

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

SECTION	TERM I	WEIGHTAGE (IN MARKS)	TERM II	WEIGHTAGE (IN MARKS)
A	<b>Reading Comprehension:</b> <ul style="list-style-type: none"> <li>Unseen passage (factual, descriptive or literary/ discursive or persuasive)</li> <li>Case Based Unseen (Factual) Passage</li> </ul>	8 + 5 = 13	<b>Reading Comprehension:</b> <ul style="list-style-type: none"> <li>Unseen passage (factual, descriptive or literary /discursive or persuasive)</li> <li>Unseen passage for Note Making and Summarising</li> </ul>	8 + 5 = 13
B	<b>Creative Writing Skills and Grammar:</b>  <u>Short Writing Tasks</u> <ul style="list-style-type: none"> <li>Notice Writing</li> </ul> <u>Long Writing Tasks</u> <ul style="list-style-type: none"> <li>Business or Official Letters( Making enquiries, registering complaints, asking for or giving information, placing orders and sending replies)</li> <li>Speech</li> </ul> <u>Grammar</u> <ul style="list-style-type: none"> <li>Determiners</li> <li>Tenses</li> <li>Re-ordering of Sentences</li> </ul> {MCQs on Gap filling/ Transformation of Sentences}	3  + 5 + 4  = 12	<b>Creative Writing Skills and Grammar:</b>  <u>Short Writing Tasks</u> <ul style="list-style-type: none"> <li>Posters</li> </ul> <u>Long Writing Tasks</u> <ul style="list-style-type: none"> <li>Official Letters: e.g. to school/college authorities (regarding admissions, school issues, requirements / suitability of courses)</li> <li>Debate</li> </ul> <u>Grammar</u> <ul style="list-style-type: none"> <li>Determiners</li> <li>Tenses</li> <li>Re-ordering of Sentences</li> </ul> {MCQs on Gap filling/ Transformation of Sentences }	3  + 5 + 4  = 12
C	<b>Literature:</b> Literary-prose/poetry extracts ( seen- texts ) comprehension and appreciation. <b>(Two Extracts)</b> <b>Questions Based on Texts to assess</b> comprehension and appreciation, analysis, inference, extrapolation  <u>Book-Hornbill:</u> <ul style="list-style-type: none"> <li>The Portrait of a Lady (<i>Prose</i>)</li> <li>A Photograph (<i>Poem</i>)</li> <li>"We're Not Afraid to Die... if We Can All Be Together" (<i>Prose</i>)</li> <li>Discovering Tut: the Saga Continues</li> <li>The Laburnum Top (<i>Poem</i>)</li> <li>Landscape of the Soul (<i>Prose</i>)</li> </ul> <u>Book-Snapshots:</u> <ul style="list-style-type: none"> <li>The Summer of the Beautiful White Horse(<i>Prose</i>)</li> <li>The Address (<i>Prose</i>)</li> <li>Ranga's Marriage (<i>Prose</i>)</li> </ul>	<b>9 Marks for Hornbill + 6 Marks for Snapshots = 15 Marks</b>	<b>Literature:</b> Questions based on extracts/texts to assess comprehension and appreciation, analysis, inference, extrapolation  <u>Book-Hornbill:</u> <ul style="list-style-type: none"> <li>The Voice of the Rain (<i>Poem</i>)</li> <li>The Ailing Planet: The Green Movement's Role (<i>Prose</i>)</li> <li>The Browning Version( <i>Play</i>)</li> <li>Childhood (<i>Poem</i>)</li> <li>Silk Road (<i>Prose</i>)</li> </ul> <u>Book-Snapshots:</u> <ul style="list-style-type: none"> <li>Albert Einstein at School (<i>Prose</i>)</li> <li>Mother's Day (<i>Play</i>)</li> <li>Birth ( <i>Prose</i>)</li> </ul>	<b>9 Marks for Hornbill + 6 Marks for Snapshots = 15 Marks</b>
	<b>TOTAL</b>	<b>40</b>	<b>TOTAL</b>	<b>40</b>
	<b>ASL</b>	<b>10</b>	<b>ASL</b>	<b>10</b>
	<b>GRAND TOTAL</b>	<b>40 + 10 = 50 MARKS</b>	<b>GRAND TOTAL</b>	<b>40 + 10 = 50 MARKS</b>

## 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 रोजगार 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 ज्यादा 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 सकें।
- 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 जाएँ।
- 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।

### आंतरिक मूल्यांकन हेतु –

#### 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 संदर्भों 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’ अर्थात् 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 हैं।

परियोजना की शब्दसीमा लगभग 2000 शब्दों की होनी चाहिये।

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

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	शब्दकोश से संबंधित 5 बहुविकल्पीय प्रश्न (1 अंक x 5 प्रश्न)	05	05
3	पाठ्यपुस्तक आरोह भाग – 1 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-1 से बहुविकल्पात्मक प्रश्न			05
	अ	पठित पाठों पर पाँच बहुविकल्पीय प्रश्न। (1 अंक x 05 प्रश्न)	05	
5	आंतरिक मूल्यांकन			10
		श्रवण तथा वाचन	10	
कुल अंक				50

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

### पाठ्यपुस्तक - आरोह भाग – 1

गद्य खंड	काव्य खंड
प्रेमचंद - नमक का दारोगा	कबीर - (i) हम तो एक एक करि जानां। (ii) संतों देखत जग बौराना।
कृष्णा सोबती - मियाँ नसीरुद्दीन	मीरा - (i) मेरे तो गिरधर गोपाल, दूसरो न कोई (ii) पग घुंघरू बांधी मीरां नाची
शेखर जोशी - गलता लोहा	सुमित्रानंदन पंत - वे आँखें

अभिव्यक्ति और माध्यम	अनुपूरक पाठ्यपुस्तक - वितान भाग – 1
शब्दकोश, संदर्भ ग्रंथों की उपयोगी विधि और परिचय	कुमार गंधर्व - भारतीय गायिकाओं में बेजोड़ : लता मंगेशकर



परीक्षा भार विभाजन द्वितीय सत्र			
विषयवस्तु			उप भार
			कुल भार
1	कार्यालयी हिंदी और रचनात्मक लेखन		20
1	दी गई स्थिति / घटना के आधार पर रचनात्मक लेखन (विकल्प सहित) (निबंधात्मक प्रश्न) (5 अंक x 1 प्रश्न)	05	
2	औपचारिक/अनौपचारिक पत्र (निबंधात्मक प्रश्न) (5 अंक x 1 प्रश्न)	05	
3	व्यावहारिक लेखन (प्रतिवेदन, प्रेस-विज्ञप्ति, परिपत्र, कार्यसूची/कार्यवृत्त से संबंधित दो लघु उत्तरीय प्रश्न - एक तीन व एक दो अंक का) (विकल्प सहित) (3 अंक x 1 प्रश्न) + (2 अंक x 1 प्रश्न)	05	
4	जनसंचार माध्यम और पत्रकारिता के विविध आयामों पर से संबंधित दो लघु उत्तरीय प्रश्न-एक तीन व एक दो अंक का) (विकल्प सहित) (3 अंक x 1 प्रश्न) + (2 अंक x 1 प्रश्न)	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 मूल्यांकन		10
	परियोजना कार्य	10	
कुल अंक			50

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

### पाठ्यपुस्तक - आरोह भाग - 1

काव्य खंड	गद्य खंड
भवानी प्रसाद मिश्र - घर की याद	कृष्णनाथ - स्पीति में बारिश
दुष्यंत कुमार - गज़ल	कृश्चंदर - जामुन का पेड़
निर्मला पुतुल - आओ, मिलकर बचाएँ	जवाहरलाल नेहरू - भारत माता

### **अभिव्यक्ति और माध्यम**

1. कार्यालयी लेखन और प्रक्रिया
2. स्ववृत्त लेखन और रोजगार संबंधी आवेदन पत्र
3. जनसंचार माध्यम
4. पत्रकारिता के विविध आयाम

### **अनुपूरक पाठ्यपुस्तक - वितान भाग – 1**

1. अनुपम मिश्र - राजस्थान की रजत बूँदें
2. बेबी हालदार - आलो - आँधारि

### **प्रस्तावित पुस्तकें:**

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

**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.

**COURSE STRUCTURE**  
**CLASS XI (2021-22)**  
**TERM - I**

One Paper

**90 Minutes**

**Max Marks: 40**

No.	Units	Marks
I.	Sets and Functions	11
II.	Algebra	13
III.	Coordinate Geometry	6
IV.	Calculus	4
V.	Statistics and Probability	6
	Total	40
	Internal Assessment	10
<b>Total</b>		<b>50</b>

\*No chapter-wise weightage. Care to be taken to cover all the chapters.

**Unit-I: Sets and Functions**

**1. Sets**

Sets and their representations. Empty set. Finite and Infinite sets. Equal sets. Subsets. Subsets of a set of real numbers especially intervals (with notations). Power set. Universal set. Venn diagrams. Union and Intersection of sets.

**2. Relations & Functions**

Ordered pairs. Cartesian product of sets. Number of elements in the Cartesian product of two finite sets. Cartesian product of the set of reals with itself ( $R \times R$  only). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special type of relation. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions, with their graphs.

## Unit-II: Algebra

### 1. Complex Numbers and Quadratic Equations

Need for complex numbers, especially  $\sqrt{-1}$ , to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane. Statement of Fundamental Theorem of Algebra, solution of quadratic equations (with real coefficients) in the complex number system.

### 2. Sequence and Series

Sequence and Series. Arithmetic Progression (A. P.). Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of  $n$  terms of a G.P., infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M.

## Unit-III: Coordinate Geometry

### 1. Straight Lines

Brief recall of two dimensional geometry from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point -slope form, slope-intercept form, two-point form, intercept form and normal form. General equation of a line. Distance of a point from a line.

## Unit-IV: Calculus

### 1. Limits

Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions

## Unit-V: Statistics and Probability

### 1. Statistics

Measures of Dispersion: Range, mean deviation, variance and standard deviation of ungrouped/grouped data.

