनात्मक लेखन (5 अंक x1 प्रश्न)	05	
	2	औपचारिक विषय से संबंधित पत्र लेखन। (5 अंक x1 प्रश्न) (विकल्प सहित)	05	
	3	कहानी/नाटक की रचना प्रक्रिया पर आधारित दो लघु उत्तरीय प्रश्न (3 अंक x 1 प्रश्न) + (2 अंक x 1 प्रश्न) (विकल्प सहित)	05	
	4	समाचार लेखन/फीचर लेखन/आलेख लेखन पर आधारित दो लघु उत्तरीय प्रश्न (3 अंक x 1 प्रश्न) + (2 अंक x 1 प्रश्न) (विकल्प सहित)	05	
2	**पाठ्यपुस्तक आरोह भाग – 2** तथा **अनुपूरक पाठ्यपुस्तक वितान भाग-2**			**20**
	1	काव्य खंड पर आधारित तीन प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर (लगभग 50-60 शब्दों में) (3 अंक x 2 प्रश्न)	6	
	2	गद्य खंड पर आधारित चार प्रश्नों में से किन्हीं तीन प्रश्नों के उत्तर (लगभग 50-60 शब्दों में) (3 अंक x 3 प्रश्न)	9	
	3	अनुपूरक पाठ्यपुस्तक वितान भाग-2 के पठित पाठों पर तीन अंक का एक तथा दो अंक का एक प्रश्न पूछा जाएगा (विकल्प सहित) (1 X 3)+(1 X 2)	5	
3 आंतरिक मूल्याङ्कन				**10**
	परियोजना कार्य		10	
कुल अंक				**50**

सत्र-2 2021-22 में निम्नलिखित पाठ सम्मिलित किए गए हैं –

पाठ्यपुस्तक - आरोह भाग – 2

काव्य खंड	**गद्य खंड**
शमशेर बहादुर सिंह - उषा	फणीश्वर नाथ रेणु - पहलवान की ढोलक
तुलसीदास - (i) कवितावली (ii) लक्ष्मण मूर्च्छा और राम का विलाप	रज़िया सज्जाद ज़हीर - नमक
फ़िराक गोरखपुरी - (i) रुबाइयाँ (ii) गज़ल	बाबा साहेब भीमराव आंबेडकर - (i) श्रम विभाजन और जाति - प्रथा (ii) मेरी कल्पना का आदर्श समाज

अभिव्यक्ति और माध्यम

1. कैसे करें कहानी का नाट्य रूपांतरण
2. कैसे बनता है रेडियो नाटक
3. नए और अप्रत्याशित विषयों पर लेखन
4. पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया
5. विशेष लेखन - स्वरुप और प्रकार

अनुपूरक पाठ्यपुस्तक - वितान भाग – 2

1. ओम थानवी - अतीत में दबे पाँव
2. ऐन फ्रैंक - डायरी के पन्ने

निर्धारित पुस्तकें:

1. **आरोह, भाग–2,** एन.सी.ई.आर.टी., नई दिल्ली द्वारा प्रकाशित नवीनतम संस्करण
2. **वितान, भाग–2,** एन.सी.ई.आर.टी., नई दिल्ली द्वारा प्रकाशित नवीनतम संस्करण
3. **अभिव्यक्ति और माध्यम,** एन.सी.ई.आर.टी., नई दिल्ली द्वारा प्रकाशित नवीनतम संस्करण

MATHEMATICS (XI-XII)
(Code No. 041)
Session – 2021-22

The Syllabus in the subject of Mathematics has undergone changes from time to time in accordance with growth of the subject and emerging needs of the society. Senior Secondary stage is a launching stage from where the students go either for higher academic education in Mathematics or for professional courses like Engineering, Physical and Biological science, Commerce or Computer Applications. The present revised syllabus has been designed in accordance with National Curriculum Framework 2005 and as per guidelines given in Focus Group on Teaching of Mathematics 2005 which is to meet the emerging needs of all categories of students. Motivating the topics from real life situations and other subject areas, greater emphasis has been laid on application of various concepts.

Objectives

The broad objectives of teaching Mathematics at senior school stage intend to help the students:

- to acquire knowledge and critical understanding, particularly by way of motivation and visualization, of basic concepts, terms, principles, symbols and mastery of underlying processes and skills.
- to feel the flow of reasons while proving a result or solving a problem.
- to apply the knowledge and skills acquired to solve problems and wherever possible, by more than one method.
- to develop positive attitude to think, analyze and articulate logically.
- to develop interest in the subject by participating in related competitions.
- to acquaint students with different aspects of Mathematics used in daily life.
- to develop an interest in students to study Mathematics as a discipline.
- to develop awareness of the need for national integration, protection of environment, observance of small family norms, removal of social barriers, elimination of gender biases.
- to develop reverence and respect towards great Mathematicians for their contributions to the field of Mathematics.

CLASS-XII
MATHEMATICS (2021-22)
TERM - I

One Paper

90 minutes **Max Marks: 40**

No.	Units	Marks
I.	Relations and Functions	08
II.	Algebra	10
III.	Calculus	17
V.	Linear Programming	05
	Total	40
	Internal Assessment	10
	Total	50

Unit-I: Relations and Functions

1. Relations and Functions

Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.

2. Inverse Trigonometric Functions

Definition, range, domain, principal value branch.

Unit-II: Algebra

1. Matrices

Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operation on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices, Invertible matrices; (Here all matrices will have real entries).

2. Determinants

Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

Unit-III: Calculus

1. Continuity and Differentiability

Continuity and differentiability, derivative of composite functions, chain rule, derivative of inverse trigonometric functions, derivative of implicit functions. Concept of exponential and logarithmic functions.

Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.

2. Applications of Derivatives

Applications of derivatives: increasing/decreasing functions, tangents and normals, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

Unit-V: Linear Programming

1. Linear Programming

Introduction, related terminology such as constraints, objective function, optimization, different types of linear programming (L.P.) problems. Graphical method of solution for problems in two variables, feasible and infeasible regions (bounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).

INTERNAL ASSESSMENT	**10 MARKS**
Periodic Test	5 Marks
Mathematics Activities: Activity file record +Term end assessment of one activity & Viva	5 Marks

Note: For activities NCERT Lab Manual may be referred

TERM - II

One Paper

Max Marks: 40

No.	Units	Marks
III.	Calculus	18
IV.	Vectors and Three-Dimensional Geometry	14
VI.	Probability	8
	Total	40
	Internal Assessment	10
	Total	**50**

Unit-III: Calculus

1. Integrals

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals of the following types and problems based on them.

$$\int \frac{dx}{x^2 \pm a^{2,}} \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^{2+bx+c}}}$$

$$\int \frac{px + q}{ax^2 + bx + c} dx, \int \frac{px + q}{\sqrt{ax^{2+}bx + c}} dx, \int \sqrt{a^2 \pm x^2}\, dx, \qquad \int \sqrt{x^2 - a^2} dx$$

Fundamental Theorem of Calculus (without proof).Basic properties of definite integrals and evaluation of definite integrals.

2. Applications of the Integrals

Applications in finding the area under simple curves, especially lines, parabolas; area of circles /ellipses (in standard form only) (the region should be clearly identifiable).

3. Differential Equations

Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree of the type: $\frac{dy}{dx} = f(y/x)$. Solutions of linear differential equation of the type:

$$\frac{dy}{dx} + py = q, \text{ where p and q are functions of x or constant.}$$

Unit-IV: Vectors and Three-Dimensional Geometry

1. Vectors

Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.

2. Three - dimensional Geometry

Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Distance of a point from a plane.

Unit-VI: Probability

1. Probability

Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution.

INTERNAL ASSESSMENT	**10 MARKS**
Periodic Test	5 Marks
Mathematics Activities: Activity file record +Term end assessment of one activity & Viva	5 Marks

Note: For activities NCERT Lab Manual may be referred

Assessment of Activity Work:

In first term any 4 activities and in second term any 4 activities shall be performed by the student from the activities given in the NCERT Laboratory Manual for the respective class (XI or XII) which is available on the link : http://www.ncert.nic.in/exemplar/labmanuals.htmla record of the same may be kept by the student. A term end test on the activity is to be conducted.

The weightage are as under:

- The activities performed by the student in each term and record keeping : 3 marks
- Assessment of the activity performed during the term end test and Viva-voce : 2 marks

Prescribed Books:

1) Mathematics Textbook for Class XI, NCERT Publications
2) Mathematics Part I - Textbook for Class XII, NCERT Publication
3) Mathematics Part II - Textbook for Class XII, NCERT Publication
4) Mathematics Exemplar Problem for Class XI, Published by NCERT
5) Mathematics Exemplar Problem for Class XII, Published by NCERT
6) Mathematics Lab Manual class XI, published by NCERT
7) Mathematics Lab Manual class XII, published by NCERT

Physics Class XII (Code N. 042) (2020-21)

Syllabus assigned for Term I (Theory)

Time: 90 Minutes **Max Marks: 35**

		No. of Periods	Marks
Unit–I	**Electrostatics**	**23**	**17**
	Chapter–1: Electric Charges and Fields		
	Chapter–2: Electrostatic Potential and Capacitance		
Unit-II	**Current Electricity**	**15**	
	Chapter–3: Current Electricity		
Unit-III	**Magnetic Effects of Current and Magnetism**	**16**	**18**
	Chapter–4: Moving Charges and Magnetism		
	Chapter–5: Magnetism and Matter		
Unit-IV	**Electromagnetic Induction and Alternating Currents**	**19**	
	Chapter–6: Electromagnetic Induction Chapter 7: Alternating currents		
Total		**73**	**35**

Unit I: Electrostatics **23 Periods**

Chapter–1: Electric Charges and Fields

Electric Charges; Conservation of charge, Coulomb's law-force between two-point charges, forces between multiple charges; superposition principle and continuous charge distribution. Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet

Chapter–2: Electrostatic Potential and Capacitance

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two-point charges and of electric dipole in an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor.

Unit II: Current Electricity **15 Periods**

Chapter–3: Current Electricity

Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity; temperature dependence of resistance. Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's laws and simple applications, Wheatstone bridge, metre bridge(**qualitative ideas only).** Potentiometer - principle and its applications to measure potential difference and for comparing EMF of two cells; measurement of internal resistance of a cell **(qualitative ideas only)**

Unit III: Magnetic Effects of Current and Magnetism 16 Periods

Chapter–4: Moving Charges and Magnetism

Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire. Straight and toroidal solenoids (only qualitative treatment), force on a moving charge in uniform magnetic and electric fields. Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors-definition of ampere, torque experienced by a current loop in uniform magnetic field; moving coil galvanometer-its current sensitivity and conversion to ammeter and voltmeter.

Chapter–5: Magnetism and Matter

Current loop as a magnetic dipole and its magnetic dipole moment, magnetic dipole moment of a revolving electron, bar magnet as an equivalent solenoid, magnetic field lines; earth's magnetic field and magnetic elements.

Unit IV: Electromagnetic Induction and Alternating Currents 19 Periods

Chapter–6: Electromagnetic Induction

Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Eddy currents. Self and mutual induction.

Chapter–7: Alternating Current

Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LC oscillations (qualitative treatment only), LCR series circuit, resonance; power in AC circuits. AC generator and transformer.

Syllabus assigned for Practical for Term I

Total Periods:16

First term practical examination will be organised by schools as per the directions of CBSE. The record to be submitted by the students at the time of first term examination has to include a record of at least 4 Experiments and 3 Activities to be demonstrated by teacher.

Time Allowed: one and half hours **Max. Marks: 15**

Two experiments to be performed by students at time of examination	**8 marks**
Practical record [experiments and activities]	**2 marks**
Viva on experiments, **and** activities	**5 marks**
Total	**15 marks**

Experiments assigned for Term I

1. To determine resistivity of two / three wires by plotting a graph between potential difference versus current.
2. To find resistance of a given wire / standard resistor using metre bridge.

   OR

   To verify the laws of combination (series) of resistances using a metre bridge.

   OR

   To verify the laws of combination (parallel) of resistances using a metre bridge.
3. To compare the EMF of two given primary cells using potentiometer.

   OR

   To determine the internal resistance of given primary cell using potentiometer.
4. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.
5. To convert the given galvanometer (of known resistance and figure of merit) into a voltmeter of desired range and to verify the same.

   OR

   To convert the given galvanometer (of known resistance and figure of merit) into an ammeter of desired range and to verify the same.
6. To find the frequency of AC mains with a sonometer.

Activities assigned for Term I

1. To measure the resistance and impedance of an inductor with or without iron core.
2. To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter.
3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
4. To assemble the components of a given electrical circuit.
5. To study the variation in potential drop with length of a wire for a steady current.
6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.

Class XII Syllabus assigned for Term II (Theory)

Time: 2 Hours **Max Marks: 35**

		No of Periods	Marks
Unit–V	**Electromagnetic Waves**	**02**	**17**
	Chapter–8: Electromagnetic Waves		
Unit–VI	**Optics**	**18**	
	Chapter–9: Ray Optics and Optical Instruments		
	Chapter–10: Wave Optics		
Unit–VII	**Dual Nature of Radiation and Matter**	**07**	**11**
	Chapter–11: Dual Nature of Radiation and Matter		
Unit–VIII	**Atoms and Nuclei**	**11**	
	Chapter–12: Atoms		
	Chapter–13: Nuclei		
Unit–IX	**Electronic Devices**	**07**	**7**
	Chapter–14: Semiconductor -Electronics: Materials, Devices and Simple Circuits		
Total		**45**	**35**

Unit V: Electromagnetic waves **2 Periods**

Chapter–8: Electromagnetic Waves

Electromagnetic waves, their characteristics, their Transverse nature (qualitative ideas only).

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

Unit VI: Optics **18Periods**

Chapter–9: Ray Optics and Optical Instruments

Ray Optics: Refraction of light, total internal reflection and its applications, optical fibers, refraction at spherical surfaces, lenses, thin lens formula, lensmaker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism.

Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Chapter–10: Wave Optics

Wave optics: Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width, coherent sources and

sustained interference of light, diffraction due to a single slit, width of central maximum

Unit VII: Dual Nature of Radiation and Matter **7 Periods**

Chapter–11: Dual Nature of Radiation and Matter

Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light.

Experimental study of photoelectric effect

Matter waves-wave nature of particles, de-Broglie relation

Unit VIII: Atoms and Nuclei **11Periods**

Chapter–12: Atoms

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum.

Chapter–13: Nuclei Composition and size of nucleus Nuclear force Mass-energy relation, mass defect, nuclear fission, nuclear fusion.

Unit IX: Electronic Devices **7 Periods**

Chapter–14: Semiconductor Electronics: Materials, Devices and Simple Circuits Energy bands in conductors, semiconductors and insulators (qualitative ideas only) Semiconductor diode - I-V characteristics in forward and reverse bias, diode as a rectifier; Special purpose p-n junction diodes: LED, photodiode, solar cell.

Syllabus assigned for Practical for Term II

Total Periods: 16

The second term practical examination will be organised by schools as per the directions of CBSE and viva will be taken by both internal and external observers. The record to be submitted by the students at the time of second term examination has to include a record of at least 4 Experiments and 3 Activities to be demonstrated by teacher.

Evaluation Scheme

Time Allowed: one and half hours **Max. Marks: 15**

Two experiments to be performed by students at time of examination	**8 marks**
Practical record [experiments and activities]	**2 marks**
Viva on experiments, **and** activities	**5 marks**
Total	**15 marks**

Experiments assigned for Term-II

1. To find the focal length of a convex lens by plotting graphs between u and v or between 1/u and1/v.
2. To find the focal length of a convex mirror, using a convex lens.

   OR

   To find the focal length of a concave lens, using a convex lens.
3. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.
4. To determine refractive index of a glass slab using a travelling microscope.
5. To find refractive index of a liquid by using convex lens and plane mirror.
6. To draw the I-V characteristic curve for a p-n junction diode in forward bias and reverse bias.