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
I.	Sets and Functions (Cont.)	8
II.	Algebra (Cont.)	11
III.	Coordinate Geometry (Cont.)	9
IV.	Calculus (Cont.)	6
V.	Statistics and Probability (Cont.)	6
	Total	40
	Internal Assessment	10
	<b>Total</b>	<b>50</b>

### Unit-I: Sets and Functions

#### 1. Trigonometric Functions

Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity  $\sin^2 x + \cos^2 x = 1$ , for all  $x$ . Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing  $\sin(x \pm y)$  and  $\cos(x \pm y)$  in terms of  $\sin x$ ,  $\sin y$ ,  $\cos x$  &  $\cos y$  and their simple applications. Deducing identities like the following:

$$\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \tan y}, \cot(x \pm y) = \frac{\cot x \cot y \mp 1}{\cot y \pm \cot x}$$

$$\sin \alpha \pm \sin \beta = 2 \sin \frac{1}{2}(\alpha \pm \beta) \cos \frac{1}{2}(\alpha \mp \beta)$$

$$\cos \alpha + \cos \beta = 2 \cos \frac{1}{2}(\alpha + \beta) \cos \frac{1}{2}(\alpha - \beta)$$

$$\cos \alpha - \cos \beta = -2 \sin \frac{1}{2}(\alpha + \beta) \sin \frac{1}{2}(\alpha - \beta)$$

Identities related to  $\sin 2x$ ,  $\cos 2x$ ,  $\tan 2x$ ,  $\sin 3x$ ,  $\cos 3x$  and  $\tan 3x$ .

## Unit-II: Algebra

### 1. Linear Inequalities

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Graphical method of finding a solution of system of linear inequalities in two variables.

### 2. Permutations and Combinations

Fundamental principle of counting. Factorial  $n$ .  $(n!)$  Permutations and combinations, formula for  ${}^n P_r$  and  ${}^n C_r$ , simple applications.

## Unit-III: Coordinate Geometry

### 1. Conic Sections

Sections of a cone: circles, ellipse, parabola, hyperbola. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.

### 2. Introduction to Three-dimensional Geometry

Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points and section formula.

## Unit-IV: Calculus

### 1. Derivatives

Derivative introduced as rate of change both as that of distance function and geometrically. Definition of Derivative, relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.

## Unit-V: Statistics and Probability

### 1. Probability

Random experiments; outcomes, sample spaces (set representation). Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Probability of an event, probability of 'not', 'and' and 'or' events.

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

- Please refer the guidelines given under XII Mathematics Syllabus:

**PHYSICS XI (Code No. 042) COURSE STRUCTURE**  
**Class XI (Theory) Term 1**

**Time: one and half hours.**

**Max Marks: 35**

		No. of Periods	Marks
Unit-I	Physical World and Measurement	6	20
	Chapter-1: Physical World		
	Chapter-2: Units and Measurements		
Unit-II	Kinematics	16	
	Chapter-3: Motion in a Straight Line		
	Chapter-4: Motion in a Plane		
Unit-III	Laws of Motion	10	
	Chapter-5: Laws of Motion		
Unit-IV	Work, Energy and Power	12	
	Chapter-6: Work, Energy and Power		
Unit-V	Motion of System of Particles and Rigid Body	16	
	Chapter-7: System of Particles and Rotational Motion		
Unit-VI	Gravitation	8	
	Chapter-8: Gravitation		
Total		68	35

**Syllabus assigned for first term**

**Unit I: Physical World and Measurement**

**6 Periods**

**Chapter-1: Physical World**

Physics-scope and excitement; nature of physical laws; Physics, technology and society. (To be discussed as a part of Introduction and integrated with other topics)

**Chapter-2: Units and Measurements**

Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. Length, mass and time measurements; accuracy and precision of measuring instruments; errors in measurement; significant figures.

Dimensions of physical quantities, dimensional analysis and its applications.

**Unit II: Kinematics**

**16 Periods**

**Chapter-3: Motion in a Straight Line**

Elementary concepts of differentiation and integration for describing motion, uniform and non-uniform motion, average speed and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs.

Relations for uniformly accelerated motion (graphical treatment).

**Chapter-4: Motion in a Plane**

Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors,



relative velocity, Unit vector; resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors.

Motion in a plane, cases of uniform velocity and uniform acceleration-projectile motion, uniform circular motion.

### **Unit III: Laws of Motion**

**10 Periods**

#### **Chapter–5: Laws of Motion**

*Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. (Recapitulation only)*

Law of conservation of linear momentum and its applications.

Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication.

Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on a level circular road, vehicle on a banked road).

### **Unit IV: Work, Energy and Power**

**12 Periods**

#### **Chapter–6: Work, Energy and Power**

Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power.

Notion of potential energy, potential energy of a spring, conservative forces: conservation of mechanical energy (kinetic and potential energies); non-conservative forces: motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.

### **Unit V: Motion of System of Particles and Rigid Body**

**16 Periods**

#### **Chapter–7: System of Particles and Rotational Motion**

Centre of mass of a two-particle system, momentum conservation and centre of mass motion.

Centre of mass of a rigid body; centre of mass of a uniform rod.

Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications.

Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions.

Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation).

### **Unit VI: Gravitation**

**8 Periods**

#### **Chapter–8: Gravitation**

Universal law of gravitation. Acceleration due to gravity (recapitulation only) and its variation with altitude and depth.

Gravitational potential energy and gravitational potential, escape velocity, orbital velocity of a satellite, Geo-stationary satellites.

## Class XI (Theory) Term II

Time: 2hrs

Max Marks: 35

Unit		Periods	Marks
Unit–VII	Properties of Bulk Matter	22	23
	Chapter–9: Mechanical Properties of Solids		
	Chapter–10: Mechanical Properties of Fluids		
	Chapter–11: Thermal Properties of Matter		
Unit–VIII	Thermodynamics	10	
	Chapter–12: Thermodynamics		
Unit–IX	Behaviour of Perfect Gases and Kinetic Theory of Gases	08	
	Chapter–13: Kinetic Theory		
Unit–X	Oscillations and Waves	23	12
	Chapter–14: Oscillations		
	Chapter–15: Waves		
	Total Marks	63	35

### Syllabus assigned for Term II

**Unit VII: Properties of Bulk Matter**

**22 Periods**

#### **Chapter–9: Mechanical Properties of Solids**

Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus

#### **Chapter–10: Mechanical Properties of Fluids**

Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure.

Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its applications.

Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.

#### **Chapter–11: Thermal Properties of Matter**

*Heat, temperature, (recapitulation only)* thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity;  $C_p$ ,  $C_v$  - calorimetry; change of state - latent heat capacity.

Heat transfer-conduction, convection and radiation (recapitulation only), thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law, Greenhouse effect.

## **Unit VIII: Thermodynamics**

**10 Periods**

### **Chapter–12: Thermodynamics**

Thermal equilibrium and definition of temperature (zeroth law of thermodynamics), heat, work and internal energy. First law of thermodynamics, isothermal and adiabatic processes.

Second law of thermodynamics: reversible and irreversible processes

## **Unit IX: Behaviour of Perfect Gases and Kinetic Theory of Gases**

**08 Periods**

### **Chapter–13: Kinetic Theory**

Equation of state of a perfect gas, work done in compressing a gas.

Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.

## **Unit X: Oscillations and Waves**

**23 Periods**

### **Chapter–14: Oscillations**

Periodic motion - time period, frequency, displacement as a function of time, periodic functions.

Simple harmonic motion (S.H.M) and its equation; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period. Free, forced and damped oscillations (qualitative ideas only), resonance.

### **Chapter–15: Waves**

Wave motion: Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, Beats

## PRACTICALS

### Syllabus for TERM I

**Total Periods: 16**

The record, to be submitted by the students, at the time of their First term examination, has to include:

Record of at least 4 Experiments, to be performed by the students

Record of at least 3 Activities [with 3 each from section A and section B], to be demonstrated by teacher.

**Time Allowed: One and half hours**

**Max. Marks: 30**

Two experiments one from each section	<b>8Marks</b>
Practical record (experiment and activities)	2Marks
Viva on experiments, and activities	<b>5 Marks</b>
<b>Total</b>	<b>15 Marks</b>

### Syllabus assigned for Practical Term I

#### Experiments

1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Calipers and hence find its volume.
2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.

**OR**

To determine volume of an irregular lamina using screw gauge.

3. To determine radius of curvature of a given spherical surface by a spherometer.
4. To determine the mass of two different objects using a beam balance.
5. To find the weight of a given body using parallelogram law of vectors.
6. Using a simple pendulum, plot its  $L-T^2$  graph and use it to find the effective length of second's pendulum.

**OR**

To study variation of time period of a simple pendulum of a given length by taking bobs of same size but different masses and interpret the result.

7. To study the relationship between force of limiting friction and normal reaction and to find the co-efficient of friction between a block and a horizontal surface.

**OR**

To find the downward force, along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination  $\theta$  by plotting graph between

force and  $\sin \theta$ .

### Activities

1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.
2. To determine mass of a given body using a metre scale by principle of moments.
3. To plot a graph for a given set of data, with proper choice of scales and error bars.
4. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
5. To study the variation in range of a projectile with angle of projection.
6. To study the conservation of energy of a ball rolling down on an inclined plane (using a double inclined plane).
7. To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.

### Class XI Syllabus for TERM II

**Total Periods: 16**

The record, to be submitted by the students, at the time of their annual examination, has to include:

Record of at least 4 Experiments, to be performed by the students

Record of at least 3 Activities [with 3 each from section A and section B], to be demonstrated by teacher.

**Time Allowed: One and half hours**

**Max. Marks: 30**

Two experiments one from each section	<b>8Marks</b>
Practical record (experiment and activities)	2Marks
Viva on experiments, and activities	<b>5 Marks</b>
<b>Total</b>	<b>15 Marks</b>

### Experiments

1. To determine Young's modulus of elasticity of the material of a given wire.

**OR**

To find the force constant of a helical spring by plotting a graph between load and extension.

2. To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and  $1/V$ .
3. To determine the surface tension of water by capillary rise method.

**OR**

To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.

4. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
5. To determine specific heat capacity of a given solid by method of mixtures.
6. To study the relation between frequency and length of a given wire under constant tension using sonometer.

**OR**

To study the relation between the length of a given wire and tension for constant frequency using sonometer.

7. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.

**Activities**

1. To observe change of state and plot a cooling curve for molten wax.
2. To observe and explain the effect of heating on a bi-metallic strip.
3. To note the change in level of liquid in a container on heating and interpret the observations.
4. To study the effect of detergent on surface tension of water by observing capillary rise.
5. To study the factors affecting the rate of loss of heat of a liquid.
6. To study the effect of load on depression of a suitably clamped metre scale loaded at (i) its end (ii) in the middle.
7. To observe the decrease in pressure with increase in velocity of a fluid.