Activities assigned for Term-II

1. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.
2. Use of multimeter to see the unidirectional flow of current in case of a diode and an LED and check whether a given electronic component (e.g., diode) is in working order.
3. To study effect of intensity of light (by varying distance of the source) on an LDR.
4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
5. To observe polarization of light using two Polaroids.
6. To observe diffraction of light due to a thin slit.
7. To study the nature and size of the image formed by a (i) convex lens, (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).
8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

Practical Examination for Visually Impaired Students of XII
Evaluation Scheme (Term I and Term II)

Time Allowed: one hour **Max. Marks:15**

Identification/Familiarity with the apparatus	3 marks
Written test (based on given/prescribed practicals)	5 marks
Practical Record	2 marks
Viva	5 marks
Total	**15 marks**

General Guidelines

- The practical examination will be of one hour duration.
- A separate list of ten experiments is included here.
- The written examination in practicals for these students will be conducted at the time of practical examination of all other students.
- The written test will be of 10 minutes duration.
- The question paper given to the students should be legibly typed. It should contain a total of 8 practical skill based very short answer type questions. A student would be required to answer any 5 questions.
- A writer may be allowed to such students as per CBSE examination rules.
- All questions included in the question papers should be related to the listed practicals. Every question should require about two minutes to be answered.
- These students are also required to maintain a practical file. A student is expected to record at least five of the listed experiments as per the specific instructions for each subject. These practicals should be duly checked and signed by the internal examiner.
- The format of writing any experiment in the practical file should include aim, apparatus required, simple theory, procedure, related practical skills, precautions etc.
- Questions may be generated jointly by the external/internal examiners and used for assessment.
- The viva questions may include questions based on basic theory/principle/concept, apparatus/ materials/chemicals required, procedure, precautions, sources of error

Class XII

A. Items for Identification/ familiarity with the apparatus for assessment in practicals (All experiments)

Meter scale, general shape of the voltmeter/ammeter, battery/power supply, connecting wires, standard resistances, connecting wires, voltmeter/ammeter, meter bridge, screw gauge, jockey Galvanometer, Resistance Box, standard Resistance, connecting wires, Potentiometer, jockey, Galvanometer, Lechlanche cell, Daniell cell [simple distinction between the two vis-à-vis their outer (glass and copper) containers], rheostat connecting wires, Galvanometer, resistance box, Plug-in and tapping keys, connecting wires battery/power supply, Diode, Resistor (Wire-wound or carbon ones with two wires connected to two ends), capacitors (one or two types), Inductors, Simple electric/electronic bell, battery/power supply, Plug-in and tapping keys, Convex lens, concave lens, convex mirror, concave mirror, Core/hollow wooden cylinder, insulated wire, ferromagnetic rod, Transformer core, insulated wire.

Experiments assigned for Term-I

1. To determine the resistance per cm of a given wire by plotting a graph between voltage and current.
2. To verify the laws of combination (series/parallel combination) of resistances by Ohm's law.
3. To find the resistance of a given wire / standard resistor using a meter bridge.
4. To compare the e.m.f of two given primary cells using a potentiometer.
5. To determine the resistance of a galvanometer by half deflection method.

Experiments assigned for Term-II

1 To identify a resistor, capacitor, inductor and diode from a mixed collection of such items.

2 To observe the difference between

i. a convex lens and a concave lens

ii. a convex mirror and a concave mirror and to estimate the likely difference between the power of two given convex /concave lenses.

3 To design an inductor coil and to know the effect of

i. change in the number of turns

ii. Introduction of ferromagnetic material as its core material on the inductance of the coil.

4 To design a (i) step up (ii) step down transformer on a given core and know the relation between its input and output voltages.

Note: The above practicals may be carried out in an experiential manner rather than recording observations.

Prescribed Books:

1. Physics, Class XII, Part -I and II, Published by NCERT.
2. Laboratory Manual of Physics for class XII Published by NCERT.
3. The list of other related books and manuals brought out by NCERT (consider multimedia also).

condition of visually handicapped students .They will, however, be assessed on 15 marks in practical examination in both the terms as rest of their peers.

SYLLABUS FOR SESSION 2021-22 CLASS XII Term-I

S.No	UNIT	Periods	MARKS
1	Solid State	8	10
2	Solutions	8	
3	p-Block Elements	7	10
4	Haloalkanes and Haloarenes	9	15
5	Alcohols, Phenols and Ethers	9	
6	Biomolecules	8	
	TOTAL	49	35

Solid State: Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea). Unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell, packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, point defects.

Solutions: Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law, colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties.

p Block Elements: Group -15 Elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; Nitrogen preparation properties and uses; compounds of Nitrogen: preparation and properties of Ammonia and Nitric Acid.
Group 16 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, dioxygen: preparation, properties and uses, classification of Oxides, Ozone, Sulphur -allotropic forms; compounds of Sulphur: preparation properties and uses of Sulphur-dioxide, Sulphuric Acid: properties and uses; Oxoacids of Sulphur (Structures only).
Group 17 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens, Preparation, properties and uses of Chlorine and Hydrochloric acid, interhalogen compounds, Oxoacids of halogens (structures only).
Group 18 Elements: General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses.

Haloalkanes and Haloarenes: Haloalkanes: Nomenclature, nature of C–X bond, physical and chemical properties, optical rotation mechanism of substitution reactions.
Haloarenes: Nature of C–X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only).

Alcohols, Phenols and Ethers: Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration.
Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols.
Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.

Biomolecules: Carbohydrates - Classification (aldoses and ketoses), monosaccahrides (glucose and fructose), D-L configuration
Proteins -Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins.
Nucleic Acids: DNA and RNA

PRACTICALS

Term I: **A 15-mark Practical** would be conducted under the supervision of subject teacher/ internal examiner. This would contribute to the overall practical marks for the subject.
OR

In case the situation of lockdown continues until Nov-Dec 2021, a *Practical Based Assessment (pen-paper) of 15 marks* would be conducted at the end of Term I at the school level and marks would be submitted by the schools to the Board. This would contribute to the overall practical marks for the subject.

Term-I Evaluation Scheme

S. No	Practical	Marks
1.	Volumetric Analysis	4
2.	Salt Analysis	4
3.	Content Based experiment	2
4.	Class record and viva(Internal Examiner)	5
	TOTAL	15

(1) **Volumetric analysis (4 marks)**

Determination of concentration/ molarity of $KMnO_4$ solution by titrating it against a standard solution of:

i. Oxalic acid,
ii. Ferrous Ammonium Sulphate
(Students will be required to prepare standard solutions by weighing themselves).

(2) **Salt analysis (Qualitative analysis) (4 marks)**

Determination of one cation and one anion in a given salt.
Cations- Pb^{2+}, Cu^{2+}, As^{3+}, Al^{3+}, Fe^{3+}, Mn^{2+}, Ni^{2+}, Zn^{2+}, Co^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+
Anions – $(CO_3)^{2-}$, S^{2-}, NO_2^-, SO_3^{2-}, SO_4^{2-}, NO_3^-, Cl^-, Br^-, I^-, PO_4^{3-}, $C_2O_4^{2-}$, CH_3COO^- (Note: Insoluble salts excluded)

(3) **Content Based Experiments (2 marks)**

A. Chromatography
   i. Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of Rf values.
   ii. Separation of constituents present in an inorganic mixture containing two cations only (constituents having large difference in Rf values to be provided).
B. Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs.

SYLLABUS FOR SESSION 2021-22 CLASS XII Term-II

S.No	UNIT	No. of Periods	MARKS
1	Electrochemistry	7	
2	Chemical Kinetics	5	
3	Surface Chemistry	5	13
4	d-and f-Block Elements	7	
5	Coordination Compounds	8	9
6	Aldehydes, Ketones and Carboxylic Acids	10	
7	Amines	7	13
	TOTAL	49	35

Electrochemistry: Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis.

Chemical Kinetics: Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions).

Surface Chemistry: Adsorption - physisorption and chemisorption, factors affecting adsorption of gases on solids, colloidal state: distinction between true solutions, colloids and suspension; lyophilic, lyophobic, multi-molecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation.

d-and f-Block Elements: General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation.
Lanthanoids - Electronic configuration, oxidation states and lanthanoid contraction and its consequences.

Coordination Compounds: Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT.

Aldehydes, Ketones and Carboxylic Acids: Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses.
Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

Amines:

Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.

PRACTICALS

Term II: At the end of Term II, **a 15-mark Practical** would be conducted under the supervision of Board appointed external examiners. This would contribute to the overall practical marks for the subject.

OR

In case the situation of lockdown continues beyond December 2021, a *Practical Based Assessment (pen-paper) of 10 marks and Viva 5 marks* would be conducted at the end of Term II jointly by the external and internal examiners and marks would be submitted by the schools to the Board. This would contribute to the overall practical marks for the subject.

TERM-II Evaluation Scheme

S. No	Practical	Marks
1.	Volumetric Analysis	4
2.	Salt Analysis	4
3	Content Based Experiment	2
4	Project Work and Viva(Internal and External Both)	5
	TOTAL	15

1) **Volumetric analysis (4 marks)**
   Determination of concentration/ molarity of $KMnO_4$ solution by titrating it against a standard solution of:
   i. Oxalic acid,
   ii. Ferrous Ammonium Sulphate
   (Students will be required to prepare standard solutions by weighing themselves).

2) **Salt analysis (Qualitative analysis) (4 marks)**
   Determination of one cation and one anion in a given salt.

   Cations- Pb^{2+}, Cu^{2+}, As^{3+}, Al^{3+}, Fe^{3+}, Mn^{2+}, Ni^{2+}, Zn^{2+}, Co^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+

   Anions – $(CO_3)^{2-}$, S^{2-} , NO_2^- , SO_3^{2-} , SO_4^{2-} , NO_3^-, Cl^- , Br^- , I^- , PO_4^{3-} , $C_2O_4^{2-}$,CH_3COO^- (Note: Insoluble salts excluded)

3) **Content based experiment**
   A. Preparation of Inorganic Compounds
      Preparation of double salt of Ferrous Ammonium Sulphate or Potash Alum.
      Preparation of Potassium Ferric Oxalate.

   B. Tests for the functional groups present in organic compounds:
      Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups.

Guidelines on Syllabus for Visually Handicapped students.

Schools are expected to rationalise and divide the syllabus of practicums for visually handicapped students into two halves on the basis of collective guidelines given for the same in the complete syllabus and as per the convenience of their students. This flexibility is given in view of the special condition of visually handicapped students .They will, however, be assessed on 15 marks in practical examination in both the terms as rest of their peers.

General Instructions for Investigatory Project

In Chemistry the students of class XI and XII are supposed to conduct a scientific investigations involving laboratory testing and collecting information from other sources. This project is assessed as a part of practical examination at the end of year.

At the outset, teachers must map appropriate competencies or learning outcomes with real world problems (projects) that are age appropriate for their students. Students in consultation with their teacher finally determine the project question for them depending upon their interest and proclivity. A project should ideally arise out of the need felt by the student. Students explore their areas of interest and narrow down their ideas to a testable hypothesis or problem question.

For example: Abdul waits for summers as his favourite fruit watermelon is available in plenty. This year he noticed that every time he bought a watermelon its colour was dark red and was exceptionally sweet from inside. This never happened in earlier years. Some watermelons would be sweet some would not. Abdul were surprised by this observation and worried if the fruit was adulterated. He thought of conducting a test to find out if fruits and vegetables available in his locality were adulterated. He reviewed articles and papers on adulteration and found out simple tests to check adulteration at home. Abdul conducted the test and shared his results with his friend and teacher. He developed a small manual to help other check adulteration in fruits.

There are many issues in our immediate surroundings which need to be addressed. Keen observation will help identify the problem.

Before developing a problem question, students must do research on topics and find out what other people have already done in the selected area to avoid repetition. During this phase, students should be encouraged to record the reference of every bit of information they got from different sources. After developing problem question, students should write down precise testable hypothesis and design an experiment or procedure to test their hypothesis by collecting and analysing the data followed by writing conclusion and limitation of the study. Students must also develop a timeline and checklist about accessibility to resources required, safety of experiment/procedure, harmlessness of experiments to environment, organisms and other people. Teacher must ensure that it is doable within a specified period of time and available resources and is appropriately challenging to a particular student (neither be very complex or longer nor be very easy and short). It should not culminate into finding information from a book or website.

A project could have the following outline:

1. **Statement of Problem-** A clear statement of the problem/need that has given rise to the project

2. **Objectives-**General and specific objectives of topic

3. **Introduction-**The introduction should describe the relevance of problem or why the problem is the most appropriate for your inquiry. It should also describe previously known facts about your problem question with proper bibliography. Introduction towards end briefly includes hypothesis your hypothesis and the method to test it.

4. **Problem question** (specific, concrete questions to which concrete answers can be given) and/ or hypotheses

5. **Methods/Procedures** Methodology (will your research be based on survey, an experimental investigation, historical study, ethnographic study or content analysis).Methods describe the experiments proposed or the observations planned to make and the detailed process of analysis of data/observations. Methods proposed should be feasible and be able to adequately answer problem question.

6. **Materials/Resources required**

7. **Observations/Data gathered**
   Using the procedures mentioned in introduction, experiments should be conducted and data should be recorded. Interesting things that happened during the conduct of experiments should also be recorded.

8. **Analysis of data and discussion of result**
   Data should be interpreted in terms of proposed hypothesis. Data should be tabulated and interpreted with the help of graphs if possible. The interpretation should be done in an honest manner even if it does not support proposed hypothesis.

9. **Conclusion** Reporting and writing up the report
   Discussion of new learning from the study may be covered under conclusion. This may have possible suggestions for future studies.

10. **Limitation of the study**
    The limitations of the study are those features of design or procedure that might have affected the interpretation of the results of study. The limitations are alternatively interpreted as flaws or shortcomings due to flawed methodology, observations, small number of experiments or non-peer reviewed nature of study etc.

11. **Bibliography**

Rubric for Assessment of Project

PARAMETER	Exemplary (4)	Accomplished (3)	Developing (2)	Beginner (1)
Factual information	Content covers the research well	Content from all eras but has few inaccuracies	Content does not cover all eras and has few inaccuracies	Content does not cover all eras and is historically inaccurate
Sources	Multiple sources (6 or more) used (library, books, interview with people, different websites, blogs etc.)	Many sources (4-5) used (Books, websites, blogs)	Few sources used (2-3)	Relied on only one source
Data collection	Collected data from a large random sample (50 people or more from different age group, gender, social status) OR collected data for different samples and at least 5 reading for each set of experiment	Collected data from a fairly large random sample (30 -50 people from different age group, gender, social status) OR collected data for different samples and 3 reading for each set of experiment	Collected data from a small random sample (20 people from different age group, gender, social status) OR collected data for one sample and 3-5 readings	Collected data from a small sample (10 or less people) OR collected data for one sample and 1-2 readings
Interpretations and conclusion	In correlation with data and aim of the project. Clear conclusions based on findings	In correlation with data and aim of the project. Conclusions not based on findings	Not in correlation with data but in correlation with the aim Random conclusions	Not in correlation with data and aim, No conclusions
Journal	Daily entries with details of discussions and brainstorming sessions with the teacher.	Most of the entries done with details of discussions with the teacher	Daily entries without details	Random entries
Project report	Exceptionally attractive, organized sequentially and logically, creatively presented with data and clear conclusions	Attractive, organized sequentially and logically, presented some data and conclusions	Information is organized sequentially and logically but not in an attractive manner. Random Data without conclusions	Presentation is confusing. There is no sequence.
Academic Honesty	Sites all sources and gives due credits	Most of the sources cited	Few sources cited	Uses other people's ideas without giving credit

3. Identify the given specimen of a fungus – Mushroom, gymnosperm- pine cone
4. Study honey-bee/butterfly, snail shell, Starfish, Pigeon (through models).

Note: The above practicals may be carried out in an experiential manner rather than recording observations.