**Practical Examination for Visually Impaired Students Class XI**

**Note:** Same Evaluation scheme and general guidelines for visually impaired students as given for Class XII may be followed.

**A. Items for Identification/Familiarity of the apparatus for assessment in practicals (All experiments)**

Spherical ball, Cylindrical objects, vernier calipers, beaker, calorimeter, Screw gauge, wire, Beam balance, spring balance, weight box, gram and milligram weights, forceps, Parallelogram law of vectors apparatus, pulleys and pans used in the same 'weights' used, Bob and string used in a simple pendulum, meter scale, split cork, suspension arrangement, stop clock/stop watch, Helical spring, suspension arrangement used, weights, arrangement used for measuring extension, Sonometer, Wedges, pan and pulley used in it, 'weights' Tuning Fork, Meter scale, Beam balance, Weight box, gram and milligram weights, forceps, Resonance Tube, Tuning Fork, Meter scale, Flask/Beaker used for adding water.

**B. List of Practical's**

1. To measure diameter of a small spherical/cylindrical body using vernier calipers.
2. To measure the internal diameter and depth of a given beaker/calorimeter using vernier calipers and hence find its volume.
3. To measure diameter of given wire using screw gauge.
4. To measure thickness of a given sheet using screw gauge.
5. To determine the mass of a given object using a beam balance.
6. To find the weight of given body using the parallelogram law of vectors.
7. Using a simple pendulum plot  $L-T$  and  $L-T^2$  graphs. Hence find the effective length of second's pendulum using appropriate length values.
8. To find the force constant of given helical spring by plotting a graph between load and extension.
9. (i) To study the relation between frequency and length of a given wire under constant tension using a sonometer.  
(ii) To study the relation between the length of a given wire and tension, for constant frequency, using a sonometer.
10. To find the speed of sound in air, at room temperature, using a resonance tube, by observing the two resonance positions.

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

**Prescribed Books:**

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

## CHEMISTRY (043)

### SYLLABUS FOR SESSION 2021-22 CLASS XI Term-I

S	UNIT	Periods	Marks
1	Some Basic Concepts of Chemistry	10	11
2	Structure of Atom	12	
3	Classification of Elements and Periodicity in Properties	6	4
4	Chemical Bonding and Molecular Structure	14	6
5	Redox Reactions	4	5
6	Hydrogen	4	
7	Organic Chemistry: Some basic Principles and Techniques	10	9
	TOTAL	60	35

**Some Basic Concepts of Chemistry:** General Introduction: Importance and scope of Chemistry. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry.

**Structure of Atom:** Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals

**Classification of Elements and Periodicity in Properties:** Modern periodic law and the present form of periodic table, periodic trends in properties of elements -atomic radii, ionic radii, inert gas radii, ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100.

**Chemical Bonding and Molecular Structure:**

Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules(qualitative idea only), Hydrogen bond.

**Redox Reactions:**

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number.

**Hydrogen:** Position of hydrogen in periodic table, occurrence, isotopes, hydrides-ionic covalent and interstitial; physical and chemical properties of water, heavy water, hydrogen as a fuel

**Organic Chemistry: Some basic Principles and Techniques:** General introduction, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.



## PRACTICALS

**Term I: A 15-mark Practical** would be conducted under the supervision of subject teacher. 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.

### Term-I Evaluation Scheme

S. No	Practical	Marks
1.	Volumetric Analysis	8
2.	Content Based experiment	2
3.	Class record and viva (Internal Examiner)	5
TOTAL		15

**Micro-chemical methods are available for several of the practical experiments, wherever possible such techniques should be used.**

#### A. Basic Laboratory Techniques

1. Cutting glass tube and glass rod
2. Bending a glass tube
3. Drawing out a glass jet
4. Boring a cork

#### B. Characterization of Chemical Substances (2 Marks)

1. Determination of melting point of an organic compound.
2. Determination of boiling point of an organic compound.

#### C. Quantitative Estimation (8 marks)

- i. Using a mechanical balance/electronic balance.
- ii. Preparation of standard solution of Oxalic acid.
- iii. Determination of strength of a given solution of Sodium hydroxide by titrating it against standard solution of Oxalic acid.
- iv. Preparation of standard solution of Sodium carbonate.
- v. Determination of strength of a given solution of hydrochloric acid by titrating it against standard Sodium Carbonate solution.

## SYLLABUS FOR SESSION 2021-22 CLASS XI Term-II

S.No	UNIT	Periods	Marks
1	States of Matter: Gases and Liquids	9	15
2	Chemical Thermodynamics	14	
3	Equilibrium	12	
4	s -Block Elements	5	11
5	Some p -Block Elements	9	
6	Hydrocarbons	10	9
	TOTAL	59	35

**States of Matter: Gases and Liquids:** Three states of matter, intermolecular interactions, types of bonding, melting and boiling points, role of gas laws in elucidating the concept of the molecule, Boyle's law, Charles law, Gay Lussac's law, Avogadro's law, ideal behaviour, empirical derivation of gas equation, Avogadro's number, ideal gas equation and deviation from ideal behaviour.

**Chemical Thermodynamics:** Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions.

First law of thermodynamics -internal energy and enthalpy, measurement of  $\Delta U$  and  $\Delta H$ , Hess's law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics (brief introduction)

Introduction of entropy as a state function, Gibb's energy change for spontaneous and non-spontaneous processes.

Third law of thermodynamics (brief introduction).

**Equilibrium:** Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle, ionic equilibrium- ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of poly basic acids, acid strength, concept of pH, buffer solution, solubility product, common ion effect (with illustrative examples).

**s -Block Elements:** Group 1 and Group 2 Elements -General introduction, electronic configuration, occurrence, anomalous properties of the first element of each group, diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii), trends in chemical reactivity with oxygen, water, hydrogen and halogens, uses.

**Some p -Block Elements:** General Introduction to p -Block Elements

Group 13 Elements: General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous properties of first element of the group, Boron - physical and chemical properties.

Group 14 Elements: General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous behaviour of first elements. Carbon-catenation, allotropic forms, physical and chemical properties.

**Hydrocarbons:** Classification of Hydrocarbons Aliphatic Hydrocarbons:

Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions.

Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition.

Alkynes - Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water.

**Aromatic Hydrocarbons:** Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene. Carcinogenicity and toxicity.

## PRACTICALS

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

### TERM-II Evaluation Scheme

S. No	Practical	Marks
1.	Salt Analysis	8
2.	Content Based Experiment	2
3	Project Work and Viva(Internal)	5
TOTAL		15

#### A. Qualitative Analysis(Marks 8)

- a. Determination of one anion and one cation in a given salt

Cations-  $\text{Pb}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{As}^{3+}$ ,  $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Mn}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Co}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Sr}^{2+}$ ,  $\text{Ba}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{NH}_4^+$

Anions –  $(\text{CO}_3)^{2-}$ ,  $\text{S}^{2-}$ ,  $\text{NO}_2^-$ ,  $\text{SO}_3^{2-}$ ,  $\text{SO}_4^{2-}$ ,  $\text{NO}_3^-$ ,  $\text{Cl}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ ,  $\text{PO}_4^{3-}$ ,  $\text{C}_2\text{O}_4^{2-}$ ,  $\text{CH}_3\text{COO}^-$  (Note: Insoluble salts excluded)

- b. Detection of -Nitrogen, Sulphur, Chlorine in organic compounds.

#### B. Crystallization of impure sample of any one of the following: Alum, Copper Sulphate, Benzoic Acid. (Marks 2)

PROJECTS scientific investigations involving laboratory testing and collecting information from other sources.

#### 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

## **BIOLOGY**

(Code No. 044)

**Syllabus for Purpose of Examination 2021-22**

**CLASS – XI and XII (2021-22)**

The present curriculum provides the students with updated concepts along with an extended exposure to contemporary areas of the subject. The curriculum also aims at emphasizing the underlying principles that are common to animals, plants and microorganisms as well as highlighting the relationship of Biology with other areas of knowledge. The format of the curriculum allows a simple, clear, sequential flow of concepts. It relates the study of biology to real life through the use of technology. It links the discoveries and innovations in biology to everyday life such as environment, industry, health and agriculture. The updated curriculum focuses on understanding and application of scientific principles, while ensuring that ample opportunities and scope for learning and appreciating basic concepts continue to be available within its framework. The curriculum is expected to:

- promote understanding of basic principles of Biology
- encourage learning of emerging knowledge and its relevance to individual and society
- promote rational/scientific attitude towards issues related to population, environment and development
- enhance awareness about environmental issues, problems and their appropriate solutions
- create awareness amongst the learners about diversity in the living organisms and developing respect for other living beings
- appreciate that the most complex biological phenomena are built on essentially simple processes

It is expected that the students would get an exposure to various branches of Biology in the curriculum in a more contextual and systematic manner as they study its various units.

**BIOLOGY (Code No. 044)**

**COURSE STRUCTURE**

**CLASS XI (2021 -22)**

<b>EVALUATION SCHEME</b>		
<b>Theory</b>		
<b>Units</b>	<b>Term – I</b>	<b>Marks</b>
<b>I</b>	Diversity of Living Organisms: Chapter - 1, 2, 3 and 4	15
<b>II</b>	Structural Organization in Plants and Animals: Chapter – 5 and 7	08
<b>III</b>	Cell: Structure and Function: Chapter – 8 and 9	12
<b>Units</b>	<b>Term - II</b>	<b>Marks</b>
<b>III</b>	Cell: Structure and Function: Chapter - 10	05
<b>IV</b>	Plant Physiology: Chapter - 13,14 and 15	12
<b>V</b>	Human Physiology: Chapter –17, 18, 19, 20, 21 and 22	18
<b>Total Theory (Term – I and Term – II)</b>		<b>70</b>

<b>Practicals Term – I</b>	<b>15</b>
<b>Practicals Term – II</b>	<b>15</b>
<b>Total</b>	<b>100</b>

## **THEORY**

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### **Term – I**

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#### **Unit-I Diversity of Living Organisms**

##### **Chapter-1: The Living World**

What is living? Biodiversity; Need for classification; three domains of life; concept of species and taxonomical hierarchy; binomial nomenclature.

##### **Chapter-2: Biological Classification**

Five kingdom classification; Salient features and classification of Monera, Protista and Fungi into major groups; Lichens, Viruses and Viroids.