Prescribed Books:

1. Biology Class-XI, Published by NCERT
2. Other related books and manuals brought out by NCERT (including multimedia)

BIOLOGY
(Code No. 044)
COURSE STRUCTURE
CLASS XII (2021 - 22)

EVALUATION SCHEME		
Theory		
Units	**Term – I**	**Marks**
VI	Reproduction: Chapter - 2, 3 and 4	15
VII	Genetics and Evolution: Chapter – 5 and 6	20
Units	**Term - II**	**Marks**
VIII	Biology and Human Welfare: Chapter – 8 and 10	14
IX	Biotechnology and its Applications: Chapter – 11 and 12	11
X	Ecology and Environment: Chapter – 13 and 15	10
Total Theory (Term – I and Term – II)		**70**
Practicals Term – I		**15**
Practicals Term – II		**15**
Total		**100**

THEORY

TERM - I

Unit-VI Reproduction

Chapter-2: Sexual Reproduction in Flowering Plants

Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; outbreeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes- apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.

Chapter-3: Human Reproduction

Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation (elementary idea); parturition (elementary idea); lactation (elementary idea).

Chapter-4: Reproductive Health

Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods, contraception and medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT (elementary idea for general awareness).

Unit-VII Genetics and Evolution

Chapter-5: Principles of Inheritance and Variation

Heredity and variation: Mendelian inheritance; deviations from Mendelism – incomplete dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and genes; Sex determination - in human being, birds and honey bee; linkage and crossing over; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans -thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.

Chapter-6: Molecular Basis of Inheritance

Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Genome, Human and rice genome projects; DNA fingerprinting.

TERM - II

Unit-VIII Biology and Human Welfare

Chapter-8: Human Health and Diseases

Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse.

Chapter-10: Microbes in Human Welfare

Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious use.

Unit-IX Biotechnology and its Applications

Chapter-11: Biotechnology - Principles and Processes

Genetic Engineering (Recombinant DNA Technology).

Chapter-12: Biotechnology and its Application

Application of biotechnology in health and agriculture: Human insulin and vaccine production, stem cell technology, gene therapy; genetically modified organisms - Bt crops; transgenic animals; biosafety issues, biopiracy and patents.

Unit-X Ecology and Environment

Chapter-13: Organisms and Populations

Organisms and environment: Habitat and niche, population and ecological adaptations; population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution.

Chapter-15: Biodiversity and its Conservation

Biodiversity - Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.

PRACTICALS

Max. Marks: 15 for each Term

Evaluation Scheme			
	TERM - I	**TERM - II**	**MARKS**
Part A			
One Major Experiment	Experiment No. – 1	Experiment No. - 3	**4**
One Minor Experiment	Experiment No. - 2	Experiment No. – 4, 5	**3**
Part B			
Spotting (3 Spots of 1 mark each)	B.1, 2, 3, 4, 5	B.6, 7, 8	**3**
Practical Record + Investigatory Project &Record + Viva Voce			**5**
Total			**15**

Practicals should be conducted alongside the concepts taught in theory classes.

A. List of Experiments

TERM - I:

1. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc.
2. Prepare a temporary mount to observe pollen germination.

TERM - II:

3. Prepare a temporary mount of onion root tip to study mitosis.
4. Collect water from two different water bodies around you and study them for pH, clarity and presence of any living organism
5. Collect and study soil from at least two different sites and study them for texture, moisture content, pH and water holding capacity. Correlate with the kinds of plants found in them.

B. Study/observation of the following (Spotting)

TERM - I:

B.1 Flowers adapted to pollination by different agencies (wind, insects, birds).

B.2 Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).

B.3 Meiosis in onion bud cell or grasshopper testis through permanent slides.

B.4 T.S. of blastula through permanent slides (Mammalian).

B.5 Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colourblindness.

TERM – II:

B.6 Common disease - causing organisms like *Ascaris, Entamoeba, Plasmodium*, any fungus causing ringworm through permanent slides, models or virtual images. Comment on symptoms of diseases that they cause.

B.7 Two plants and two animals (models/virtual images) found in xeric conditions. Comment upon their morphological adaptations.

B.8 Two plants and two animals (models/virtual images) found in aquatic conditions. Comment upon their morphological adaptations.

Practical Examination for Visually Impaired Students of Classes XI and XII

Evaluation Scheme

Max. Marks: 15 for each Term

Topic	Marks
Identification/Familiarity with the apparatus	5
Written test (Based on given/prescribed practicals)	5
Practical Records and Viva	5
Total	**15**

General Guidelines

- The practical examination will be of one-hour duration.
- The written examination in practicals for these students will be conducted at the time of practical examination of all other students.
- The written test will be of 30 minutes duration.
- The question paper given to the students should be legibly typed. It should contain a total of 8 practical skill based very short answer type questions. A student would be required to answer any 5 questions.
- A writer may be allowed to such students as per CBSE examination rules.
- All questions included in the question paper should be related to the listed practicals. Every question should require about two minutes to be answered.
- These students are also required to maintain a practical file. A student is expected to record the listed experiments Term -wise as per the specific instructions for each subject. These practicals should be duly checked and signed by the internal examiner.
- The format of writing any experiment in the practical file should include aim, apparatus

required, simple theory, procedure, related practical skills, precautions etc.

- Questions may be generated jointly by the external/internal examiners and used for assessment.
- The viva questions may include questions based on basic theory/principle/concept, apparatus/materials/chemicals required, procedure, precautions, sources of error etc.

Class XII

Practicals should be conducted alongside the concepts taught in theory classes.

A. Items for Identification/ familiarity with the apparatus for assessment in practicals (All experiments)

TERM -I:

- Beaker, flask, petri plates, test tubes, aluminium foil, paint brush, bunsen burner/spirit lamp/water bath.
- Starch solution, iodine, ice cubes.
- Developmental stages of frog highlighting morula and blastula.

TERM -II:

- Soil from different sites- sandy, clayey, loamy; Small potted plants, Cactus/*Opuntia* (model), Large flowers, Maize inflorescence.
- Model of *Ascaris*

B. List of Practicals

TERM -I:

1. Study of flowers adapted to pollination by different agencies (wind, insects).
2. Identification of T.S of morula or blastula of frog (model).
3. Preparation of pedigree charts of genetic traits such as rolling of tongue, colour blindness.

TERM -II:

4. Study of the soil obtained from at least two different sites for their texture.
5. Identify common disease-causing organisms like *Ascaris (Model)* and learn some common symptoms of the disease that they cause.
6. Comment upon the morphological adaptations of plants found in xerophytic conditions.

Note: The above practicals may be carried out in an experiential manner rather than recording observations.

Prescribed Books:

1. Biology, Class-XII, Published by NCERT
2. Other related books and manuals brought out by NCERT (including multimedia)
3. Biology Supplementary Material (Revised). Available on CBSE website.

Assessment Areas (Theory) 2021-22
Class XII
Biology (044)

Competencies	
Demonstrate Knowledge and Understanding	50%
Application of Knowledge / Concepts	30%
Analyse, Evaluate and Create	20%

Note:

- Internal choice would be provided.

Suggestive verbs for various competencies

- **Demonstrate, Knowledge and Understanding**
  State, name, list, identify, define, suggest, describe, outline, summarize, etc.
- **Application of Knowledge/Concepts**
  Calculate, illustrate, show, adapt, explain, distinguish, etc.
- **Analyze, Evaluate and Create**

  Interpret, analyse, compare, contrast, examine, evaluate, discuss, construct, etc.

Computer Science
CLASS-XII
Code No. 083
2021-22

1. Prerequisites

Computer Science- Class XI

2. Learning Outcomes

Student should be able to

a) apply the concept of function.

b) explain and use the concept of file handling.

c) use basic data structure: Stacks.

d) explain basics of computer networks.

e) use Database concepts, SQL along with connectivity between Python and SQL.

3. Distribution of Marks:

Unit No.	Unit Name	Marks	Periods	
			Theory	Practical
I	Computational Thinking and Programming - 2	40	50	25
II	Computer Networks	10	10	---
III	Database Management	20	20	15
	Total	70	80	40

Unit No	Unit Name	Term-1	Term-2
I	Computational Thinking and Programming - 2	35	5
II	Computer Networks	---	10
III	Database Management	---	20
	Total	35	35

4. Unit wise Syllabus

TERM 1:

Unit I: Computational Thinking and Programming – 2

- Revision of Python topics covered in Class XI.
- Functions: types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution, scope of a variable (global scope, local scope)
- Introduction to files, types of files (Text file, Binary file, CSV file), relative and absolute paths
- Text file: opening a text file, text file open modes (r, r+, w, w+, a, a+), closing a text file, opening a file using with clause, writing/appending data to a text file using write() and writelines(), reading from a text file using read(), readline() and readlines(), seek and tell methods, manipulation of data in a text file
- Binary file: basic operations on a binary file: open using file open modes (rb, rb+, wb, wb+, ab, ab+), close a binary file, import pickle module, dump() and load() method, read, write/create, search, append and update operations in a binary file
- CSV file: import csv module, open / close csv file, write into a csv file using csv.writerow() and read from a csv file using csv.reader( )

TERM 2:

Unit I: Computational Thinking and Programming – 2

- Data Structure: Stack, operations on stack (push & pop), implementation of stack using list.

Unit II: Computer Networks

- Evolution of networking: introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET)
- Data communication terminologies: concept of communication, components of data communication (sender, receiver, message, communication media, protocols), measuring capacity of communication media (bandwidth, data transfer rate), IP address, switching techniques (Circuit switching, Packet switching)
- Transmission media: Wired communication media (Twisted pair cable, Co-axial cable, Fiber-optic cable), Wireless media (Radio waves, Micro waves, Infrared waves

- Network devices (Modem, Ethernet card, RJ45, Repeater, Hub, Switch, Router, Gateway, WIFI card)
- Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree)
- Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP
- Introduction to web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML), domain names, URL, website, web browser, web servers, web hosting

Unit III: Database Management

- Database concepts: introduction to database concepts and its need
- Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key)
- Structured Query Language: introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command

- Aggregate functions (max, min, avg, sum, count), group by, having clause, joins :Cartesian product on two tables, equi-join and natural join
- Interface of python with an SQL database: connecting SQL with Python, performing insert, update, delete queries using cursor, display data by using fetchone(), fetchall(), rowcount, creating database connectivity applications

5. Practical

S.No		Marks (Total 30)	Term-1 (15 Marks)	Term-2 (15 Marks)
1	**Lab Test:** 1. Python program	**8**	**6**	**2**
	2. 3 SQL Queries based on one/two table(s), 2 output questions based on SQL queries	**4**	**---**	**4**
2	Report file: Term – 1 : Minimum 15 Python programs based on Term - 1 Syllabus Term – 2 : • Minimum 3 Python programs based on Term-2 Syllabus • SQL Queries – Minimum 5 sets using one table / two tables. • Minimum 2 programs based on Python - SQL connectivity.	**7**	**4**	**3**
3	Project (using concepts learnt in Classes 11 and 12) Term – 1 : Synopsis of the project to be submitted by the students (documentation only, may not submit the code during Term - 1) Term - 2 : Final coding + Viva voce (Student will be allowed to modify their Term 1 document and submit the final executable code.)	**8**	**3**	**5**
4	Viva voce	**3**	**2**	**1**

6. Suggested Practical List:

Term-1

Python Programming

- Read a text file line by line and display each word separated by a #.
- Read a text file and display the number of vowels/consonants/uppercase/lowercase characters in the file.
- Remove all the lines that contain the character 'a' in a file and write it to another file.
- Create a binary file with name and roll number. Search for a given roll number and display the name, if not found display appropriate message.
- Create a binary file with roll number, name and marks. Input a roll number and update the marks.
- Write a random number generator that generates random numbers between 1 and 6 (simulates a dice).
- Create a CSV file by entering user-id and password, read and search the password for given user-id.

Term-2

Python Programming

- Write a Python program to implement a stack using list.

Database Management

- Create a student table and insert data. Implement the following SQL commands on the student table:
    - ALTER table to add new attributes / modify data type / drop attribute
    - UPDATE table to modify data
    - ORDER By to display data in ascending / descending order
    - DELETE to remove tuple(s)
    - GROUP BY and find the min, max, sum, count and average
    - Joining of two tables.
- Similar exercise may be framed for other cases.
- Integrate SQL with Python by importing suitable module.

Database Management

- Create a student table and insert data. Implement the following SQL commands on the student table:
    - ALTER table to add new attributes / modify data type / drop attribute
    - UPDATE table to modify data
    - ORDER By to display data in ascending / descending order
    - DELETE to remove tuple(s)
    - GROUP BY and find the min, max, sum, count and average
- Similar exercise may be framed for other cases.
- Integrate SQL with Python by importing suitable module.

7. Suggested Reading Material

- NCERT Textbook for COMPUTER SCIENCE (Class XII)
- Support Materials on the CBSE website.

8. Project

The aim of the class project is to create something that is tangible and useful using Python file handling/ Python-SQL connectivity. This should be done in groups of two to three students and should be started by students at least 6 months before the submission deadline. The aim here is to find a real world problem that is worthwhile to solve.

Students are encouraged to visit local businesses and ask them about the problems that they are facing. For example, if a business is finding it hard to create invoices for filing GST claims, then students can do a project that takes the raw data (list of transactions), groups the transactions by category, accounts for the GST tax rates, and creates invoices in the appropriate format. Students can be extremely creative here. They can use a wide variety of Python libraries to create user friendly applications such as games, software for their school, software for their disabled fellow students, and mobile applications, of course to do some of these projects, some additional learning is required; this should be encouraged. Students should know how to teach themselves.

The students should be sensitised to avoid plagiarism and violations of copyright issues while working on projects. Teachers should take necessary measures for this.

HOME SCIENCE (Code No. 064)

(CLASS – XI - XII)
(2021-2022)

Preface

The course in Home Science encompasses five areas namely, Foods and Nutrition, Human Development and Family Studies, Fabric and Apparel, Resource Management and Communication and Extension. All these domains have their specific content in focus that contributes to the study of the individual and the family in Indian social cultural context.

The purpose of Home Science is the creation of an environment and outlook to enable learner to live a richer and more purposeful life, become future ready and develop 21st century life skills for work, livelihood and careers. All the domains within the home science discipline provide ample scope for professional avenues of higher education and career opportunities. They range from professions catering to various health and service institutions/agencies, educational organizations, industry and business houses of textiles, garments, food industry, teaching learning materials, ergonomically appropriate equipment and work situations. The subject integrates the application of various sciences and humanities to improve Human Environment, Family Nutrition, Management of Resources and Child Development.

In class XI, the “Self and family” and the “Home” are focal points for understanding the dynamics for individual lives and social interactions.

In class XII, the emphasis is on “Work and careers” through the life span.

Learning Objectives:

The Home Science curriculum at senior secondary level has been framed to enable the learners to:

1. develop an understanding of the self and one’s role and responsibilities as a productive individual and as a member of family, community and society.
2. integrate learning across diverse domains and undertake a critical analysis of issues and concerns specific to family, community and society.
3. appreciate the discipline of Home Science for professional careers.
4. acquaint learners with the basic knowledge specific to five domains

namely, Foods and nutrition, Human Development and Family studies, Fabric and Apparel, Resource Management and Communication and Extension.

5. develop functional skills in the five domains for career and employment.
6. equip learners for enrichment and higher studies.

Learning outcomes:

After undertaking the course students will:

1. function as a productive and responsible individual in relation to self, family, community and society.
2. able to apply the basics of human development with specific reference to self, family and community.
3. able to utilize the skills of judicious management of various resources.
4. will be sensitized to fabric and apparel, their selection and care.
5. inculcate healthy food habits and lifestyle to enable prevention and management of diseases.
6. become alert and aware consumer.
7. appreciate the potential of entrepreneurship and other varied professional opportunities to make informed career choices.

Class XII HOME SCIENCE

Introduction:

In class XII, the emphasis is on “Work and careers” through the life span. Within the curriculum the significance and scope of each domain (Foods and Nutrition, Human Development and Family Studies, Fabric and Apparel, Resource Management and Communication and Extension), the multiple thrust areas emerging within them have been emphasized. The units spell out the basic concepts, requisite knowledge and skills in each thrust areas and delineate the career avenues and the preparation required for them in order to make informed career choices.