##### **Chapter-3: Plant Kingdom**

Salient features and classification of plants into major groups - Algae, Bryophyta, Pteridophyta and Gymnospermae. (salient and distinguishing features and a few examples of each category).

##### **Chapter-4: Animal Kingdom**

Salient features and classification of animals, non-chordates up to phyla level and chordates up to class level (salient features and distinguishing features of a few examples of each category). (No live animals or specimen should be displayed.)

#### **Unit-II Structural Organization in Animals and Plants**

##### **Chapter-5: Morphology of Flowering Plants**

Morphology of inflorescence and flower, Description of 01 family: Solanaceae or Liliaceae (to be dealt along with the relevant experiments of the Practical Syllabus).

##### **Chapter-7: Structural Organization in Animals**

Animal tissues.

#### **Unit-III Cell: Structure and Function**

##### **Chapter-8: Cell-The Unit of Life**

Cell theory and cell as the basic unit of life, structure of prokaryotic and eukaryotic cells; Plant cell and animal cell; cell envelope; cell membrane, cell wall; cell organelles - structure and function; endomembrane system, endoplasmic reticulum, golgi bodies, lysosomes, vacuoles, mitochondria, ribosomes, plastids, microbodies; cytoskeleton, cilia, flagella, centrioles (ultrastructure and function); nucleus.

##### **Chapter-9: Biomolecules**

Chemical constituents of living cells: biomolecules, structure and function of proteins,

carbohydrates, lipids, nucleic acids; Enzymes- types, properties, enzyme action.

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## **Term – II**

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### **Unit-III Cell: Structure and Function**

#### **Chapter-10: Cell Cycle and Cell Division**

Cell cycle, mitosis, meiosis and their significance

### **Unit-IV Plant Physiology**

#### **Chapter-13: Photosynthesis in Higher Plants**

Photosynthesis as a means of autotrophic nutrition; site of photosynthesis, pigments involved in photosynthesis (elementary idea); photochemical and biosynthetic phases of photosynthesis; cyclic and non-cyclic photophosphorylation; chemiosmotic hypothesis; photorespiration; C3 and C4 pathways; factors affecting photosynthesis.

#### **Chapter-14: Respiration in Plants**

Exchange of gases; cellular respiration - glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); energy relations - number of ATP molecules generated; amphibolic pathways; respiratory quotient.

#### **Chapter-15: Plant - Growth and Development**

Growth regulators - auxin, gibberellin, cytokinin, ethylene, ABA.

### **Unit-V Human Physiology**

#### **Chapter-17: Breathing and Exchange of Gases**

Respiratory organs in animals (recall only); Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volume; disorders related to respiration - asthma, emphysema, occupational respiratory disorders.

#### **Chapter-18: Body Fluids and Circulation**

Composition of blood, blood groups, coagulation of blood; composition of lymph and its function; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system - hypertension, coronary artery disease, angina pectoris, heart failure.

#### **Chapter-19: Excretory Products and their Elimination**

Modes of excretion - ammonotelism, ureotelism, uricotelism; human excretory system – structure and function; urine formation, osmoregulation; regulation of kidney function - renin - angiotensin, atrial natriuretic factor, ADH and diabetes insipidus; role of other organs in

excretion; disorders - uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant.

### **Chapter-20: Locomotion and Movement**

Skeletal muscle, contractile proteins and muscle contraction.

### **Chapter-21: Neural Control and Coordination**

Neuron and nerves; Nervous system in humans - central nervous system; peripheral nervous system and visceral nervous system; generation and conduction of nerve impulse.

### **Chapter-22: Chemical Coordination and Integration**

Endocrine glands and hormones; human endocrine system - hypothalamus, pituitary, pineal, thyroid, parathyroid, adrenal, pancreas, gonads; mechanism of hormone action (elementary idea); role of hormones as messengers and regulators, hypo - and hyperactivity and related disorders; dwarfism, acromegaly, cretinism, goiter, exophthalmic goiter, diabetes, Addison's disease.

**Note:** Diseases related to all the human physiological systems to be taught in brief.

## **PRACTICALS**

**Max. Marks: 15 for each Term**

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

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

### **A: List of Experiments**

#### **TERM -I:**

1. Study and describe a locally available common flowering plant, from any one family: Solanaceae or Liliaceae (Poaceae, Asteraceae or Brassicaceae can be substituted in case of particular geographical location) including dissection and display of floral whorls, anther and ovary to show number of chambers (floral formulae and floral diagrams).
2. Study of osmosis by Potato osmometer.

#### **TERM -II:**

3. Separation of plant pigments through paper chromatography.
4. Study of distribution of stomata in the upper and lower surfaces of leaves.
5. Study of the rate of respiration in flower buds/leaf tissue and germinating seeds.
6. Test for presence of sugar in urine.
7. Test for presence of albumin in urine.

**B. Study/Observation of the following (spotting):**

**TERM - I:**

- B.1 Parts of a compound microscope.
- B.2 Specimens/slides/models and identification with reasons - Bacteria, *Oscillatoria*, *Spirogyra*, *Rhizopus*, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen.
- B.3 Virtual specimens/slides/models and identifying features of - *Amoeba*, *Hydra*, liverfluke, *Ascaris*, leech, earthworm, prawn, silkworm, honeybee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.

**TERM- II :**

- B.4 Tissues and diversity in shape and size of animal cells (squamous epithelium, smooth, skeletal and cardiac muscle fibers and mammalian blood smear) through temporary/permanent slides.
- B.5 Mitosis in onion root tip cells and animal cells (grasshopper) from permanent slides.

**Practical Examination for Visually Impaired Students Class XI**

**Note:** The 'Evaluation schemes' and 'General Guidelines' for visually impaired students as given for Class XII may be followed.

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

**A. Items for Identification/Familiarity with the apparatus /equipments/animal and plant material / chemicals etc. for assessment in practicals (All experiments)**

**TERM - I:**

- Plants of Solanaceae - Brinjal, Petunia, any other or Liliaceae- Any of the Lilies.
- **Compound microscope, Test tube, Petridish, Beaker, Scalpel.**

**TERM - II:**

- Mushroom, Succulents such as *Aloe vera*/*Kalanchoe*, Raisins, Potatoes.
- Honey comb, Mollusc shell, Model of cockroach, Pigeon and Star fish.
- Chromatography paper, Chromatography chamber, Alcohol.

**B. List of Practicals:**

**TERM - I:**

1. Study one locally available common flowering plants of the family – Solanaceae or Liliaceae and identify inflorescence/flower.
2. Study the parts of a compound microscope- eye piece and objective lens, mirror, stage, coarse and fine adjustment knobs.

**TERM - II:**



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)**

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

**THEORY**

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**TERM - I**

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**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**

**Computer Science**  
**CLASS - XI**  
**Code No. 083**  
**2021-22**

## 1. Learning Outcomes

Student should be able to

- a) develop basic computational thinking
- b) explain and use data types
- c) appreciate the notion of algorithm
- d) develop a basic understanding of computer systems - architecture, operating system and cloud computing
- e) explain cyber ethics, cyber safety and cybercrime
- f) Understand the value of technology in societies along with consideration of gender and disability issues

## 2. Distribution of Marks

Unit No.	Unit Name	Marks	Periods	
			Theory	Practical
I	Computer Systems and Organisation	10	10	5
II	Computational Thinking and Programming - 1	45	50	35
III	Society, Law and Ethics	15	20	----
	Total	70	80	40

		Term-1	Term-2
		Marks	Marks
I	Computer Systems and Organisation	10	---
II	Computational Thinking and Programming - 1	25	20
III	Society, Law and Ethics	---	15
		35	35

### 3. Unit wise Syllabus

#### TERM 1:

#### **Unit I: Computer Systems and Organisation**

- Basic Computer Organisation: Introduction to computer system, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (Bit, Byte, KB, MB, GB, TB, PB)
- Types of software: system software (operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler & interpreter), application software
- Operating system (OS): functions of operating system, OS user interface
- Boolean logic: NOT, AND, OR, NAND, NOR, XOR, truth table, De Morgan's laws and logic circuits
- Number system: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems.
- Encoding schemes: ASCII, ISCII and UNICODE (UTF8, UTF32)

#### **Unit II: Computational Thinking and Programming – 1**

- Introduction to problem solving: Steps for problem solving (analysing the problem, developing an algorithm, coding, testing and debugging). representation of algorithms using flow chart and pseudo code, decomposition
- Familiarization with the basics of Python programming: Introduction to Python, features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments
- Knowledge of data types: number (integer, floating point, complex), boolean, sequence (string, list, tuple), none, mapping (dictionary), mutable and immutable data types
- Operators: arithmetic operators, relational operators, logical operators, assignment operator, augmented assignment operators, identity operators (is, is not), membership operators (in, not in)
- Expressions, statement, type conversion & input/output: precedence of operators, expression, evaluation of expression, python statement, type conversion (explicit & implicit conversion), accepting data as input from the console and displaying output
- Errors: syntax errors, logical errors, runtime errors
- Flow of control: introduction, use of indentation, sequential flow, conditional and iterative flow control
- Conditional statements: if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number
- Iterative statements: for loop, range function, while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number etc
- Strings: introduction, indexing, string operations (concatenation, repetition, membership & slicing), traversing a string using loops, built-in functions: len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(),rstrip(), strip(), replace(), join(), partition(), split()

## **TERM 2:**

### **Unit II: Computational Thinking and Programming – 1**

- Lists: introduction, indexing, list operations (concatenation, repetition, membership & slicing), traversing a list using loops, built-in functions: len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list
- Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership & slicing), built-in functions: len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple, suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of elements in a tuple
- Dictionary: introduction, accessing items in a dictionary using keys, mutability of dictionary (adding a new item, modifying an existing item), traversing a dictionary, built-in functions: len(), dict(), keys(), values(), items(), get(), update(), del(), clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(), copy(); suggested programs : count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them
- Introduction to Python modules: Importing module using 'import <module>' and using from statement, Importing math module (pi, e, sqrt, ceil, floor, pow, fabs, sin, cos, tan); random module (random, randint, randrange), statistics module (mean, median, mode)

### **Unit III: Society, Law and Ethics**

- Digital Footprints
- Digital society and Netizen: net etiquettes, communication etiquettes, social media etiquettes
- Data protection: Intellectual Property Right (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source softwares and licensing (Creative Commons, GPL and Apache)
- Cyber-crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, preventing cyber crime
- Cyber safety: safely browsing the web, identity protection, confidentiality, cyber trolls and bullying.
- Safely accessing web sites: malware, viruses, Trojans, adware
- E-waste management: proper disposal of used electronic gadgets
- Indian Information Technology Act (IT Act)
- Technology & Society: Gender and disability issues while teaching and using computers

## 4. Practical

S.No.		Marks (Total=30)	Term-1 (15 Marks)	Term-2 (15 Marks)
1.	Python program	12	6	6
2.	Report file: Minimum 20 Python programs Term- 1 : Minimum 10 programs based on Term – 1 syllabus Term- 2 : Minimum 10 programs based on Term – 2 syllabus	7	4	3
	Viva voce	3	2	1
3.	Project + Viva voce Term – 1 : Synopsis of the project to be submitted by the students (documentation only)  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

## 5. Suggested Practical List

### Term - 1

Input a welcome message and display it.

- Input two numbers and display the larger / smaller number.
- Input three numbers and display the largest / smallest number.
- Generate the following patterns using nested loop.

Pattern-1	Pattern-2	Pattern-3
*	1 2 3 4 5	A
**	1 2 3 4	AB
***	1 2 3	ABC
****	1 2	ABCD
*****	1	ABCDE

- Write a program to input the value of x and n and print the sum of the following series:
  - $1 + x + x^2 + x^3 + x^4 + \dots + x^n$
  - $1 - x + x^2 - x^3 + x^4 - \dots + x^n$
  - $x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + \dots + \frac{x^n}{n}$
  - $x + \frac{x^2}{2!} - \frac{x^3}{3!} + \frac{x^4}{4!} - \dots + \frac{x^n}{n!}$
- Determine whether a number is a perfect number, an armstrong number or a palindrome.
- Input a number and check if the number is a prime or composite number.

- Display the terms of a Fibonacci series.
- Compute the greatest common divisor and least common multiple of two integers.
- Count and display the number of vowels, consonants, uppercase, lowercase characters in string.
- Input a string and determine whether it is a palindrome or not; convert the case of characters in a string.

## **Term - 2**

- Find the largest/smallest number in a list/tuple
- Input a list of numbers and swap elements at the even location with the elements at the odd location.
- Input a list/tuple of elements, search for a given element in the list/tuple.
- Input a list of numbers and find the smallest and largest number from the list.
- Create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have scored marks above 75.

## **6. Suggested Reading Material**

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

## **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 21<sup>st</sup> 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 XI HOME SCIENCE**

### **Introduction:**

In class XI, the “Self and family” and the “Home” are focal points for understanding the dynamics for individual lives and social interactions. The curriculum is divided in five units. Unit I introduces the concept of home science. Unit II begins with the stage of adolescence and related concerns. Unit III deals with the expanding interactions of the adolescent with others in family, school, community and society, and the needs emerging from each of these contexts. Unit IV and V focus on childhood and adulthood respectively.

### **TERM I**

Course Structure: Theory and Practical

Theory: 35 Marks

<b>UNIT No.</b>	<b>Units</b>	<b>Marks</b>	<b>No. of Pd.</b>
1.	Introduction to Home Science	02	05
2.	Understanding oneself- Adolescence	18	45
3.	Understanding Family, Community and Society	15	40
	<b>Total</b>	<b>35</b>	<b>90</b>

### **TERM II**

Course Structure: Theory and Practical

Theory: 35 Marks

<b>UNIT No.</b>	<b>UNIT</b>	<b>Marks</b>	<b>No. of Pd.</b>
4.	Childhood	17	45
5.	Adulthood	18	45
	<b>Total</b>	<b>35</b>	<b>90</b>

## **CLASS XI HOME SCIENCE**

### **TERM I**

#### Unit I Introduction to Home Science

#### Unit II: Understanding oneself: Adolescence

Ch.- Understanding the Self.

- A. 'Who am I'?
- B. Development and Characteristics of the Self (Development characteristics and needs of adolescents)
- C. Influences on Identity

Ch.- Food, Nutrition, Health and Fitness

Ch. - Management of Resources

Ch.- Fabric Around us

Ch-Media and Communication Technology

#### Unit III: Understanding family, community and society

Ch. - Concerns and needs in diverse contexts:

- a. Nutrition, Health and Hygiene
- b. Resources Availability and Management

### **TERM II**

#### Unit IV: Childhood

Ch.-Survival, Growth and Development

Ch.- Nutrition, Health and Wellbeing

Ch.- Our Apparel

#### Unit V: Adulthood

Ch.- Health and Wellness

Ch.- Financial Management and planning

Ch.- Care and Maintenance of fabrics

Prescribed textbook: Human Ecology and Family Sciences (For class XI): Part I and Part II

## **CLASS XI HOME SCIENCE**

### **TERM I**

#### **REFERENCE POINTS**

#### **UNIT I: INTRODUCTION TO HOME SCIENCE**

- What is Home Science
- Areas of Home Science
- Home Science is important for both boys and girls
- Career options of Home Science

#### **UNIT II: UNDERSTANDING ONESELF: ADOLESCENCE**

***Unit II focus on the stage of adolescence – the stage of life to which you belong at present. This unit deals with understanding your own self in terms of your personal and social identity, your nutritional and health requirements, management of basic resources of time and space, fabrics around you, and your communication skills. The last chapter of the unit situates the adolescent in the context of the family and larger society, thereby linking it to the next unit that deals with the individual in relation to her/his family, school, community and society.***

#### **CHAPTER : UNDERSTANDING THE SELF**

- What is Self?
  - Personal dimension
  - Social dimension
  - Self- concept
  - Self esteem
- What is Identity?
  - Personal identity
  - Social identity
- Self during Infancy: characteristics
- Self during early childhood: characteristics
- Self during middle childhood: characteristics
- Self during adolescence: characteristics
  - Identity development
  - Identity crisis
  - Real vs Ideal self

- Influences on identity
  - Developing a sense of self and identity
  - Influences on formation of identity
    - Biological and physical changes
    - Socio-cultural context
    - Emotional changes
    - Cognitive changes

## **CHAPTER : FOOD, NUTRITION, HEALTH AND FITNESS**

- Introduction
- Definition of
  - Food
  - Nutrition
  - Nutrients
- Balanced diet
  - Definition
  - RDA
- Health and Fitness
- Using Basic food Groups for planning Balanced Diets
  - Food guide pyramid.
- Vegetarian food Guide
- Dietary patterns in Adolescence
  - Irregular meals and skipping meals
  - Snacking
  - Fast foods
  - Dieting
- Modifying diet related behaviour
  - Diet journal
  - Exercise
  - Substance use and abuse
  - Healthy eating habits
  - Snacks
  - Drinking water
- Factors influencing eating behaviour
- Eating disorders at adolescence
- Key terms and their meaning

## **CHAPTER : MANAGEMENT OF RESOURCES**

- Introduction
- Classification of resources
  - Human /non-human resources
  - Individual / shared resources
  - Natural / community resources
- Human and non-human resources
  - Human resources
    - Knowledge
    - Motivation/ interest
    - Skills/ strength/ aptitude
    - Time
    - Energy
  - Non-human resources
    - Money
    - Material resources
- Individual and shared resources
  - Individual resources
  - shared resources
- Natural and community resources
  - Natural resources
  - community resources
- Characteristics of resources
  - Utility
  - Accessibility
  - Interchangeability
  - Manageable
- Managing Resources
  - Management process
  - Planning
    - Steps in planning
  - Organising
  - Implementing
  - Controlling
  - Evaluation

## **CHAPTER : FABRIC AROUND US**

- Definition of yarns, fibres, textile products, finishing.
- Introduction to fibre properties

- Classification of textile fibres
  - Filament/staple fibres
  - Natural/Manufactured (manmade) fibres
- Types of Natural Fibres
  - Cellulosic fibres
  - Protein fibres
  - Mineral fibres
  - Natural rubber
- Types of Manufactured Fibres
  - Regenerated cellulosic fibres
  - Modified cellulosic fibres
  - Protein fibres
  - Non-cellulosic fibres
  - Mineral fibres
- Some Important fibres and their properties
  - Cotton
  - Linen
  - Wool
  - Silk
  - Rayon
  - Nylon
  - Polyester
  - Acrylic
  - Elastomeric fibres
- Yarns
- Yarn processing
  - Cleaning
  - Making into a sliver
  - Attenuating, drawing out and twisting
- Yarn terminology
  - Yarn number
  - Yarn twist
  - Yarn and thread
- Fabric production
  - Weaving
  - Knitting
  - Braiding
  - Nets
  - Laces
- Textile Finishing
  - Finishing with colour

- Printing

## **CHAPTER-MEDIA COMMUNICATION TECHNOLOGY**

- Communication and Communication Technology
  - What is Communication
  - Classification of communication
  - How does communication takes place
- What is media
  - Media classification and functions
- What is communication technology
  - Classification of communication technologies
  - Modern communication technologies

## **UNITIII: UNDERSTANDING FAMILY, COMMUNITY AND SOCIETY**

*The chapters in Unit II were all addressed to you for the understanding of self and of the factors that influence your decision making. Let us now move on to understanding the family, the community and the society that you are a part of. In the first section- the focus will be on relationships and interactions with significant others, i.e. those important to you in these contexts. The second section- will discuss concerns and needs, such as those of health, work, resources, education and textile tradition in the adolescent's diverse social contexts.*

## **CHAPTER : CONCERNS AND NEEDS IN DIVERSE CONTEXTS**

### **A. NUTRITION, HEALTH AND HYGIENE**

- Health and its Dimensions
  - Social health
  - Mental health
  - Physical health
- Health care Indicators of Health
- Nutrition and Health
- Importance of nutrients
- Factors affecting nutritional well being
  - Food and nutrient security
  - Care for the vulnerable
  - Good health for all
  - Safe environment

➤ Nutritional Problems and their consequences

- Malnutrition
- Under nutrition
- Over nutrition

➤ Hygiene and Sanitation

- Personal Hygiene
- Environmental Hygiene
- Food Hygiene
- Water safety

**B. RESOURCES AVAILABILITY AND MANAGEMENT**

➤ Time Management

- Definition of time plan
- How good is your time management (Activity)?
- Steps in making time plan
- Tips for effective time management
- Tools in time management---Peak load period, Work curve, Rest /break periods, Work simplification