TERM I

Course Structure: Theory and practical **Theory:35 marks**

UNIT No.	Units	Marks	No. of Periods
1	Work, Livelihood and Career	05	10
2	Nutrition, Food Science and Technology	20	45
3	Human Development and Family Studies	10	35
	THEORY	**35**	**90**

TERM II

Course Structure: Theory and practical **Theory: 35 marks**

No.	Units	Marks	No. of Periods
4	Fabric and Apparel	16	40
5	Resource Management	12	35
6	Communication and Extension	07	15
	THEORY	**35**	**90**

CLASS XII HOME SCIENCE

TERM I

UNIT I:Work,livelihood and Career

Ch. Work, livelihood and Career

UNIT II: Nutrition, Food Science and Technology

Ch. Clinical Nutrition and Dietetics

Ch. Public Nutrition and Health

Ch. Food Processing and Technology

Ch. Food Quality and Food Safety

UNIT III: Human Development and Family Studies

Ch. Early Childhood Care and Education

Ch. Management of Support Services, Institutions and Programmes for Children, Youth and Elderly

TERM II

UNIT IV: Fabric and Apparel

Ch. Design for Fabric and Apparel

Ch. Fashion Design and Merchandising

Ch. Care and Maintenance of Fabrics in Institutions

UNIT V: Resource management

Ch. Hospitality Management

Ch. Consumer Education and Protection

UNIT VI: Communication and Extension

Ch. Development Communication and Journalism

Prescribed textbook: Human Ecology and Family Sciences(For Class XII): Part I and Part II

CLASS XII HOME SCIENCE
TERM I

REFERENCE POINTS

UNIT I WORK ,LIVELIHOOD AND CAREER

Chapter: WORK ,LIVELIHOOD AND CAREER

- Introduction
  - Work and meaningful work
  - Work, careers and livelihood
- Traditional occupation in India
  - Agriculture
  - Handicrafts
  - Indian cuisine
  - Visual arts
- Work ,Age and Gender
  - Gender issues in relation to work
  - Issues and concerns related to women and work
    - ✓ KGBV
    - ✓ Beti bachao ,Beti Padhao Yojana
- Attitudes and approaches to work and life skills for livelihood
- Attitudes and approaches to work
- Life skills for livelihood
- Essential soft skills at workplace
- Ergonomics
- Definition and need for ergonomics
- Benefits of Ergonomics
- Entrepreneurship
- Definition and characteristics

UNIT II NUTRITION, FOOD SCIENCE AND TECHNOLOGY

Chapter: CLINICAL NUTRITION AND DIETETICS

- Introduction

- Nutrition
- Clinical Nutrition

- Significance
- Basic concepts
    - Diet therapy
- Types of diets: Regular Diet and Modified diets
- Changes in consistency
- Feeding routes
- Prevention of chronic diseases
- Preparing for career
- Scope

Chapter: PUBLIC NUTRITION AND HEALTH

- Introduction
- Significance
- Basic concept
    - Public health nutrition
    - Nutritional Problems of India
        - Protein energy malnutrition
        - Micronutrient deficiencies
            - Iron deficiency anemia
            - Vitamin A deficiency
            - Iodine deficiency disorders
- Strategies/Intervention to tackle Nutritional problems
    - Diet or food based strategies
    - Nutrient based strategies
- Nutrition programmes operating in India
    - ICDS
    - Nutrient Deficiency Control Programmes
    - Food Supplementation Programmes
    - Food Security Programme
- Health Care
- Scope

Chapter: FOOD PROCESSING AND TECHNOLOGY

- Introduction
- Significance
- Basic Concepts
    - Food Science

    - Food Processing
    - Food Technology
    - Food Manufacturing
- Development of food processing and technology
- Importance of Food processing and Preservation
- Classification of food on the basis of extent and type of processing
- Preparing for a career
- Scope

Chapter: FOOD QUALITY AND FOOD SAFETY

- Introduction
- Significance
- Basic Concepts
    - Food safety (Toxicity & Hazard)
    - Hazards (Physical, chemical and biological)
    - Food infection
    - Food poisoning
    - Food quality
- Food standards regulation in India-FSSA (2006)(Fruit and vegetable product order, Meat food product order and Vegetable oil products order are not included)
- International Organization and agreements in the area of Food Standards, Quality, Research and Trade
    - Codex Alimentarius Commission
    - International Organization for Standardisation
    - World Trade Organization
- Food Safety Management Systems
    - Good manufacturing practices (GMP)
    - Good handling practices (GHP)
    - Hazard Analysis Critical Control Points (HACCP)
- Scope

UNIT III HUMAN DEVELOPMENT AND FAMILY STUDIES

Chapter: Early Childhood Care and Education

- Significance
- Basic concepts
- Preparing for a career
- Scope

Chapter: Management of support services, Institutions and programmes for children, youth and elderly

- Significance
- Basic concepts
- Why are children vulnerable?
- Institutions, programmes and initiatives for children
    - ICDS
    - SOS Children's Village
    - Children's Homes run by the Government
    - Adoption
- Why are Youth vulnerable?
- Youth programmes in India
- Why are the elderly vulnerable?
- Some programmes for the elderly
- Preparing for a career
- Scope

UNIT IV FABRIC AND APPAREL

Chapter: Design for Fabric and Apparel

- Introduction
- Basic concepts (Design: Structural & Applied)
- Elements of design
    - Colour
    - Texture
    - Line
    - Shapes or form
- Principles of Design
    - Proportion
    - Balance
    - Emphasis
    - Rhythm
    - Harmony
- Preparing for career
- Scope

Chapter: Fashion Design and Merchandising

- Introduction
- Significance
- Basic Concepts

        - Fashion terminology –Fashion ,fads, style, classic
- Fashion Development
        - France-The centre of fashion
        - Fashion Evolution
- Fashion Merchandising
- Fashion Retail Organization
- Preparing For a career
- Scope

Chapter: Care and maintenance of fabrics in Institution

- Introduction
- Basic concepts
    - Washing equipment
    - Drying equipment
    - Ironing/pressing equipment
- Institutions
- Preparing for a career
- Scope

UNIT V RESOURCE MANAGEMENT

Chapter: Hospitality Management

- Introduction
- Significance
- Basic concepts
- Departments involved in hospitality management of an organization
- Scope

Chapter: Consumer Education and Protection

- Introduction
- Significance of consumer education and protection
- Basic concepts
    - Consumer product
    - Consumer behaviour
    - Consumer forum
    - Consumer footfalls
    - Consumer problems
    - Consumer rights
    - Standardized marks (ISI, Wool Mark, Hall Mark, Silk Mark)

    - Protection Councils
    - Consumer Responsibilities
- Scope

UNIT VI COMMUNICATION AND EXTENSION

Chapter: Development communication and Journalism

- Introduction
- Significance
- Basic concepts
    - Development
    - Development journalism
    - Development Communication
- Methods of communication
        - Campaign
        - Radio and television
    - Print media
    - Information and communication technologies
- Knowledge and skills required for a career in this field
- Scope and career avenues in development communication

CLASS XII HOME SCIENCE
PRACTICALS

TERM I

UNIT II NUTRITION, FOOD SCIENCE AND TECHNOLOGY

1. Modification of normal diet to soft diet for elderly person.
2. Development and preparation of supplementary foods for nutrition programme.
3. Planning a menu for a school canteen or mid-day meal in school for a week.
4. Design, prepare and evaluate a processed food product.
5. Qualitative test for food adulteration in: pure ghee, tea leaves, whole black pepper, turmeric powder, milk, asafoetida.

UNIT III HUMAN DEVELOPMENT AND FAMILY STUDIES

6. Preparation and use of any one teaching aid to communicate socially relevant messages for children/ adolescents /adults in the community.

OR

Preparation of any one toy for children (age appropriate) using locally available and indigenous material

TERM II

UNIT IV FABRIC AND APPAREL

1. Preparation of any one article using applied textile design techniques; tie and dye/batik/block printing.
2. Remove different types of stains from white cotton cloth –Ball pen, curry, grease, ink, lipstick, tea and coffee.

UNIT V RESOURCE MANAGEMENT

3. Evaluate any one advertisement for any job position.
4. Develop a leaflet/pamphlet for Consumer Education and Protection on any one of the following-

a) Consumer Protection Act (CPA)
b) Consumer responsibilities
c) Consumer organization
d) Consumer Problems

PROJECT

ANY ONE OF THE FOLLOWING PROJECT MAY BE UNDERTAKEN AND EVALUATED-

1. Study of an integrated community based, nutrition/health programme being implemented in own area, with reference to-

a) Programme objectives

b) Focal Group/Beneficiaries

c) Modalities of implementation

2. Visit to the neighbouring areas and interview two adolescents and two adults regarding their perception of persons with special needs.

3. Profile any two person (child/adult) with special needs to find out their diet, clothing, activities, physical and psychological needs.

4. Planning any five messages for nutrition, health and life skills using different modes of communication for different focal groups.

5. Market survey any five processed foods with their packaging and label information.

SCHEME FOR PRACTICAL EXAMINATION
CLASS XII HOME SCIENCE

TERM I

1.	Project	**5 Marks**
2.	Modification of any one family meal for elderly person. Preparing any one of the modified dish. OR Development and preparation of any one supplementary food for pre-schooler (2-6 years) nutrition programme. OR Planning a menu for school canteen and preparing any one nutritious dish	**5 Marks**
3.	Identify adulterant using chemical test in any one of the following- pure ghee, tea leaves, whole black pepper, turmeric powder, milk, asafoetida.	**2 Marks**
4.	Viva	**3 Marks**
	TOTAL	**15 MARKS**

TERM II

1.	Prepare a sample using applied textile design techniques tie and dye/batik/block printing	**4 Marks**
2.	Remove any one of the stain from white cotton cloth – Ball pen, curry, grease, ink, lipstick, tea, coffee	**2 Marks**
3.	Develop a leaflet/pamphlet for Consumer Education and Protection on any one of the following- (5 marks) a) Consumer Protection Act (CPA) b) Consumer responsibilities c) Consumer organization d) Consumer Problems	**4 Marks**
4.	File	**5 Marks**
	TOTAL	**15 MARKS**

ACCOUNTANCY (Code No. 055)

Rationale

The course in accountancy is introduced at plus two stage of senior second of school education, as the formal commerce education is provided after ten years of schooling. With the fast changing economic scenario, accounting as a source of financial information has carved out a place for itself at the senior secondary stage. Its syllabus content provide students a firm foundation in basic accounting concepts and methodology and also acquaint them with the changes taking place in the preparation and presentation of financial statements in accordance to the applicable accounting standards and the Companies Act 2013.

The course in accounting put emphasis on developing basic understanding about accounting as an information system. The emphasis in Class XI is placed on basic concepts and process of accounting leading to the preparation of accounts for a sole proprietorship firm. The students are also familiarized with basic calculations of Goods and Services Tax (GST) in recording the business transactions. The accounting treatment of GST is confined to the syllabus of class XI.

The increased role of ICT in all walks of life cannot be overemphasized and is becoming an integral part of business operations. The learners of accounting are introduced to Computerized Accounting System at class XI and XII. Computerized Accounting System is a compulsory component which is to be studied by all students of commerce in class XI; whereas in class XII it is offered as an optional subject to Company Accounts and Analysis of Financial Statements. This course is developed to impart skills for designing need based accounting database for maintaining book of accounts.

The complete course of Accountancy at the senior secondary stage introduces the learners to the world of business and emphasize on strengthening the fundamentals of the subject.

Objectives:

1. To familiarize students with new and emerging areas in the preparation and presentation of financial statements.
2. To acquaint students with basic accounting concepts and accounting standards.

3. To develop the skills of designing need based accounting database.
4. To appreciate the role of ICT in business operations.
5. To develop an understanding about recording of business transactions and preparation of financial statements.
6. To enable students with accounting for Not-for-Profit organizations, accounting for Partnership Firms and company accounts.

Accountancy (Code No. 055)

(2021-22)
CLASS XII - CURRICULUM (TERM-WISE)

	TERM -1 (MCQ BASED QUESTION PAPER) Theory:40 Marks Duration: 90 minutes	MARKS
	Part A	
	UNIT **ACCOUNTING FOR PARTNERSHIP FIRMS:**	18
1	FUNDAMENTALS	
2	CHANGE IN PROFIT SHARING RATIO	
3	ADMISSION OF A PARTNER	
	COMPANY ACCOUNTS:	12
1	ACCOUNTING FOR SHARES	
	PART B	
	ANALYSIS OF FINANCIAL STATEMENTS:	10
1	FINANCIAL STATEMENTS OF A COMPANY *(i) Statement of Profit and Loss and Balance Sheet in prescribed form with major headings and sub headings (as per Schedule III to the Companies Act, 2013)* *(ii) Tools of Analysis - Ratio Analysis*	
2	ACCOUNTING RATIOS	
	OR	
	COMPUTERISED ACCOUNTING	10
1	OVERVIEW OF COMPUTERISED ACCOUNTING SYSTEM	
2	ACCOUNTING APPLICATION OF ELECTRONIC SPREADSHEET	
	Total	**40**
	Project Work (Part -1): 10 Marks	

Part - A:

Unit : Accounting for Partnership Firms

Units/Topics	Learning Outcomes
• Partnership: features, Partnership Deed. • Provisions of the Indian Partnership Act 1932in the absence of partnership deed. • Fixed v/s fluctuating capital accounts. Preparation of Profit and Loss Appropriationaccount- division of profit among partners, guarantee of profits. • Past adjustments (relating to interest on capital, interest on drawing, salary and profitsharing ratio). • Goodwill: nature, factors affecting and methods of valuation - average profit, superprofit and capitalization. ***Note:*** *Interest on partner's loan is to be treated as a charge against profits.* Goodwill to be adjusted through partners capital/current account. *Note: Raising and writing off goodwill is excluded.* **Accounting for Partnership firms - Reconstitution** • **Change in the Profit Sharing Ratio** amongthe existing partners - sacrificing ratio, gaining ratio, accounting for revaluation of assets and reassessment of liabilities and treatment of reserves and accumulated profits. Preparation of revaluation account and balance sheet. • **Admission of a partner** - effect of admissionof a partner on change in the profit sharing ratio, treatment of goodwill, treatment for revaluation of assets and re-assessment of liabilities, treatment of reserves and accumulated profits.	**After going through this Unit, the students will beable to:** • state the meaning of partnership, partnershipfirm and partnership deed. • describe the characteristic features of partnership and the contents of partnershipdeed. • discuss the significance of provision of Partnership Act in the absence of partnershipdeed. • differentiate between fixed and fluctuating capital, outline the process and develop the understanding and skill of preparation of Profit and Loss Appropriation Account. • develop the understanding and skill of preparation profit and loss appropriation account involving guarantee of profits. • develop the understanding and skill ofmaking past adjustments. • state the meaning, nature and factors affecting goodwill • develop the understanding and skill of valuation of goodwill using different methods. • state the meaning of sacrificing ratio, gainingratio and the change in profit sharing ratio among existing partners. • develop the understanding of accounting treatment of revaluation assets and reassessment of liabilities and treatment ofreserves and accumulated profits by preparing revaluation account and balancesheet. • explain the effect of change in profit sharingratio on admission of a new partner. • develop the understanding and skill of treatment of goodwill, treatment of revaluation of assets and re-assessment of liabilities, treatment of reserves and accumulated profits, and preparation of balance sheet of the new firm.

Unit - Accounting for Companies

Units/Topics	Learning Outcomes
Accounting for Share Capital • Share and share capital: nature and types. • Accounting for share capital: issue and allotment of equity and preferences shares. Public subscription of shares - over subscription and under subscription of shares; issue at par and at premium, calls in advance and arrears (excluding interest), issue of shares for consideration other than cash. • Concept of Private Placement and EmployeeStock Option Plan (ESOP). • Accounting treatment of forfeiture and re-issue of shares. • Disclosure of share capital in the BalanceSheet of a company.	**After going through this Unit, the students will beable to:** • state the meaning of share and share capitaland differentiate between equity shares and preference shares and different types of share capital. • understand the meaning of private placementof shares and Employee Stock Option Plan. • explain the accounting treatment of sharecapital transactions regarding issue of shares. • develop the understanding of accounting treatment of forfeiture and re-issue of forfeited shares. • describe the presentation of share capital inthe balance sheet of the company as per schedule III part I of the Companies Act 2013.