➤ Space Management

- Space and the home
- Principles of space planning

**TERM II**

**UNIT IV: CHILDHOOD**

***The theme of this unit is ‘Childhood’. You may wonder why did the book address the adolescent years first and childhood later. Well, it is because if you as an adolescent understand issues about yourself first, it would be easier to grasp the issues that are concerned with the stage of childhood, and later with adulthood. In this unit you will be studying about children’s growth and development, critical concerns about their health and nutrition, education and clothing. As we would like children with disabilities to be an inclusive part of our society, the chapters provide us important information on their needs and ways to meet them.***

**CHAPTER : SURVIVAL GROWTH AND DEVELOPMENT**

- The meaning of survival
- Growth and development
- Areas of development



- Physical development
- Motor development
- Cognitive development
- Sensory development
- Language development
- Social development
- Emotional development
- Good Nutrition
- Stages in development
  - Neonate
    - Reflexes
    - Sensory capabilities
- Development across stages from infancy to adolescence
  - Physical and motor development
  - Language development
  - Socio –emotional development
  - Cognitive development
    - Mental processes involved in thinking
    - Stages of cognitive development
      - ❖ Sensory motor stage
      - ❖ Pre-operational stage
      - ❖ Concrete operational stage
      - ❖ Formal operational stage

## **CHAPTER : NUTRITION, HEALTH AND WELL-BEING**

- Introduction
- Nutrition, Health and Well-being during infancy (birth – 12 months)
  - Dietary requirements of infants
  - Breast feeding
    - Benefits of breast feeding
  - Feeding the low birth weight infants
  - Complementary foods
  - Guidelines for complementary feeding
  - Immunization
  - Common health and nutrition problems in infants and young children
- Nutrition, Health and well-being of preschool children (1-6 years)
  - Nutritional needs of preschool children
  - Guidelines for healthy eating for pre-schoolers

- Planning balanced meals for preschool children
- Some examples of low-cost snacks
- Feeding children with specific needs
- Immunization
- Nutrition, Health and well-being of school-age children (7-12 years)
  - Nutritional requirements of school children
  - Planning diets for school-age children
  - Factors that influence diet intake of preschool-age and school-age children
  - Healthy habits
  - Health and nutrition issues of school age children

## **CHAPTER: OUR APPAREL**

- Clothing functions and the selection of clothes
  - Modesty
  - Protection
  - Status and prestige
  - Adornment
- Factors affecting selection of clothing in India
  - Age
  - Climate and season
  - Occasion
  - Fashion
  - Income
- Understanding children's basic clothing needs
  - Comfort
  - Safety
  - Self help
  - Appearance
  - Allowance for growth
  - Easy care
  - Fabrics
- Clothing requirements at different childhood stages
  - Infancy (birth to six months)
  - Creeping age (6 months to one year)
  - Toddlerhood (1-2 years)
  - Preschool age (2-6 years)
  - Elementary school years (5-11 years)
  - Adolescents (11-19 years)

- Clothes for children with special needs

## **UNIT V: ADULTHOOD**

***With the advent of adulthood, the adolescent passes through the portal of what may be termed as the “real world”. One enters the world of higher education, work and marriage, and gets involved in establishing one’s own family. Hence responsibilities of the individual increases manifold. In this unit you will learn about the major factors that play a role in determining the quality of adult life, these being health and wellness, financial planning and management, maintenance of fabrics and apparel that one uses personally as well as in the home, and appreciation of different perspectives in communication. The unit concludes with the chapter on individual responsibilities and rights, not only for one’s own self, but also in relation to the family and larger society.***

### **CHAPTER : HEALTH AND WELLNESS**

- Importance of health and fitness
- Healthy & Unhealthy diet
- BMI
- Do’s and Don’ts for health promoting diets
- Fitness
- Importance of exercise and physical activities in adulthood
- Wellness
- Qualities of a person who is rated high on wellness
- Dimensions of wellness
  - Social aspect
  - Physical aspect
  - Intellectual aspect
  - Occupational aspect
  - Emotional aspect
  - Spiritual aspect
  - Environmental aspect
  - Financial aspect
- Stress and coping with stress
- Simple techniques to cope with stress
  - Relaxation
  - Talking with friends/family
  - Reading

- Spirituality
- Music
- Hobby
- Yoga

## **CHAPTER : FINANCIAL MANAGEMENT AND PLANNING**

- Financial management
- Financial planning
- Management
- Money and its importance
- Family Income
  - Money income
  - Real income: Direct and Indirect income
  - Psychic income
- Income management
- Budget
- Steps in making budget
- Advantages of planning family budgets
- Control in money management
  - Checking to see how well the plan is progressing
    - Mental and mechanical check
    - Records and accounts
  - Adjusting wherever necessary
  - Evaluation
- Savings
- Investment
- Principles underlying sound investments
  - Safety to the principle amount
  - Reasonable rate of interest
  - Liquidity
  - Recognition of effect of world conditions
  - Easy accessibility and convenience
  - Investing in needed commodities
  - Tax efficiency
  - After investment service
  - Time period
  - Capacity
- Savings and investment avenues
  - Post office

- Banks
- Unit Trust of India
- NSC
- Mutual funds
- Provident funds
- Chit fund
- Life insurance and medical insurance
- Pension scheme
- Gold, house, land
- Others (new schemes)
- Credit
- Need of credit
- 4C's of credit: character, capacity, capital means, collateral,

## **CHAPTER : CARE AND MAINTENANCE OF FABRICS**

- Mending
- Laundering
  - Stain removal
    - Vegetable stains
    - Animal stains
    - Oil stains
    - Mineral stains
    - Dye bleeding
  - Techniques of stain removal
    - Scraping
    - Dipping
    - Sponging
    - Drop method
  - Reagent for stain removal
  - Common stains and method of removing
- Removal of dirt: the cleaning process
  - Soaps and detergents
  - Methods of washing: friction, kneading & squeezing, suction, washing by machine
- Finishing
  - Blues and optical brighteners
  - Starches and stiffening agents
- Ironing
- Dry cleaning
- Storage of textile products
- Factors affecting fabric care

- Yarn structure
  - Fabric construction
  - Colour and finishes
- Care label

**NOTE:**

- **Wherever required latest data/figures to be used.**
- **Latest RDA's to be used.**

## **CLASS XI HOME SCIENCE PRACTICALS**

### **TERM I**

1. Understanding oneself with reference to:
  - a) Physical development in terms of age, height, weight, hip and chest circumference.
  - b) Sexual maturity (Age at menarche ,Development of breasts : girls).  
(Growth of beard, change in voice: boys)
2. Observe developmental norms: (Physical, Motor, Language and social -emotional) birth to three years.
3. List and discuss 4-5 areas of agreement and disagreement with
  - a) Mother
  - b) Father
  - c) Siblings/ Friends
  - d) Teacher
4.
  - a) Record own diet for a day
  - b) Evaluate qualitatively for adequacy
5.
  - a) Record one day's activities relating to time use and work
  - b) Prepare a time plan for yourself
6. Preparation of different healthy snacks for an adolescent suitable in her/his context.

### **TERM II**

1. Plan a budget for a given situation/purpose.
2.
  - a) Record the fabrics and apparel used in a day
  - b) Categorize them according to functionality
3. Relationship of fibre properties to their usage:
  - a) Thermal property and flammability
  - b) Moisture absorbency and comfort
4. (a) Analyze label of any one garment with respect to: Clarity, fibre content,  
size and care instructions.  
(b) Prepare one care label of any garment.  
(c) Analyze two different fabric samples for color

**SCHEME FOR PRACTICAL EXAMINATION  
CLASS XI HOME SCIENCE**

**TERM I**

<b>1.</b>	Observe developmental norms: (Physical, Motor, Language and social emotional) birth to three years  <b>OR</b> List and discuss 4-5 areas of agreement and disagreement with a) Mother b) Father c) Siblings/ Friends d) Teacher	<b>5 Marks</b>
<b>2.</b>	Preparation of healthy snacks for an adolescent	<b>7 Marks</b>
<b>3.</b>	Prepare a time plan for yourself	<b>3 Marks</b>
	<b>TOTAL</b>	<b>15 MARKS</b>

**TERM II**

<b>1.</b>	Plan a budget for a given situation/purpose	<b>3 Marks</b>
<b>2</b>	Relationship of fibre properties to their usage: a) Thermal property and flammability b) Moisture absorbency and comfort <b>OR</b> Prepare one care label of any garment.	<b>5 Marks</b>
<b>3.</b>	File	<b>5 Marks</b>
<b>4.</b>	Viva	<b>2 Marks</b>
	<b>TOTAL</b>	<b>15 MARKS</b>



# **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)

### Course Structure

Class-XI (2021-22)

	<b>TERM – 1 (MCQ BASED QUESTION PAPER)</b>	
	<b>THEORY :40 MARKS</b>	<b>TIME: 90 minutes</b>
	<b>Part A: FINANCIAL ACCOUNTING-I</b>	
	<b>UNIT 1</b>	
	<b>THEORETICAL FRAMEWORK:</b>	
1	INTRODUCTION TO ACCOUNTING	
2	THEORY BASE OF ACCOUNTING	12
	<b>UNIT 2</b>	
	<b>ACCOUNTING PROCESS:</b>	
	RECORDING OF BUSINESS TRANSACTIONS, BANK RECONCILIATION STATEMENT, DEPRECIATION, PROVISIONS AND RESERVES	28
	<b>TOTAL</b>	<b>40</b>
	<b>Project Work (Part -1): 10 Marks</b>	

### PART A: FINANCIAL ACCOUNTING - I

#### Unit-1: Theoretical Framework

Units/Topics	Learning Outcomes
<b>Introduction to Accounting</b> <ul style="list-style-type: none"><li>Accounting- concept, objectives, advantages and limitations, types of accounting information; users of accounting information and their needs. Qualitative Characteristics of Accounting Information. Role of Accounting in Business.</li><li>Basic Accounting Terms- Business Transaction, Capital, Drawings. Liabilities (Non Current and Current). Assets (Non Current, Current); Fixed assets (Tangible and Intangible), Expenditure (Capital and Revenue), Expense, Income, Profit, Gain, Loss, Purchase, Sales, Goods, Stock, Debtor, Creditor, Voucher, Discount (Trade discount and Cash Discount)</li></ul>	<b>After going through this Unit, the students will be able to:</b> <ul style="list-style-type: none"><li>describe the meaning, significance, objectives, advantages and limitations of accounting in the modern economic environment with varied types of business and non-business economic entities.</li><li>identify / recognise the individual(s) and entities that use accounting information for serving their needs of decision making.</li><li>explain the various terms used in accounting and differentiate between different related terms like current and non-current, capital and revenue.</li><li>give examples of terms like business transaction, liabilities, assets, expenditure and purchases.</li></ul>