Part – B:

Unit : Analysis of Financial Statements

Units/Topics	Learning Outcomes
Financial statements of a Company: Statement of Profit and Loss and Balance Sheet in prescribed form with major headings and sub headings (as per Schedule III to the Companies Act,2013) **Note:** *Exceptional items, extraordinary items and profit (loss) from discontinued operations are excluded.* • **Financial Statement Analysis:** Objectives, importance and limitations. • **Accounting Ratios:** Meaning, Objectives, classification and computation. • **Liquidity Ratios:** Current ratio and Quick ratio. • **Solvency Ratios:** Debt to Equity Ratio, Total Asset to Debt Ratio, Proprietary Ratio and interest coverage ratio. • **Activity Ratios:** Inventory Turnover Ratio, Trade Receivables Turnover Ratio, Trade Payables Turnover Ratio and Working Capital Turnover Ratio.	**After going through this Unit, the students will be able to:** • develop the understanding of major headings and sub-headings (as per Schedule III to the Companies Act, 2013) of balance sheet as per the prescribed norms / formats. • state the meaning, objectives and limitations of financial statement analysis. • discuss the meaning of different tools of 'financial statements analysis'. • state the meaning, objectives and significance of different types of ratios. • develop the understanding of computation of current ratio and quick ratio. • develop the skill of computation of debt equity ratio, total asset to debt ratio, proprietary ratio and interest coverage ratio. • develop the skill of computation of inventory turnover ratio, trade receivables and trade payables ratio and working capital turnover ratio. • develop the skill of computation of gross

• **Profitability Ratios:** Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, Net Profit Ratio and Return on Investment.	profit ratio, operating ratio, operating profit ratio, net profit ratio and return on investment.

Note: Net Profit Ratio is to be calculated on the basis of profit before and after tax.

OR

Part B: Computerised Accounting

Unit : Computerised Accounting

Overview of Computerised Accounting System

- Introduction: Application in Accounting.
- Features of Computerised Accounting System.
- Structure of CAS.
- Software Packages: Generic; Specific; Tailored.

Accounting Application of Electronic Spreadsheet.

- Concept of electronic spreadsheet.
- Features offered by electronic spreadsheet.
- Application in generating accounting information - bank reconciliation statement; asset accounting; loan repayment of loan schedule, ratio analysis
- Data representation- graphs, charts and diagrams.

TERM -II

	TERM II Theory: 40 Marks	MARKS
	Part A	
1	**UNIT** **ACCOUNTING FOR NOT-FOR PROFIT ORGANISATIONS**	**10**
1 2	**ACCOUNTING FOR PARTNERSHIP FIRMS:** RETIREMENT AND DEATH OF A PARTNER DISSOLUTION OF PARTNERSHIP FIRMS	**12**
1	**COMPANY ACCOUNTS:** ACCOUNTING FOR DEBENTURES	**8**
	PART B	
1	**ANALYSIS OF FINANCIAL STATEMENTS:** FINANCIAL STATEMENTS OF A COMPANY	**10**

2	*(i) COMPARATIVE AND COMMON SIZE STATEMENTS* CASH FLOW STATEMENT	
	OR	
1 2	**COMPUTERISED ACCOUNTING** USING COMPUTERISED ACCOUNTING SYSTEM DATABASE MANAGEMENT SYSTEM	**10**
	Total	**40**
	PROJECT (PART – 2): 10 MARKS	

Part - A:

Unit : Accounting for Not – For Profit Organisations

Units/Topics	Learning Outcomes
• Not-for-profit organizations: concept. • Receipts and Payments Account: features and preparation. • Income and Expenditure Account: features, preparation of income and expenditure account and balance sheet from the given receipts and payments account with additional information. **Scope:** *(i) Adjustments in a question should not exceed 3 or 4 in number and restricted to subscriptions,consumption of consumables and sale of assets/ old material.* *(ii) Entrance/admission fees and general donations are to be treated as revenue receipts.* *(iii) Trading Account of incidental activities is not to be prepared.*	**After going through this Unit, the students will be able to:** • state the meaning of a Not-for-profit organisation and its distinction from a profit making entity. • state the meaning of receipts and payments account, and understanding its features. • develop the understanding and skill of preparing receipts and payments account. • state the meaning of income and expenditure account and understand its features. • develop the understanding and skill of preparing income and expenditure account and balance sheet of a not-for-profit organisation with the help of given receipts and payments account and additional information.

Unit : Accounting for Partnership Firms

Accounting for Partnership firms - Reconstitution and Dissolution. • **Retirement and death of a partner:** effect of retirement / death of a partner on change in profit sharing ratio, treatment of goodwill, treatment for revaluation of assets and reassessment of liabilities, adjustment of accumulated profits and reserves and preparation of balance sheet. • Calculation of deceased partner's share of profit till the date of death.	• explain the effect of retirement / death of a partner on change in profit sharing ratio. • develop the understanding of accounting treatment of goodwill, revaluation of assets and re-assessment of liabilities and adjustment of accumulated profits and reserves on retirement / death of a partner. • develop the skill of calculation of deceased

Dissolution of a partnership firm: meaning of dissolution of partnership and partnership firm, types of dissolution of a firm. Settlementof accounts - preparation of realization account, and other related accounts: capitalaccounts of partners and cash/bank a/c (excluding piecemeal distribution, sale to a company and insolvency of partner(s)). **Note:** (i) If realized value of an asset is not given, it is to be presumed that it has not realised any amount. (ii) If a partner has borne and/ or paid the realisation expenses, it should be stated.	partner's share till the time of his death. • discuss the preparation of the capital accounts of the remaining partners and the balance sheet of the firm after retirement / death of a partner. • understand the situations under which a partnership firm can be dissolved. • develop the understanding of preparation of realisation account and other related accounts.

Unit - Accounting for Companies

Units/Topics	Learning Outcomes
Accounting for Debentures • Debentures: Issue of debentures at par, at a premium and at a discount. Issue of debentures for consideration other than cash; Issue of debentures with terms of redemption; debentures as collateral security-concept, interest on debentures. Writing off discount / loss on issue of debentures. Note: Discount or loss on issue of debentures to be written off in the year debentures are allotted from Security Premium Reserve/ Capital Reserve/ Statement of Profit and Loss as Financial Cost (AS16) in that order. *Note: Related sections of the Companies Act, 2013will apply.* *Concept of Tax Deducted at Source (TDS) is excluded.*	**After going through this Unit, the students will be able to:** • explain the accounting treatment of different categories of transactions related to issue of debentures. • develop the understanding and skill of writing of discount / loss on issue of debentures. • understand the concept of collateral security and its presentation in balance sheet. • develop the skill of calculating interest on • debentures and its accounting treatment. • state the meaning of redemption of debentures.

Part – B:

Unit : Analysis of Financial Statements

Units/Topics	Learning Outcomes
Financial statements of a Company: • **Tools for Financial Statement Analysis:** Comparative statements, common size statements.	**After going through this Unit, the students will beable to:** • develop the understanding and skill of preparation of comparative and common sizefinancial statements.

Unit : Cash Flow Statement

Units/Topics	Learning Outcomes
• Meaning, objectives and preparation (as perAS 3 (Revised) (Indirect Method only) ***Note:*** ***(i)*** *Adjustments relating to depreciation and amortization, profit or loss on sale of assets includinginvestments, dividend (both final and interim) and tax.* ***(ii)*** *Bank overdraft and cash credit to be treated asshort term borrowings.* ***(iii)*** *Current Investments to be taken as Marketable securities unless otherwise specified.*	**After going through this Unit, the students willbe able to:** • state the meaning and objectives of cash flow statement. • develop the understanding of preparation of Cash Flow Statement using indirect methodas per AS 3 with given adjustments.

Note: *Previous years' Proposed Dividend to be given effect, as prescribed in AS-4, Events occurring after the Balance Sheet date. Current years' Proposed Dividend will be accounted for in the next year after it is declaredby the shareholders.*

OR

Part B: Computerised Accounting

Unit : Computerised Accounting

Using Computerized Accounting System.

- Steps in installation of CAS, codification and Hierarchy of account heads, creation of accounts.
- Data: Entry, validation and verification.
- Adjusting entries, preparation of balance sheet, profit and loss account with closing entries and opening entries.
- Need and security features of the system.

Database Management System (DBMS)

- Concept and Features of DBMS.
- DBMS in Business Application.
- Generating Accounting Information – Payroll.

Part C: Practical Work

Students would prepare only ONE project in the entire academic session, which is divided into two terms i.e. Term – I and Term – II

Detailed guidelines for project work are as follows-

Students need to create **one specific project** only in which they would be required to cover the company profile, assessment of financial

statements, and specific report analysis. The main objective of preparing the project report is for the following reason:

1. Students are able to state the meaning, objectives, and limitations of financial statement analysis.
2. Study the proper use of different tools of 'financial statements analysis' like comparative analysis, Ratios and Cash flow statement.
3. Capable to create Comparative Statements and Common Size Statement.
4. Understand the Meaning, objective, advantage, and limitation of Accounting Ratios.

TERM -I

PARTICULARS	**MAXIMUM MARKS**
Written Test (based on Project – Accounting Ratios)	**6**
Practical file	**2**
Viva (Ratio Analysis)	**2**

TERM -II

PARTICULARS	**MAXIMUM MARKS**
Written Test (based on Comparative Statements and Common Size Statement and Cash Flow statement)	**6**
Practical file	**2**
Viva (Comparative Statements and Common Size Statement and Cash flow Statement)	**2**

Prescribed Books:

Financial Accounting -I	Class XI	NCERT Publication
Accountancy -II	Class XI	NCERT Publication
Accountancy -I	Class XII	NCERT Publication
Accountancy -II	Class XII	NCERT Publication
Accountancy – Computerised Accounting System	Class XII	NCERT Publication

BUSINESS STUDIES (CODE -054)

CLASS–XII (2021-22) TERM WISE CURRICULUM

Units	TERM 1-MCQ BASED QUESTION PAPER THEORY - 40 MARKS DURATION:90 MINUTES	Periods	Marks
Part A	**Principles and Functions of Management**		
1.	Nature and Significance of Management	12	16
2	Principles of Management	11	
3	Business Environment	08	
4	Planning	08	14
5	Organising	10	
	Total	**49**	**30**
Part B	**Business Finance and Marketing**		
11	Marketing Management	24	10
	Total	**24**	**10**
	Total	**73**	**40**
	PROJECT WORK (PART 1)		**10**

Students would prepare only ONE project in the entire academic session, which is divided into 2 terms i.e. Term I and Term II.

Term 1:

Part A: Principles and Functions of Management

Unit 1: Nature and Significance of Management

Concept	After going through this unit, the student/ learner would be able to:
Management - concept, objectives, and importance	● Understand the concept of management. ● Explain the meaning of 'Effectiveness and Efficiency. ● Discuss the objectives of management. ● Describe the importance of management.
Management as Science, Art and Profession	● Examine the nature of management as a science, art and profession.
Levels of Management	● Understand the role of top, middle and lower levels of management
Management functions-planning, organizing, staffing, directing and controlling	● Explain the functions of management
Coordination- concept and importance	● Discuss the concept and characteristics of coordination. ● Explain the importance of coordination.

Unit 2: Principles of Management

Principles of Management- concept and significance	● Understand the concept of principles of management. ● Explain the significance of management

	principles.
Fayol's principles of management	• Discuss the principles of management developed by Fayol.
Taylor's Scientific management- principles and techniques	• Explain the principles and techniques of 'Scientific Management'.

Unit 3: Business Environment

Business Environment- concept and importance	• Understand the concept of 'Business Environment'. • Describe the importance of business environment
Dimensions of Business Environment- Economic, Social, Technological, Political and Legal	• Describe the various dimensions of 'Business Environment'.

Unit 4: Planning

Planning: Concept, importance and limitation	• Understand the concept of planning. • Describe the importance of planning. • Understand the limitations of planning.
Planning process	• Describe the steps in the process of planning.

Unit 5: Organising

Organising: Concept and importance	• Understand the concept of organizing as a structure and as a process. • Explain the importance of organising.
Organising Process	• Describe the steps in the process of organizing
Structure of organisation- functional and divisional concept	• Describe functional and divisional structures of organisation.
Delegation: concept, elements and importance	• Understand the concept of delegation. • Describe the elements of delegation. • Appreciate the importance of Delegation.
Decentralization: concept and importance	• Understand the concept of decentralisation. • Explain the importance of decentralisation. • Differentiate between delegation and decentralisation.

Part B: Business Finance and Marketing

Unit 11: Marketing

Marketing – Concept, functions and philosophies	• Understand the concept of marketing. • Discuss the functions of marketing. • Explain the marketing philosophies.
Marketing Mix – Concept and elements	• Understand the concept of marketing mix. • Describe the elements of the

	marketing mix.
Product - branding, labelling and packaging – Concept	● Understand the concept of product as an element of marketing mix. ● Understand the concepts of branding, labelling and packaging.
Price - Concept, Factors determining price	● Understand the concept of price as an element of marketing mix. ● Describe the factors determining price of a product.
Physical Distribution – concept	● Understand the concept of physical distribution.
Promotion – Concept and elements; Advertising, Personal Selling, Sales Promotion and Public Relations	● Understand the concept of promotion as an element of marketing mix. ● Describe the elements of the promotion mix. ● Understand the concept of advertising and personal selling ● Understand the concept of sales promotion. ● Discuss the concept of public relations.

PROJECT WORK IN BUSINESS STUDIES (ONLY ONE PROJECT): GUIDELINES AS GIVEN IN CLASS XII CURRICULUM

BUSINESS STUDIES-(CODE-054)

CLASS–XII (2021-22)-TERM WISE CURRICULUM

Units	TERM-2 SUBJECTIVE QUESTION PAPER Theory- 40 Marks DURATION:-2 Hrs.	Periods	Marks
Part A	**Principles and Functions of Management**		
6	Staffing	13	20
7	Directing	09	
8	Controlling	07	
	Total	**29**	**20**
Part B	**Business Finance and Marketing**		
9	Financial Management	20	15
10	Financial Markets	18	
12	Consumer Protection	05	5
	Total	**43**	**20**
	Total	**72**	**40**
	PROJECT WORK (PART – 2)		10

Term 2: **Principles and Functions of Management**

Unit 6: Staffing

Staffing: Concept and importance	• Understand the concept of staffing. • Explain the importance of staffing
Staffing process	• Describe the steps in the process of staffing
Recruitment process	• Understand the meaning and steps in the process of recruitment. • Discuss the sources of recruitment.
Selection – process	• Understand the meaning of selection. • Describe the steps involved in the process of selection.
Training and Development - Concept and importance, Methods of training - on the job and off the job - vestibule training, apprenticeship training and internship training	• Understand the concept of training and development. • Appreciate the importance of training to the organisation and to the employees. • Discuss on the job and off the job methods of training. • Discuss the meaning of vestibule training, apprenticeship training and internship training. • Differentiate between training and development.

Unit 7: Directing

Directing: Concept and importance	● Describe the concept of directing. ● Discuss the importance of directing
Elements of Directing	● Describe the various elements of directing
Motivation - concept, Maslow's hierarchy of needs, Financial and non-financial incentives	● Understand the concept of motivation. ● Develop an understanding of Maslow's Hierarchy of needs. ● Discuss the various financial and non-financial incentives.
Leadership - concept, styles - authoritative, democratic and laissez faire	● Understand the concept of leadership. ● Understand the various styles of leadership.
Communication - concept, formal and informal communication;	● Understand the concept of communication ● Discuss the concept of formal and informal communication.

Unit 8: Controlling

Controlling - Concept and importance	● Understand the concept of controlling. ● Explain the importance of controlling.
Steps in process of controlling	● Discuss the steps in the process of controlling.

Part B: Business Finance and Marketing

Unit 9: Financial Management

Financial Management: Concept, role and objectives	● Understand the concept of financial management. ● Explain the role of financial management in an organisation. ● Discuss the objectives of financial management
Financial decisions: investment, financing and dividend- Meaning and factors affecting	● Discuss the three financial decisions and the factors affecting them.
Financial Planning - concept and importance	● Describe the concept of financial planning. ● Explain the importance of financial planning.
Capital Structure – concept and factors affecting capital structure	● Understand the concept of capital structure. ● Describe the factors determining the choice of an appropriate capital structure of a company.
Fixed and Working Capital - Concept and factors affecting their requirements	● Understand the concept of fixed and working capital. ● Describe the factors determining the requirements of fixed and working capital.

Unit 10: Financial Markets

Financial Markets: Concept, Functions and types	• Understand the concept of the financial market. • Explain the functions of the financial market. • Understand capital market and money market as types of financial markets.
Money market and its instruments	• Understand the concept of the money market. • Describe the various money market instruments.
Capital market: Concept, types (primary and secondary), methods of floatation in the primary market	• Discuss the concept of capital market. • Explain primary and secondary markets as types of capital market. • Differentiate between capital market and money market. • Discuss the methods of floating new issues in the primary market. • Distinguish between primary and secondary markets.
Stock Exchange – Meaning, Functions and trading procedure	• Give the meaning of a stock exchange. • Explain the functions of a stock exchange. • Discuss the trading procedure in a stock exchange. • Give the meaning of depository services and demat account as used in the trading procedure of securities.
Securities and Exchange Board of India (SEBI) - objectives and functions	• State the objectives of SEBI. • Explain the functions of SEBI.

Unit 12: Consumer Protection

Consumer Protection : Concept	• Understand the concept of consumer protection.
The Consumer Protection Act, 2019: Source: http://egazette.nic.in/WriteReadData/2019/210422.pdf Meaning of consumer Rights and responsibilities of consumers Who can file a complaint? Redressal machinery Remedies available	Understand the concept of a consumer according to the Consumer Protection Act, 2019. •Explain the consumer rights • Understand the responsibilities of consumers • Understand who can file a complaint and against whom? • Discuss the legal redressal machinery under Consumer Protection Act, 2019. • Examine the remedies available to the consumer under Consumer Protection Act,2019

PROJECT WORK IN BUSINESS STUDIES (ONLY ONE PROJECT): GUIDELINES AS GIVEN IN CLASS XII CURRICULUM

GUIDELINES FOR PROJECT WORK IN BUSINESS STUDIES IN CLASSES XI & XII

MARKS: 20 Marks (10 + 10 MARKS FOR TERM 1 AND TERM 2)

Introduction

The course in Business Studies is introduced at Senior School level to provide students with a sound understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society. Business is a dynamic process that brings together technology, natural resources and human initiative in a constantly changing global environment. With the purpose to help them understand the framework within which a business operates, and its interaction with the social, economic, technological and legal environment, the CBSE has introduced Project Work in the Business Studies Syllabus for Classes XI and XII. The projects have been designed to allow students to appreciate that business is an integral component of society and help them develop an understanding of the social and ethical issues concerning them.

The project work also aims to empower the teacher to relate all the concepts with what is happening around the world and the student's surroundings, making them appear more clear and contextual. This will enable the student to enjoy studies and use his free time effectively in observing what's happening around.

By means of Project Work the students are exposed to life beyond textbooks giving them opportunities to refer materials, gather information, analyze it further to obtain relevant information and decide what matter to keep.

One Project to be done throughout the session, as per the existing scheme.

1. **The objectives of the project work:**

Objectives of project work are to enable learners to:

- probe deeper into personal enquiry ,initiate action and reflect on knowledge and skills, views etc. acquired during the course of class XI-XII .
- analyse and evaluate real world scenarios using theoretical constructs and arguments
- demonstrate the application of critical and creative thinking skills and abilities to produce an independent and extended piece of work
- follow up aspects in which learners have interest
- develop the communication skills to argue logically

2. **Role of the teacher:**

The teacher plays a critical role in developing the thinking skills of the learners. A teacher should:

- help each learner select the topic after detailed discussions and deliberations of the topic;
- play the role of a facilitator to support and monitor the project work of the learner through periodic discussions;
- guide the research work in terms of sources for the relevant data;

- ensure that students must understand the relevance and usage of primary evidence and other sources in their projects and duly acknowledge the same;
- ensure that the students are able to derive a conclusion from the content; cite the limitations faced during the research and give appropriate references used in doing the research work.
- educate learners about plagiarism and the importance of quoting the source of the information to ensure authenticity of research work.
- prepare the learner for the presentation of the project work.
- arrange a presentation of the project file.

3. **Steps involved in the conduct of the project:**

Students may work upon the following lines as a suggested flow chart:

Choose a title/topic

Collection of the research material/data

Organization of material/data

Present material/data

Analysing the material/data for conclusion

Draw the relevant conclusion

Presentation of the Project Work

- The project work can be in the form of PowerPoint Presentation/Exhibition/Skit /albums/files/song and dance or culture show /story telling/debate/panel discussion, paper presentation and so on. Any of these activities which are suitable to visually impaired/differently-abled candidates can be performed as per the choice of the student.

4. **Expected Checklist for the Project Work:**
    - Introduction of topic/title
    - Identifying the causes,events, consequences and/or remedies
    - Various stakeholders and effect on each of them
    - Advantages and disadvantages of situations or issues identified
    - Short-term and long-term implications of strategies suggested in the course of research
    - Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file
    - Presentation and writing that is succinct and coherent in project file
    - Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

5. **Term-Wise Assessment of Project Work:**

- Project Work has broadly the following phases: Synopsis/ Initiation, Data Collection, Data Analysis and Interpretation, Conclusion.
- The aspects of the project work to be covered by students can be assessed during the two terms.

TERM-I PROJECT WORK (Part 1): 10 Marks

The teacher will assess the progress of the project work in the term I in the following manner:

Month	**Periodic Work**	**Assessment Rubrics**	**Marks**
1-3 July-September	Instructions about Project Guidelines, Background reading Discussions on Theme and Selection of the Final Topic, Initiation/ Synopsis	Introduction, Statement of Purpose/Need and Objective of the Study, Hypothesis/Research Question, Review of Literature, Presentation of Evidence, Key Words, Methodology, Questionnaire, Data Collection.	5
4-5 October-November	Planning and organisation: forming an action plan, feasibility or baseline study, Updating/modifying the action plan, Data Collection	Significance and relevance of the topic; challenges encountered while conducting the research.	5
October-November	**Midterm Assessment by internal examiner**		**10**

TERM- II - PROJECT WORK (Part 2): 10 Marks

The teacher will assess the progress of the project work in the term II in the following manner:

Month	**Periodic Work**	**Assessment Rubrics**	**Marks**
6-7 December-January	Content/data analysis and interpretation. Conclusion, Limitations, Suggestions, Bibliography, Annexures and Overall Presentation of the project.	Content analysis and its relevance in the current scenario. Conclusion, Limitations, Bibliography, Annexures and Overall Presentation.	5
8 January/ February	**Final Assessment and VIVA by both Internal and External Examiners**	External/ Internal Viva based on the project	5
		TOTAL	10

6. **Viva-Voce**

- At the end of the stipulated term, each learner will present the research work in the Project File to the External and Internal examiner.
- The questions should be asked from the Research Work/ Project File of the learner.
- The Internal Examiner should ensure that the study submitted by the learner is his/her own original work.
- In case of any doubt, authenticity should be checked and verified.

CLASS XI

The teacher should help students to identify any one project from the given topics.

The project may be done in a group or individually.

20 marks assigned for Project Work will be divided into two terms for 10 marks each.

I. Project One: Field Visit

The objective of introducing this project among the students is to give a first hand experience to them regarding the different types of business units operating in their surroundings, to observe their features and activities and relate them to the theoretical knowledge given in their textbooks. The students should select a place of field visit from the following: – (Add more as per local area availability.)

1. Visit to a Handicraft unit.
2. Visit to an Industry.
3. Visit to a Wholesale market (vegetables, fruits, flowers, grains, garments, etc.)
4. Visit to a Departmental store.
5. Visit to a Mall.

The following points should be kept in mind while preparing this visit.

1. Select a suitable day free from rush/crowd with lean business hours.
2. The teacher must visit the place first and check out on logistics. It's better to seek permission from the concerned business- incharge.
3. Visit to be discussed with the students in advance. They should be encouraged to prepare a worksheet containing points of observation and reporting.
4. Students may carry their cameras (at their own risk) with prior permission for collecting evidence of their observations.

1. Visit to a Handicraft Unit

The purpose of visiting a Handicraft unit is to understand nature and scope of its business, stakeholders involved and other aspects as outlined below

a) The raw material and the processes used in the business: People /parties/firms from which they obtain their raw material.
b) The market, the buyers, the middlemen, and the areas covered. c) The countries to which exports are made.
d) Mode of payment to workers, suppliers etc.

4. Nature of the goods dealt in
5. Sources of merchandise of the emporium
6. Role of co-operative societies in the manufacturing and/or marketing of the merchandise
7. Role of gifts of nature or natural produce in the development of goods/merchandise
8. Types of buyers and sellers
9. Modes of goods dispersed, minimum quantity sold and type of carrying bag or package used for delivery of the products sold
10. Factors determining the pricing at the emporium
11. Comparison between the prices of goods available at the emporium with the prices in the open market. Also highlight probable causes of variations if any.
12. Kind of raw material available naturally, used in making the products
13. The technique used in making the products i.e., hand made or machine made
14. Has the child labour being used in making the products sold at the emporium
15. Are the products eco-friendly, in terms of manufacturing, disposal and packing
16. Seasonal factors if any affecting the business of the emporium
17. Weekly/ Monthly non-working days
18. Mode of billing and payments - Cash, Credit Card/ Debit Card, Swipe facility.
19. Does the emporium sell its merchandise in installment / deferred payment basis
20. Do they provide home delivery and after sales services?
21. Different types of promotional campaigns / schemes
22. Assistance by Sales Personnel
23. Export orientation of this emporium and procedure used
24. Policies related to damaged/ returned goods
25. Any government facility available to the emporium
26. Warehousing facilities available / availed
27. Impact of tourism on the business of emporium
28. Additional facility offered to customers
29. Any Corporate Social Responsibility (CSR) assumed by the emporium
30. Contribution made by the emporium to its locality

CLASS XII

The teacher should help students to identify any one project from the given topics.

Students are supposed to select one unit out of four and are required to make only ONE project from the selected unit.

20 marks assigned for Project Work will be divided into two terms for 10 marks each.

I. Project One: Elements of Business Environment
The teachers should help the students in selecting any one element of the following:

1. Changes witnessed over the last few years on mode of packaging and its economic impact. The teacher may guide the students to identify the following changes:
a) The changes in transportation of fruits and vegetables such as cardboard crates being used in place of wooden crates, etc. Reasons for above changes.
b) Milk being supplied in glass bottles, later in plastic bags and now in tetrapack and through vending machines.
c) Plastic furniture [doors and stools] gaining preference over wooden furniture.
d) The origin of cardboard and the various stages of changes and growth.
e) Brown paper bags packing recycled paper bags to plastic bags and cloth bags.
f) Reuse of packaging [bottles, jars and tins] to attract customers for their products.
g) The concept of pyramid packaging for milk.
h) Cost being borne by the consumer/manufacturer.

i) Packaging used as means of advertisements.

2. The reasons behind changes in the following:
Coca – Cola and Fanta in the seventies to Thumbs up and Campa Cola in the eighties to Pepsi and Coke in the nineties.
The teacher may guide the students to the times when India sold Coca Cola and Fanta which were being manufactured in India by the foreign companies.

The students may be asked to enquire about
a) Reasons for stopping the manufacturing of the above mentioned drinks in India THEN.
b) The introduction of Thums up and Campa cola range.
c) Re-entry of Coke and introduction of Pepsi in the Indian market.
d) Factors responsible for the change.
e) Other linkages with the above.
f) Leading brands and the company having the highest market share.
g) Different local brands venturing in the Indian market.
h) The rating of the above brands in the market.
i) The survival and reasons of failure in competition with the international brands.
j) Other observations made by the students

The teacher may develop the following on the above lines
3. Changing role of the women in the past 25 years relating to joint families, nuclear families, women as bread earners of the family, changes in the requirement trend of mixers, washing machines, microwave and standard of living.
4. The changes in the pattern of import and export of different Products.
5. The trend in the changing interest rates and their effect on savings.
6. A study on child labour laws, its implementation and consequences.
7. The state of 'anti plastic campaign,' the law, its effects and implementation.
8. The laws of mining /setting up of industries, rules and regulations, licences required for running that business.
9. Social factors affecting acceptance and rejection of an identified product. (Dish washer, Atta maker,etc)
10. What has the effect of change in the environment on the types of goods and services?
The students can take examples like:
a) Washing machines, microwaves, mixers and grinder.
b) Need for crèche, day care centre for young and old.
c) Ready to eat food, eating food outside, and tiffin centres.
11. Change in the man-machine ratio with technological advances resulting in change of cost structure.
12. Effect of changes in the technological environment on the behaviour of employees.

II. Project Two: Principles of Management
The students are required to visit any one of the following:
1. A departmental store.
2. An Industrial unit.
3. A fast food outlet.
4. Any other organisation approved by the teacher.
They are required to observe the application of the general Principles of management advocated by Fayol.

Fayol's principles
1. Division of work.
2. Unity of command.
3. Unity of direction.

4. Scalar chain
5. Espirit de corps
6. Fair remuneration to all.
7. Order.
8. Equity.
9. Discipline
10. Subordination of individual interest to general interest.
11. Initiative.
12. Centralisation and decentralisation.
13. Stability of tenure.

OR

They may enquire into the application of scientific management techniques by F.W. Taylor in the unit visited.

Scientific techniques of management.
1. Functional foremanship.
2. Standardisation and simplification of work.
3. Method study.
4. Motion Study.
5. Time Study.
6. Fatigue Study
7. Differential piece rate plan.

Tips to teacher
(i) The teacher may organize this visit.
(ii) The teacher should facilitate the students to identify any unit of their choice and guide them to identify the principles that are being followed.
(iii) Similarly they should guide the students to identify the techniques of scientific management implemented in the organisation.
(iv) It may be done as a group activity.
(v) The observations could be on the basis of

- The different stages of division of work resulting to specialisation.
- Following instructions and accountability of subordinates to higher authorities.
- Visibility of order and equity in the unit.
- Balance of authority and responsibility.
- Communication levels and pattern in the organisation.
- Methods and techniques followed by the organisation for unity of direction and coordination amongst all.
- Methods of wage payments followed.The arrangements of fatigue study.
- Derivation of time study.
- Derivation and advantages of method study.
- Organisational chart of functional foremanship.
- Any other identified in the organisation

vi. It is advised that students should be motivated to pick up different areas of visit. As presentations of different areas in the class would help in better understanding to the other students.
vii. The students may be encouraged to develop worksheets. Teachers should help students to prepare observation tools to be used for undertaking the project.
Examples; worksheets, questionnaires, interviews and organisational charts etc.

III. Project Three: Stock Exchange

The purpose of this project is to teach school students the values of investing and utilising the stock market. This project also teaches important lessons about the economy, mathematics and financial responsibility.

The basis of this project is to learn about the stock market while investing a specified amount of fake money in certain stocks. Students then study the results and buy and sell as they see fit.

This project will also guide the students and provide them with the supplies necessary to successfully monitor stock market trends and will teach students how to calculate profit and loss on stock.

The project work will enable the students to:

- understand the topics like sources of business finance and capital market
- understand the concepts used in stock exchange
- inculcate the habit of watching business channels, reading business journals/newspapers and seeking information from their elders.