<p><b>Theory Base of Accounting</b></p> <ul style="list-style-type: none"> <li>• Fundamental accounting assumptions: GAAP: Concept</li> <li>• Business Entity, Money Measurement, Going Concern, Accounting Period, Cost Concept, Dual Aspect, Revenue Recognition, Matching, Full Disclosure, Consistency, Conservatism, Materiality and Objectivity</li> <li>• System of Accounting. Basis of Accounting: cash basis and accrual basis</li> <li>• Accounting Standards: Applicability in IndAS</li> <li>• Goods and Services Tax (GST): Characteristics and Objective.</li> </ul>	<ul style="list-style-type: none"> <li>• explain that sales/purchases include both cash and credit sales/purchases relating to the accounting year.</li> <li>• differentiate among income, profits and gains.</li> <li>• state the meaning of fundamental accounting assumptions and their relevance in accounting.</li> <li>• describe the meaning of accounting assumptions and the situation in which an assumption is applied during the accounting process.</li> <li>• explain the meaning and objectives of accounting standards.</li> <li>• appreciate that various accounting standards developed nationally and globally are in practice for bringing parity in the accounting treatment of different items.</li> <li>• acknowledge the fact that recording of accounting transactions follows double entry system.</li> <li>• explain the bases of recording accounting transaction and to appreciate that accrual basis is a better basis for depicting the correct financial position of an enterprise.</li> <li>• Understand the need of IFRS</li> <li>• Explain the meaning, objective and characteristic of GST.</li> </ul>
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## Unit-2: Accounting Process

Units/Topics	Learning Outcomes
<p><b>Recording of Business Transactions</b></p> <ul style="list-style-type: none"> <li>• Voucher and Transactions: Source documents and Vouchers, Preparation of Vouchers, Accounting Equation Approach: Meaning and Analysis, Rules of Debit and Credit.</li> <li>• Recording of Transactions: Books of Original</li> </ul>	<p><b>After going through this Unit, the students will be able to:</b></p> <ul style="list-style-type: none"> <li>• explain the concept of accounting equation and appreciate that every transaction affects either both the sides of the equation or a positive effect on one item and a negative effect on another item on the same side of</li> </ul>

<p>Entry- Journal</p> <ul style="list-style-type: none"> <li>• Special Purpose books:</li> <li>• Cash Book: Simple, cash book with bank column and petty cashbook</li> <li>• Purchases book</li> <li>• Sales book</li> <li>• Purchases return book</li> <li>• Sales return book</li> </ul> <p><b>Note: Including trade discount, freight and cartage expenses for simple GST calculation.</b></p> <ul style="list-style-type: none"> <li>• Ledger: Format, Posting from journal and subsidiary books, Balancing of accounts</li> </ul> <p><b>Bank Reconciliation Statement:</b></p> <ul style="list-style-type: none"> <li>• Need and preparation.</li> </ul> <p><b>Depreciation, Provisions and Reserves</b></p> <ul style="list-style-type: none"> <li>• Depreciation: Concept, Features, Causes, factors</li> <li>• Other similar terms: Depletion and Amortisation</li> <li>• Methods of Depreciation: <ul style="list-style-type: none"> <li>i. Straight Line Method (SLM)</li> <li>ii. Written Down Value Method (WDV)</li> </ul> </li> </ul> <p><b>Note: Excluding change of method</b></p> <ul style="list-style-type: none"> <li>• Difference between SLM and WDV; Advantages of SLM and WDV</li> <li>• Accounting treatment of depreciation <ul style="list-style-type: none"> <li>i. Charging to asset account</li> <li>ii. Creating provision for depreciation/accumulated depreciation account</li> </ul> </li> <li>• Provisions and Reserves: Difference</li> <li>• Types of Reserves: <ul style="list-style-type: none"> <li>i. Revenue reserve</li> <li>ii. Capital reserve</li> <li>iii. General reserve</li> <li>iv. Specific reserve</li> </ul> </li> </ul>	<p>accounting equation.</p> <ul style="list-style-type: none"> <li>• explain the effect of a transaction (increase or decrease) on the assets, liabilities, capital, revenue and expenses.</li> <li>• appreciate that on the basis of source documents, accounting vouchers are prepared for recording transaction in the books of accounts.</li> <li>• develop the understanding of recording of transactions in journal and the skill of calculating GST.</li> <li>• explain the purpose of maintaining a Cash Book and develop the skill of preparing the format of different types of cash books and the method of recording cash transactions in Cash book.</li> <li>• describe the method of recording transactions other than cash transactions as per their nature in different subsidiary books .</li> <li>• appreciate that at times bank balance as indicated by cash book is different from the bank balance as shown by the pass book / bank statement and to reconcile both the balances, bank reconciliation statement is prepared.</li> <li>• develop understanding of preparing bank reconciliation statement.</li> <li>• appreciate that for ascertaining the position of individual accounts, transactions are posted from subsidiary books and journal proper into the concerned accounts in the ledger and develop the skill of ledger posting.</li> <li>• explain the necessity of providing depreciation and develop the skill of using different methods for computing depreciation.</li> <li>• understand the accounting treatment of providing depreciation directly to the concerned asset account or by creating provision for depreciation account.</li> </ul>
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v. Secret Reserve <ul style="list-style-type: none"> <li>Difference between capital and revenue reserve</li> </ul>	<ul style="list-style-type: none"> <li>appreciate the need for creating reserves and also making provisions for events which may belong to the current year but may happen in next year.</li> <li>appreciate the difference between reserve and reserve fund.</li> </ul>
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	<b><u>TERM II</u></b>	<b>MARKS</b>
	<b><u>Theory: 40 Marks</u></b>	
	<b>Part A</b>	
	<b><u>UNIT 2</u></b>	
	<b><u>ACCOUNTING PROCESS:</u></b>	
1	ACCOUNTING FOR BILLS OF EXCHANGE	12
2	TRIAL BALANCE AND RECTIFICATION OF ERRORS	
	<b>Part B: FINANCIAL ACCOUNTING-II</b>	
	<b><u>UNIT 3</u></b>	
	FINANCIAL STATEMENTS OF SOLE PROPRIETORSHIP FROM COMPLETE AND INCOMPLETE RECORDS	20
	<b><u>UNIT 4</u></b>	
	COMPUTERS IN ACCOUNTING	8
	<b>TOTAL</b>	<b>40</b>
	<b>PROJECT (PART – 2): 10 MARKS</b>	

<p><b>Accounting for Bills of Exchange</b></p> <ul style="list-style-type: none"> <li>• Bill of exchange and Promissory Note: Definition, Specimen, Features, Parties.</li> <li>• Difference between Bill of Exchange and Promissory Note</li> <li>• Terms in Bill of Exchange: <ul style="list-style-type: none"> <li>i. Term of Bill</li> <li>ii. Accommodation bill (concept)</li> <li>iii. Days of Grace</li> <li>iv. Date of maturity</li> <li>v. Discounting of bill</li> <li>vi. Endorsement of bill</li> <li>vii. Bill after due date</li> <li>viii. Negotiation</li> <li>ix. Bill sent for collection</li> <li>x. Dishonour of bill</li> </ul> </li> <li>• Accounting Treatment</li> </ul> <p><b>Note: excluding accounting treatment for accommodation bill</b></p> <p><b>Trial balance and Rectification of Errors</b></p> <ul style="list-style-type: none"> <li>• Trial balance: objectives and preparation</li> </ul> <p><b>(Scope: Trial balance with balance method only)</b></p> <ul style="list-style-type: none"> <li>• Errors: types-errors of omission, commission, principles, and compensating; their effect on Trial Balance.</li> <li>• Detection and rectification of errors; preparation of suspense account.</li> </ul>	<ul style="list-style-type: none"> <li>• acquire the knowledge of using bills of exchange and promissory notes for financing business transactions.</li> <li>• understand the meaning and distinctive features of these instruments and develop the skills of their preparation.</li> <li>• state the meaning of different terms used in bills of exchange and their implication in accounting.</li> <li>• explain the method of recording of bill transactions.</li> <li>• state the need and objectives of preparing trial balance and develop the skill of preparing trial balance.</li> <li>• appreciate that errors may be committed during the process of accounting.</li> <li>• understand the meaning of different types of errors and their effect on trial balance.</li> <li>• develop the skill of identification and location of errors and their rectification and preparation of suspense account.</li> </ul>
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## Part B: Financial Accounting - II

### Unit 3: Financial Statements of Sole Proprietorship

Units/Topics	Learning Outcomes
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<p><b>Financial Statements</b></p> <p>Meaning, objectives and importance; Revenue and Capital Receipts; Revenue and Capital Expenditure; Deferred Revenue expenditure.</p> <p>Trading and Profit and Loss Account: Gross Profit, Operating profit and Net profit. Preparation.</p> <p>Balance Sheet: need, grouping and marshalling of assets and liabilities. Preparation.</p> <p>Adjustments in preparation of financial statements with respect to closing stock, outstanding expenses, prepaid expenses, accrued income, income received in advance, depreciation, bad debts, provision for doubtful debts, provision for discount on debtors, Abnormal loss, goods taken for personal use/staff welfare, interest on capital and managers commission.</p> <p>Preparation of Trading and Profit and Loss account and Balance Sheet of a sole proprietorship with adjustments.</p> <p><b>Incomplete Records</b></p> <p>Features, reasons and limitations.</p> <p>Ascertainment of Profit/Loss by Statement of Affairs method.</p>	<p><b>After going through this Unit, the students will be able to:</b></p> <ul style="list-style-type: none"> <li>• state the meaning of financial statements the purpose of preparing financial statements.</li> <li>• state the meaning of gross profit, operating profit and net profit and develop the skill of preparing trading and profit and loss account.</li> <li>• explain the need for preparing balance sheet.</li> <li>• understand the technique of grouping and marshalling of assets and liabilities.</li> <li>• appreciate that there may be certain items other than those shown in trial balance which may need adjustments while preparing financial statements.</li> <li>• develop the understanding and skill to do adjustments for items and their presentation in financial statements like depreciation, closing stock, provisions, abnormal loss etc.</li> <li>• develop the skill of preparation of trading and profit and loss account and balance sheet.</li> <li>• state the meaning of incomplete records and their uses and limitations.</li> <li>• develop the understanding and skill of computation of profit / loss using the statement of affairs method.</li> </ul>
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#### Unit 4: Computers in Accounting

Units/Topics	Learning Outcomes
<ul style="list-style-type: none"> <li>• Introduction to computer and accounting information system (AIS): Introduction to computers (elements, capabilities, limitations of computer system)</li> </ul>	<p><b>After going through this Unit, the students will be able to:</b></p> <ul style="list-style-type: none"> <li>• state the meaning of a computer, describe its components, capabilities and limitations.</li> <li>• state the meaning of accounting information system.</li> </ul>



<b>Scope:</b> <i>(i) The scope of the unit is to understand accounting as an information system for the generation of accounting information and preparation of accounting reports.</i> <i>(ii) It is presumed that the working knowledge of any appropriate accounting software will be given to the students to help them learn basic accounting operations on computers.</i>	<ul style="list-style-type: none"> <li>• appreciate the need for use of computers in accounting for preparing accounting reports.</li> <li>• develop the understanding of comparing the manual and computerized accounting process and appreciate the advantages and limitations of automation.</li> <li>• understand the different kinds of accounting software.</li> </ul>
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## Part C: Project Work

The project work would be divided into two parts i.e. Term I (10 marks) and Term II (10 marks) for the purpose of assessment and will be covered as detailed below.