The students are expected to:

a) Develop a brief report on History of Stock Exchanges in India. (your country)
b) Prepare a list of at least 25 companies listed on a Stock Exchange.
c) To make an imaginary portfolio totalling a sum of Rs. 50,000 equally in any of the 5 companies of their choice listed above over a period of twenty working days.

The students may be required to report the prices of the stocks on a daily basis and present it diagrammatically on the graph paper.

- They will understand the weekly holidays and the holidays under the Negotiable Instruments Act.

  They will also come across terms like closing prices, opening prices, etc.
- During this period of recording students are supposed to distinctively record the daily and starting and closing prices of the week other days under the negotiable instrument act so that they acquire knowledge about closing and opening prices.
- The students may conclude by identifying the causes in the fluctuations of prices. Normally it would be related to the front page news of the a business journal, for example,
- Change of seasons.
- Festivals.
- Spread of epidemic.
- Strikes and accidents
- Natural and human disasters.
- Political environment.
- Lack of faith in the government policies.
- Impact of changes in government policies for specific industry.
- International events.
- Contract and treaties at the international scene.
- Relations with the neighbouring countries.
- Crisis in developed countries, etc.

The students are expected to find the value of their investments and accordingly rearrange their portfolio. The project work should cover the following aspects;

1. Graphical presentation of the share prices of different companies on different dates.
2. Change in market value of shares due to change of seasons, festivals, natural and human disasters.

3. Change in market value of shares due to change in political environment/ policies of various countries/crisis in developed countries or any other reasons
4. Identify the top ten companies out of the 25 selected on the basis of their market value of shares.
It does not matter if they have made profits or losses.

IV. Project Four: Marketing

1. Adhesives
2. Air conditioners
3. Baby diapers
4. Bathing Soap
5. Bathroom cleaner
6. Bike
7. Blanket
8. Body Spray
9. Bread
10. Breakfast cereal
11. Butter
12. Camera
13. Car
14. Cheese spreads
15. Chocolate
16. Coffee
17. Cosmetology product
18. Crayons
19. Crockery
20. Cutlery
21. Cycle
22. DTH
23. Eraser
24. e-wash
25. Fairness cream
26. Fans
27. Fruit candy
28. Furniture
29. Hair Dye
30. Hair Oil
31. Infant dress
32. Inverter
33. Jams
34. Jeans
35. Jewellery
36. Kurti
37. Ladies bag
38. Ladies footwear
39. Learning Toys
40. Lipstick
41. Microwave oven
42. Mixers
43. Mobile
44. Moisturizer
45. Music player
46. Nail polish
47. Newspaper
48. Noodles
49. Pen
50. Pen drive
51. Pencil
52. Pickles
53. Razor
54. Ready Soups
55. Refrigerator
56. RO system
57. Roasted snacks
58. Salt
59. Sarees
60. Sauces/ Ketchup
61. Shampoo
62. Shaving cream
63. Shoe polish
64. Shoes
65. Squashes
66. Suitcase/ airbag
67. Sunglasses
68. Tea
69. Tiffin Wallah
70. Toothpaste
71. Wallet
72. Washing detergent
73. Washing machine
74. Washing powder
75. Water bottle
76. Water storage tank
77. Wipes

Any more as suggested by the teacher.

The teacher must ensure that the identified product should not be items whose consumption/use is discouraged by the society and government like alcohol products/pan masala and tobacco products, etc.

Identify one product/service from the above which the students may like to manufacture/provide [pre-assumption].

Now the students are required to make a project on the identified product/service keeping in mind the following:

1. Why have they selected this product/service?
2. Find out ‘5’ competitive brands that exist in the market.
3. What permission and licences would be required to make the product?
4. What are your competitors' Unique Selling Propositions?[U.S.P.]?
5. Does your product have any range of details?
6. What is the name of your product?
7. Enlist its features.
8. Draw the ‘Label’ of your product.
9. Draw a logo for your product.
10. Draft a tagline.
11. What is the selling price of your competitor’s product?

(i) Selling price to consumer
(ii) Selling price to retailer
(iii) Selling price to wholesaler

What is the profit margin in percentage to the

- Manufacturer.
- Wholesaler.
- Retailer.

12. How will your product be packaged?
13. Which channel of distribution are you going to use? Give reasons for selection?
14. Decisions related to warehousing, state reasons.
15. What is going to be your selling price?
    (i) To consumer
    (ii) To retailer
    (iii) To wholesaler
16. List 5 ways of promoting your product.
17. Any schemes for
    (i) The wholesaler
    (ii) The retailer
    (iii) The consumer
18. What is going to be your ‘U.S.P?
19. What means of transport will you use and why?
20. Draft a social message for your label.
21. What cost effective techniques will you follow for your product?
22. What cost effective techniques will you follow for your promotion plan?

At this stage the students will realise the importance of the concept of marketing mix and the necessary decision regarding the four P’s of marketing.

- Product
- Place
- Price
- Promotion

On the basis of the work done by the students the project report should include the following:

1. Type of product /service identified and the (consumer/industries) process involved therein.
2. Brand name and the product.
3. Range of the product.
4. Identification mark or logo.
5. Tagline.
6. Labelling and packaging.
7. Price of the product and basis of price fixation.

8. Selected channels of distribution and reasons thereof.
9. Decisions related to transportation and warehousing. State reasons.
10. Promotional techniques used and starting reasons for deciding the particular technique.
11. Grading and standardisation

ECONOMICS (Code No. 030)

(2021-22)

CLASS XII - TERM-WISE CURRICULUM

TERM 1 - MCQ BASED QUESTION PAPER **Theory: 40 Marks** **Time: 90 minutes**	**Marks**	**Periods**
Part A: Introductory Macroeconomics		
▪ Money and Banking	6	8
▪ Government Budget and the Economy	6	15
▪ Balance of Payments	6	7
Sub Total	18	30
Part B: Indian Economic Development		
▪ Development Experience (1947-90) and Economic Reforms since 1991: ● Indian Economy on the eve of Independence ● Indian Economy (1950-90) ● Liberalisation, Privatisation and Globalisation : An Appraisal	12	28
▪ Current challenges facing Indian Economy ● Poverty ● Human Capital Formation ● Rural development	10	17
Sub Total	22	45
Total	40	75
Project Work (Part 1): 10 Marks		

Students would prepare only ONE project in the entire academic session, which is divided into 2 terms i.e. Term I and Term II.

Term 1

Part A: Introductory Macroeconomics

Unit 2: Money and Banking **8 Periods**

Money - meaning and supply of money - Currency held by the public and net demand deposits held by commercial banks.

Money creation by the commercial banking system.

Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit

Unit 4: Government Budget and the Economy **15 Periods**

Government budget - meaning, objectives and components.
Classification of receipts - revenue receipts and capital receipts; classification of expenditure – revenue expenditure and capital expenditure.

Measures of government deficit - revenue deficit, fiscal deficit, primary deficit their meaning.

Unit 5: Balance of Payments **7 Periods**

Balance of payments account - meaning and components;
Foreign exchange rate - meaning of fixed and flexible rates and managed floating.

Part B: Indian Economic Development

Unit 6: Development Experience (1947-90) and Economic Reforms since 1991 **28 Periods**

A brief introduction of the state of Indian economy on the eve of independence.
Indian economic system and common goals of Five Year Plans.
Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade.

Economic Reforms since 1991:
Features and appraisals of liberalisation, globalisation and privatisation (LPG policy);
Concepts of demonetization and GST

Unit 7: Current challenges facing Indian Economy **17 Periods**

Poverty- absolute and relative; Main programmes for poverty alleviation: A critical assessment;

Human Capital Formation: How people become resource; Role of human capital in economic development;

Rural development: Key issues - credit and marketing - role of cooperatives; agricultural diversification;

TERM 2 - SUBJECTIVE QUESTION PAPER **Theory: 40 Marks** **Time: 2 Hours**	**Marks**	**Periods**
Part A: Introductory Macroeconomics		
▪ National Income and Related Aggregates	10	23
▪ Determination of Income and Employment	12	22
Sub Total	22	45
Part B: Indian Economic Development		
▪ Current challenges facing Indian Economy ● Employment ● Infrastructure ● Sustainable Economic Development	12	18
▪ **Development Experience of India – A Comparison with Neighbours-** ● Comparative Development Experience of India and its Neighbours	06	12
Sub Total	18	30
Total	40	75
Project Work: 10 Marks		

Term – II

Part A: Introductory Macroeconomics

Unit 1: National Income and Related Aggregates **23 Periods**

What is Macroeconomics?

Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.

Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.

Aggregates related to National Income:

Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP.
GDP and Welfare

Unit 3: Determination of Income and Employment **22 Periods**

Aggregate demand and its components.

Propensity to consume and propensity to save (average and marginal).

Short-run equilibrium output; investment multiplier and its mechanism.

Meaning of full employment and involuntary unemployment.

Problems of excess demand and deficient demand; measures to correct them - changes in government spending, taxes and money supply through Bank Rate, CRR, SLR, Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

Part B: Indian Economic Development

Unit 7: Current challenges facing Indian Economy **18 Periods**

Employment: Growth and changes in work force participation rate in formal and informal sectors; problems and policies

Infrastructure: Meaning and Types: Case Studies: Health: Problems and Policies- A critical assessment;

Sustainable Economic Development: Meaning, Effects of Economic Development on Resources and Environment, including global warming

Unit 8: Development Experience of India: **12 Periods**

A comparison with neighbours
India and Pakistan
India and China
Issues: economic growth, population, sectoral development and other Human Development Indicators

Part C: Project in Economics **15 Periods**

Prescribed Books:

1. Statistics for Economics, NCERT
2. Indian Economic Development, NCERT
3. Introductory Microeconomics, NCERT
4. Macroeconomics, NCERT
5. Supplementary Reading Material in Economics, CBSE

Guidelines for Project Work: 20 Marks
(ECONOMICS)

Only **ONE** Project is to be done throughout the session.

1. **The objectives of the project work:**

   Objectives of project work are to enable learners to:

   - Probe deeper into personal enquiry, initiate action and reflect on knowledge and skills, views etc. acquired during the course of class XI-XII.
   - analyse and evaluate real world scenarios using theoretical constructs and arguments
   - demonstrate the application of critical and creative thinking skills and abilities to produce an independent and extended piece of work
   - follow up aspects in which learners have interest
   - develop the communication skills to argue logically

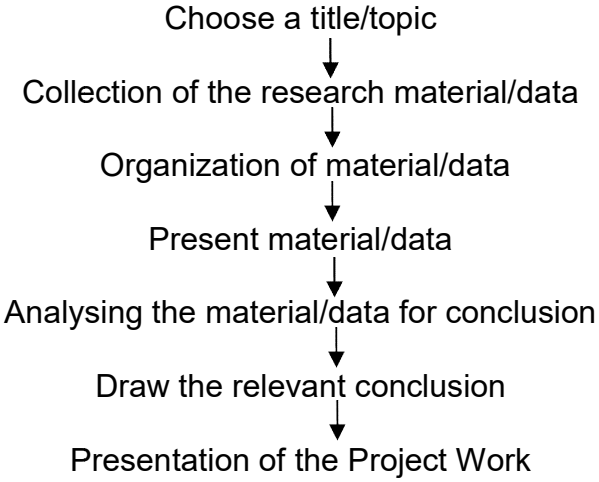
2. **Role of the teacher:**

   The teacher plays a critical role in developing thinking skills of the learners. A teacher should:

   - help each learner select the topic after detailed discussions and deliberations of the topic;
   - play the role of a facilitator to support and monitor the project work of the learner through periodic discussions;
   - guide the research work in terms of sources for the relevant data;
   - ensure that students must understand the relevance and usage of primary evidence and other sources in their projects and duly acknowledge the same;
   - ensure that the students are able to derive a conclusion from the content; cite the limitations faced during the research and give appropriate references used in doing the research work.
   - educate learner about plagiarism and the importance of quoting the source of the information to ensure authenticity of research work.
   - prepare the learner for the presentation of the project work.
   - arrange a presentation of the project file.

3. **Steps involved in the conduct of the project:**

   Students may work upon the following lines as a suggested flow chart:



   - The project work can be in the form of Power Point Presentation/Exhibition/Skit /albums/files/song and dance or culture show /story telling/debate/panel discussion,

paper presentation and so on. Any of these activities which are suitable to visually impaired/differently-abled candidates can be performed as per the choice of the student.

4. **Expected Checklist for the Project Work:**
   - Introduction of topic/title
   - Identifying the causes, events, consequences and/or remedies
   - Various stakeholders and effect on each of them
   - Advantages and disadvantages of situations or issues identified
   - Short-term and long-term implications of strategies suggested in the course of research
   - Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file
   - Presentation and writing that is succinct and coherent in project file
   - Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

5. Term-Wise Assessment of Project Work:
   - Project Work has broadly the following phases: Synopsis/ Initiation, Data Collection, Data Analysis and Interpretation, Conclusion.
   - The aspects of the project work to be covered by students can be assessed during the two terms.
   - **20 marks assigned for Project Work can be divided in to two terms in the following manner:**

TERM-I PROJECT WORK (Part 1): 10 Marks

The teacher will assess the progress of the project work in the term I in the following manner:

Month	**Periodic Work**	**Assessment Rubrics**	**Marks**
1-3 July-September	Instructions about Project Guidelines, Background reading Discussions on Theme and Selection of the Final Topic, Initiation/ Synopsis	Introduction, Statement of Purpose/Need and Objective of the Study, Hypothesis/Research Question, Review of Literature, Presentation of Evidence, Key Words, Methodology, Questionnaire, Data Collection.	5
4-5 October-November	Planning and organisation: forming an action plan, feasibility or baseline study, Updating/modifying the action plan, Data Collection	Significance and relevance of the topic; challenges encountered while conducting the research.	5
October-November	**Mid-term Assessment by internal examiner**		**10**

TERM- II - PROJECT WORK (Part 2): 10 Marks

The teacher will assess the progress of the project work in the term II in the following manner:

Month	Periodic Work	Assessment Rubrics	Marks
6-7 December-January	Content/data analysis and interpretation. Conclusion, Limitations, Suggestions, Bibliography, Annexures and Overall Presentation of the project.	Content analysis and its relevance in the current scenario. Conclusion, Limitations, Bibliography, Annexures and Overall Presentation.	5
8 January/ February	**Final Assessment and VIVA by both Internal and External Examiners**	External/ Internal Viva based on the project	5
		TOTAL	10

6. Viva-Voce

- At the end of the stipulated term, each learner will present the research work in the Project File to the External and Internal examiner.
- The questions should be asked from the Research Work/ Project File of the learner.
- The Internal Examiner should ensure that the study submitted by the learner is his/her own original work.
- In case of any doubt, authenticity should be checked and verified.

Expected Checklist:

·Introduction of topic/title
·Identifying the causes, consequences and/or remedies
·Various stakeholders and effect on each of them
·Advantages and disadvantages of situations or issues identified
·Short-term and long-term implications of economic strategies suggested in the course of research
·Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file
·Presentation and writing that is succinct and coherent in project file
·*Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.*

Mode of presentation/submission of the Project:

At the end of the stipulated term, each learner will present the research work in the Project File to the External and Internal examiner. The questions should be asked from the Research Work/ Project File of the learner. The Internal Examiner should ensure that the study submitted by the learner is his/her own original work. In case of any doubt, authenticity should be checked and verified.

Suggestive List of Projects:

Class XI	
·Effect on PPC due to various government policies	·Invisible Hand (Adam Smith)
·Opportunity Cost as an Economic Tool (taking real life situations)	·Effect of Price Change on a Substitute Good (taking prices from real life visiting local market)
·Solar Energy, a Cost Effective Comparison with Conventional Energy Sources	·Bumper Production- Boon or Bane for the Farmer
·Any other newspaper article and its evaluation on basis of economic principles	·Any other topic

Class XII	
·Micro and Small Scale Industries	·Food Supply Channel in India
·Contemporary Employment situation in India	·Disinvestment policy of the government
·Goods and Services Tax Act and its Impact on GDP	·Health Expenditure (of any state)
·Human Development Index	·Inclusive Growth Strategy
·Self-help group	·Trends in Credit availability in India
·Monetary policy committee and its functions	·Role of RBI in Control of Credit
·Government Budget & its Components	·Trends in budgetary condition of India
·Exchange Rate determination – Methods and Techniques	·Currency War – reasons and repercussions
·Livestock – Backbone of Rural India	·Alternate fuel – types and importance
·SarwaSikshaAbhiyan – Cost Ratio Benefits	·Golden Quadrilateral- Cost ratio benefit
·Minimum Support Prices	·Relation between Stock Price Index and Economic Health of Nation
·Waste Management in India – Need of the hour	·Minimum Wage Rate – approach and Application
·Digital India- Step towards the future	·Rain Water Harvesting – a solution to water crises
·Vertical Farming – an alternate way	·Silk Route- Revival of the past
·Make in India – The way ahead	·Bumper Production- Boon or Bane for the farmer
·Rise of Concrete Jungle- Trend Analysis	·Organic Farming – Back to the Nature
·Any other newspaper article and its evaluation on basis of economic principles	·Any other topic

HISTORY
Code No.-027
Class XII(2021-22)
THEMES IN INDIAN HISTORY (PART-I, II&III)

TERM I

S.NO.	THEMES	WEIGHTAGE (IN MARKS)
1.	Theme 1 - Bricks, Beads and Bones	25
2.	Theme 2 - Kings, Farmers and Towns	
3.	Theme 3 -Kinship, Caste and Class	
4.	Theme 4 -Thinkers, Beliefs and Buildings	
5.	Theme 6 - Bhakti –Sufi Traditions	15
6.	Theme 7 - An Imperial Capital: Vijayanagara	
	Total	**40**

TERM-II

S.NO	THEMES	WEIGHTAGE (IN MARKS)
7.	Theme 9 - Kings and Chronicles	10
8.	Theme 10 - Colonialism and The Countryside (HALF)pg-257-274	30
9.	Theme 11 - Rebels and the Raj	
10.	Theme 13 - Mahatma Gandhi and the Nationalist Movement	
11.	Theme 15 - Framing the Constitution	
	Total	**40**

*** Map work included in both the terms**

Project Work* = 20 Marks (10+10)

***See the guidelines given with the document.**

Grand Total = Term I = 40 Marks

Term II = 40 Marks

Project Work = 20 Marks

= **100 Marks**

Note: Kindly refer to the guidelines on project work given below:-

Guidelines for Subjects having Project Work: 20 Marks

(Sociology, History, Legal Studies, Political Science, Economics, Business Studies, Accountancy)

One Project to be done throughout the session, as per the existing scheme.

1. **The objectives of the project work:**

Objectives of project work are to enable learners to:

- probe deeper into personal enquiry ,initiate action and reflect on knowledge and skills, views etc. acquired during the course of class XI-XII .
- analyse and evaluate real world scenarios using theoretical constructs and arguments
- demonstrate theapplication of critical and creative thinking skills and abilities to produce an independent and extended piece of work
- follow up aspects in which learners have interest
- develop the communication skills to argue logically

2. **Role of the teacher:**

The teacher plays a critical role in developing thinking skills of the learners. A teacher should:

- help each learner select the topic after detailed discussions and deliberations of the topic;
- play the role of a facilitator to support and monitor the project work of the learner through periodic discussions;
- guide the research work in terms of sources for the relevant data;
- ensure that students must understand the relevance and usage of primary evidence and other sources in their projects and duly acknowledge the same;
- ensure that the students are able to derive a conclusion from the content; cite the limitations faced during the research and give appropriate references used in doing the research work.
- educate learner about plagiarism and the importance of quoting the source of the information to ensure authenticity of research work.
- prepare the learner for the presentation of the project work.
- arrange a presentation of the project file.

3. **Steps involved in the conduct of the project:**

Students may work upon the following lines as a suggested flow chart:

Choose a title/topic

↓

Collection of the research material/data

↓

Organization of material/data

↓

Present material/data

↓

Analysing the material/data for conclusion

↓

Draw the relevant conclusion

↓

Presentation of the Project Work

- The project work can be in the form of Power PointPresentation/Exhibition/Skit/albums/files/song and dance or culture show /story telling/debate/panel discussion, paper presentation and so on. Any of these activities which are suitable to visually impaired/differently-abled candidates can be performed as per the choice of the student.

4. **Expected Checklist for the Project Work:**
   - Introduction of topic/title
   - Identifying the causes, events, consequences and/or remedies
   - Various stakeholders and effect on each of them
   - Advantages and disadvantages of situations or issues identified
   - Short-term and long-term implications of strategies suggested in the course of research
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5. Term-Wise Assessment of Project Work:

- Project Work has broadly the following phases: Synopsis/ Initiation, Data Collection, Data Analysis and Interpretation, Conclusion.
- The aspects of the project work to be covered by students can be assessed during the two terms.
- 20 marks assigned for Project Work can be divided in to two terms in the following manner:

TERM-I PROJECT WORK: 10 Marks

The teacher will assess the progress of the project work in the term I in the following manner:

Month	Periodic Work	Assessment Rubrics	Marks
1-3 July-September	Instructions about Project Guidelines, Background reading Discussions on Theme and Selection of the Final Topic, Initiation/ Synopsis	Introduction, Statement of Purpose/Need and objectives of the study, Hypothesis/Research Question, Review of Literature, Presentation of Evidence, Methodology, Questionnaire, Data Collection.	5
4-5 October-November	Planning and organisation: forming an action plan, feasibility or baseline study, Updating/modifying the action plan, Data Collection	Significance and relevance of the topic; challenges encountered while conducting the research.	5

October-November	**Midterm Assessment by internal examiner**	**Total**	**10**

TERM- II - PROJECT WORK: 10 Marks

The teacher will assess the progress of the project work in the term II in the following manner:

Month	**Periodic Work**	**Assessment Rubrics**	**Marks**
6-7 December -January	Content/data analysis and interpretation. Conclusion, Limitations, Suggestions, Bibliography, Annexures and overall presentation of the project.	Content analysis and its relevance in the current scenario. Conclusion, Limitations, Bibliography, Annexures and Overall Presentation.	5
8 January/ February	**Final Assessment and VIVA by both Internal and External Examiners**	External/ Internal Viva based on the project	5
		TOTAL	**10**

6. Viva-Voce

- At the end of the stipulated term, each learner will present the research work in the Project File to the External and Internal examiner.
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POLITICAL SCIENCE (Code No. 028)

Class XII (2021-22)

TERM WISE SYLLABUS

TERM- 1 **40 Marks**

Units	Contents	WEIGHTAGE (IN MARKS)
Part A: Contemporary World Politics		
1	Cold War Era and Non–aligned Movement	6
2	The End of Bipolarity	8
3	United Nations and its Organizations	6
Part B: Politics in India Since Independence		
4	Challenges of Nation-Building	08
5	Planning and Development	04
6	India's Foreign Policy	08
	Total	**40**

TERM- 2 **40 Marks**

Units	Contents	WEIGHTAGE (IN MARKS)
Part A: Contemporary World Politics		
7	New Centers of Power	08
8	South Asia and the Contemporary World	06
9	Globalization	06
Part B: Politics in India Since Independence		
10	Parties and the Party Systems in India	06
11	Democratic Resurgence	06
12	Indian Politics: Trends and Developments	08
	Total	**40**

Project Work* = 20 Marks

***See the guidelines given with the document.**

Grand Total = Term I = 40 Marks

Term II = 40 Marks

Project Work = 20 Marks

= **100 Marks**

Note: Kindly refer to the guidelines on project work given below:-

Guidelines for Subjects having Project Work: 20 Marks
(Sociology, History, Legal Studies, Political Science, Economics, Business Studies, Accountancy)

One Project to be done throughout the session, as per the existing scheme.

1. The objectives of the project work:

Objectives of project work are to enable learners to:

- probe deeper into personal enquiry ,initiate action and reflect on knowledge and skills, views etc. acquired during the course of class XI-XII .
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- help each learner select the topic after detailed discussions and deliberations of the topic;
- play the role of a facilitator to support and monitor the project work of the learner through periodic discussions;
- guide the research work in terms of sources for the relevant data;
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- ensure that the students are able to derive a conclusion from the content; cite the limitations faced during the research and give appropriate references used in doing the research work.
- educate learner about plagiarism and the importance of quoting the source of the information to ensure authenticity of research work.
- prepare the learner for the presentation of the project work.
- arrange a presentation of the project file.

3. Steps involved in the conduct of the project:

Students may work upon the following lines as a suggested flow chart:

Choose a title/topic

↓

Collection of the research material/data

↓

Organization of material/data

↓

Present material/data

↓

Analysing the material/data for conclusion

↓

Draw the relevant conclusion

↓

Presentation of the Project Work

- The project work can be in the form of Power Point Presentation/Exhibition/Skit /albums/files/song and dance or culture show /story telling/debate/panel discussion, paper presentation and so on. Any of these activities which are suitable to visually impaired/differently-abled candidates can be performed as per the choice of the student.

4. Expected Checklist for the Project Work:

- Introduction of topic/title
- Identifying the causes, events, consequences and/or remedies
- Various stakeholders and effect on each of them
- Advantages and disadvantages of situations or issues identified
- Short-term and long-term implications of strategies suggested in the course of research
- Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file
- Presentation and writing that is succinct and coherent in project file
- Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

5. Term-Wise Assessment of Project Work:

- Project Work has broadly the following phases: Synopsis/ Initiation, Data Collection, Data Analysis and Interpretation, Conclusion.
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- 20 marks assigned for Project Work can be divided in to two terms in the following manner:

TERM-I PROJECT WORK: 10 Marks

The teacher will assess the progress of the project work in the term I in the following manner:

Month	**Periodic Work**	**Assessment Rubrics**	**Marks**
1-3 July-September	Instructions about Project Guidelines, Background reading Discussions on Theme and Selection of the Final Topic, Initiation/ Synopsis	Introduction, Statement of Purpose/Need and objectives of the study, Hypothesis/Research Question, Review of Literature, Presentation of Evidence, Methodology, Questionnaire, Data Collection.	5
4-5 October-November	Planning and organisation: forming an action plan, feasibility or baseline study, Updating/modifying the action plan, Data Collection	Significance and relevance of the topic; challenges encountered while conducting the research.	5
October-November	**Midterm Assessment by internal examiner**	**TOTAL**	**10**

TERM- II - PROJECT WORK: 10 Marks

The teacher will assess the progress of the project work in the term II in the following manner:

Month	**Periodic Work**	**Assessment Rubrics**	**Marks**
6-7 December -January	Content/data analysis and interpretation. Conclusion, Limitations, Suggestions, Bibliography, Annexures and overall presentation of the project.	Content analysis and its relevance in the current scenario. Conclusion, Limitations, Bibliography, Annexures and Overall Presentation.	5
8 January/ February	**Final Assessment and VIVA by both Internal and External Examiners**	External/ Internal Viva based on the project	5
		TOTAL	**10**

6. Viva-Voce

- At the end of the stipulated term, each learner will present the research work in the Project File to the External and Internal examiner.
- The questions should be asked from the Research Work/ Project File of the learner.
- The Internal Examiner should ensure that the study submitted by the learner is his/her own original work.
- In case of any doubt, authenticity should be checked and verified.

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PHYSICAL EDUCATION (048)
DISTRIBUTION OF SYLLABUS – CLASS XII – 2021-2022
TERM - I AND TERM - II

TERM I – THEORY MCQ BASED - 35 MARKS		TERM II – THEORY SHORT/LONG ANSWER – 35 MARKS	
***Unit No.**	**Name**	***Unit No.**	**Name**
1	Planning in Sports • Meaning & Objectives Of Planning • Various Committees & its Responsibilities (pre; during & post) • Tournament – Knock-Out, League Or Round Robin & Combination • Procedure To Draw Fixtures – Knock-Out (Bye & Seeding) & League (Staircase & Cyclic)	**3**	Yoga & Lifestyle • Asanas as preventive measures • Obesity: Procedure, Benefits & contraindications for Vajrasana, Hastasana, Trikonasana, Ardh Matsyendrasana • Diabetes: Procedure, Benefits & contraindications for Bhujangasana, Paschimottasana, Pavan Muktasana, Ardh Matsyendrasana • Asthma: Procedure, Benefits & contraindications for Sukhasana, Chakrasana, Gomukhasana, Parvatasana, Bhujangasana, Paschimottasana, Matsyasana • Hypertension: Tadasana, Vajrasana, Pavan Muktasana, Ardha Chakrasana, Bhujangasana, Sharasana
2	Sports & Nutrition • Balanced Diet & Nutrition: Macro & Micro Nutrients • Nutritive & Non-Nutritive Components Of Diet • Eating For Weight Control – A Healthy Weight, The Pitfalls of Dieting, Food	**4**	Physical Education & Sports for CWSN (Children with Special Needs - DIVYANG) • Concept of Disability & Disorder • Types of Disability, its causes & nature (cognitive disability, intellectual

	Intolerance & Food Myths		disability, physical disability) - Types of Disorder, its cause & nature (ADHD, SPD, ASD, ODD, OCD) - Disability Etiquettes - Strategies to make Physical Activities assessable for children with special need.
5	Children & Women in Sports - Motor development & factors affecting it - Exercise Guidelines at different stages of growth & Development - Common Postural Deformities - Knock Knee; Flat Foot; Round Shoulders; Lordosis, Kyphosis, Bow Legs and Scoliosis and their corrective measures - Sports participation of women in India	**7**	Physiology & Injuries in Sports ● Physiological factor determining component of Physical Fitness ● Effect of exercise on Cardio Respiratory System ● Effect of exercise on Muscular System ● Sports injuries: Classification (Soft Tissue Injuries:(Abrasion, Contusion, Laceration, Incision, Sprain & Strain) Bone & Joint Injuries: (Dislocation, Fractures: Stress Fracture, Green Stick, Communated, Transverse Oblique & Impacted) Causes, Prevention& treatment ● First Aid – Aims & Objectives
6	Test & Measurement in Sports o Motor Fitness Test – 50 M Standing Start, 600 M Run/Walk, Sit & Reach, Partial Curl Up, Push Ups (Boys), Modified Push Ups (Girls), Standing Broad Jump, Agility – 4x10 M Shuttle Run o Measurement of Cardio Vascular Fitness – Harvard Step Test/Rockport Test - $\frac{\text{Duration of the Exercise in Seconds}}{5.5 \times \text{Pulse count of 1-1.5 Min after Exercise}} \times 100$	**9**	Psychology & Sports ● Personality; its definition & types – Trait & Types (Sheldon & Jung Classification) & Big Five Theory ● Motivation, its type & techniques ● Meaning, Concept & Types of Aggressions in Sports

	○ Rikli & Jones - Senior Citizen Fitness Test		
8	Biomechanics & Sports ● Meaning and Importance of Biomechanics in Sports ● Types of movements (Flexion, Extension, Abduction & Adduction) ● Newton's Law of Motion & its application in sports	**10**	Training in Sports ● Strength – Definition, types & methods of improving Strength – Isometric, Isotonic & Isokinetic ● Endurance - Definition, types & methods to develop Endurance – Continuous Training, Interval Training & Fartlek Training ● Speed – Definition, types & methods to develop Speed – Acceleration Run & Pace Run ● Flexibility – Definition, types & methods to improve flexibility ● Coordinative Abilities – Definition & types

TERM I – PRACTICAL		**TERM II – PRACTICAL**	
Project File (About one sport/game of choice)	05 Marks	Project File (Yoga and General Motor Fitness Test)	05 Marks
Demonstration of Fitness Activity	05 Marks	Demonstration of Fitness Activity/Yoga	05 Marks
Viva Voce (From Project File; Fitness)	05 Marks	Viva Voce (From Project File; General Motor Fitness; Yoga)	05 Marks

***For resource material refer Class XII Physical Education Handbook available at Board's Academic website: www.cbseacademic.nic.in**