Comprehensive project of any sole proprietorship business. This may state with journal entries and their ledger postings, preparation of Trial balance. Trading and Profit and Loss Account and Balance Sheet. Expenses, incomes and profit (loss), assets and liabilities are to be depicted using pie chart / bar diagram.

### TERM -I

<u>PARTICULARS</u>	<u>MARKS</u>
Project (Till Ledger Posting and balancing of accounts)	10

### TERM -II

<u>PARTICULARS</u>	<u>MARKS</u>
Project (Financial statements and depiction using diagrammatic / graphical tools)	10

## PROJECT WORK

It is suggested to undertake this project after completing the unit on preparation of financial statements. The student(s) will be allowed to select any business of their choice or develop the transaction of imaginary business. The project is to run through the chapters and make the project an interesting process. The amounts should emerge as more realistic and closer to reality.

### Specific Guidelines for Teachers

Give a list of options to the students to select a business form. You can add to the given list:

- |                     |                  |                   |
|---------------------|------------------|-------------------|
| 1. A beauty parlour | 10. Men's wear   | 19. A coffee shop |
| 2. Men's saloon     | 11. Ladies wear  | 20. A music shop  |
| 3. A tailoring shop | 12. Kiddies wear | 21. A juice shop  |

- |                         |                               |                          |
|-------------------------|-------------------------------|--------------------------|
| 4. A canteen            | 13. A Saree shop              | 22. A school canteen     |
| 5. A cake shop          | 14. Artificial jewellery shop | 23. An ice cream parlour |
| 6. A confectionery shop | 15. A small restaurant        | 24. A sandwich shop      |
| 7. A chocolate shop     | 16. A sweet shop              | 25. A flower shop        |
| 8. A dry cleaner        | 17. A grocery shop            |                          |
| 9. A stationery shop    | 18. A shoe shop               |                          |

After selection, advise the student(s) to visit a shop in the locality (this will help them to settle on a realistic amounts different items. The student(s) would be able to see the things as they need to invest in furniture, decor, lights, machines, computers etc.

A suggested list of different item is given below.

- |                                              |                                           |
|----------------------------------------------|-------------------------------------------|
| 1. Rent                                      | 19. Wages and Salary                      |
| 2. Advance rent [approximately three months] | 20. Newspaper and magazines               |
| 3. Electricity deposit                       | 21. Petty expenses                        |
| 4. Electricity bill                          | 22. Tea expenses                          |
| 5. Electricity fitting                       | 23. Packaging expenses                    |
| 6. Water bill                                | 24. Transport                             |
| 7. Water connection security deposit         | 25. Delivery cycle or a vehicle purchased |
| 8. Water fittings                            | 26. Registration                          |
| 9. Telephone bill                            | 27. Insurance                             |
| 10. Telephone security deposit               | 28. Auditors fee                          |
| 11. Telephone instrument                     | 29. Repairs & Maintenance                 |
| 12. Furniture                                | 30. Depreciations                         |
| 13. Computers                                | 31. Air conditioners                      |
| 14. Internet connection                      | 32. Fans and lights                       |
| 15. Stationery                               | 33. Interior decorations                  |
| 16. Advertisements                           | 34. Refrigerators                         |
| 17. Glow sign                                | 35. Purchase and sales                    |
| 18. Rates and Taxes                          |                                           |

At this stage, performas of bulk of originality and ledger may be provided to the students and they may be asked to complete the same.

In the next step the students are expected to prepare the trial balance and the financial statements.

## **BUSINESS STUDIES (Code No. 054)**

### **Rationale**

The courses in Business Studies are introduced at + 2 stage of Senior Secondary Education as formal commerce education is provided after the first ten years of schooling. Therefore, it becomes necessary that instructions in these subjects are given in such a manner that students have a good 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. To understand the framework in which a business operates, a detailed study of the organisation and management of business processes and its interaction with the environment is required. Globalisation has changed the way organizations transact their business.

Information Technology is becoming a part of business operations in more and more organizations. Computerized systems are fast replacing other systems. E-business and other related concepts are picking up fast which need to be emphasized in the curriculum.

The course in Business Studies prepares students to analyze, manage, evaluate and respond to changes which affect business. It provides a way of looking at and interacting with the business environment. It recognizes the fact that business influences and is influenced by social, political, legal and economic forces.

It allows students to appreciate that business is an integral component of society and develops an understanding of many social and ethical issues.

Therefore, to acquire basic knowledge of the business world, a course in Business Studies would be useful. It also informs students of a range of study and work options and bridges the gap between school and work.

### **Objectives:**

- To inculcate business attitude and develop skills among students to pursue higher education, world of work including self employment.
- To develop students with an understanding of the processes of business and its environment;
- To acquaint students with the dynamic nature and interdependent aspects of business;

- To develop an interest in the theory and practice of business, trade and industry;
- To familiarize students with theoretical foundations of the process of organizing and managing the operations of a business firm;
- To help students appreciate the economic and social significance of business activity and the social cost and benefits arising there from;
- To acquaint students with the practice of managing the operations and resources of business;
- To enable students to act more effectively and responsibly as consumers, employers, employees and citizens;

**BUSINESS STUDIES (Code No. 054)**  
**CLASS–XI (2021-22) TERM WISE CURRICULUM**

	<b>TERM 1- MCQ BASED QUESTION PAPER</b>		
	<b>THEORY - 40 MARKS</b>	<b>DURATION:90 MINUTES</b>	
<b>Units</b>		<b>Periods</b>	<b>Marks</b>
<b>Part A</b>	<b>Foundations of Business</b>		
1	Evolution and Fundamentals of Business	18	16
2	Forms of Business Organisations	20	
3	Public, Private and Global Enterprises	10	14
4	Business Services	14	
5	Emerging Modes of Business	05	10
6	Social Responsibility of Business and Business Ethics	08	
	<b>Total</b>	<b>75</b>	<b>40</b>
	<b>PROJECT WORK ( Part-1)</b>		<b>10</b>

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 I**

**Part A: Foundation of Business**

Concept includes meaning and features

**Unit 1: Evolution and Fundamentals of Business**

<b>Content</b>	<b>After going through this unit, the student/ learner would be able to:</b>
History of Trade and Commerce in India: Indigenous Banking System, Rise of Intermediaries, Transport, Trading Communities: Merchant Corporations, Major Trade Centers, Major Imports and Exports, Position of Indian Sub-Continent in the World Economy.	<ul style="list-style-type: none"> <li>• To acquaint the History of Trade and Commerce in India</li> </ul>
Business – meaning and characteristics	<ul style="list-style-type: none"> <li>• Understand the meaning of business with special reference to economic and non-economic activities.</li> <li>• Discuss the characteristics of business.</li> </ul>

Business, profession and employment-Concept	<ul style="list-style-type: none"> <li>• Understand the concept of business, profession and employment.</li> <li>• Differentiate between business, profession and employment.</li> </ul>
Objectives of business	<ul style="list-style-type: none"> <li>• Appreciate the economic and social objectives of business.</li> <li>• Examine the role of profit in business.</li> </ul>
Classification of business activities - Industry and Commerce	<ul style="list-style-type: none"> <li>• Understand the broad categories of business activities- industry and commerce.</li> </ul>
Industry-types: primary, secondary, tertiary Meaning and subgroups	<ul style="list-style-type: none"> <li>• Describe the various types of industries.</li> </ul>
Commerce-trade: (types-internal, external; wholesale and retail) and auxiliaries to trade; (banking, insurance, transportation, warehousing, communication, and advertising) – meaning	<ul style="list-style-type: none"> <li>• Discuss the meaning of commerce, trade and auxiliaries to trade.</li> <li>• Discuss the meaning of different types of trade and auxiliaries to trade.</li> <li>• Examine the role of commerce- trade and auxiliaries to trade.</li> </ul>
Business risk-Concept	<ul style="list-style-type: none"> <li>• Understand the concept of risk as a special characteristic of business.</li> <li>• Examine the nature and causes of business risks.</li> </ul>

## Unit 2: Forms of Business organizations

Sole Proprietorship-Concept, merits and limitations.	<ul style="list-style-type: none"> <li>• List the different forms of business organizations and understand their meaning.</li> <li>• Identify and explain the concept, merits and limitations of Sole Proprietorship.</li> </ul>
Partnership-Concept, types, merits and limitation of partnership, registration of a partnership firm, partnership deed. Types of partners	<ul style="list-style-type: none"> <li>• Identify and explain the concept, merits and limitations of a Partnership firm.</li> <li>• Understand the types of partnership on the basis of duration and on the basis of liability.</li> <li>• State the need for registration of a partnership firm.</li> <li>• Discuss types of partners –active, sleeping, secret, nominal and partner by estoppel.</li> </ul>
Hindu Undivided Family Business: Concept	<ul style="list-style-type: none"> <li>• Understand the concept of Hindu Undivided Family Business.</li> </ul>
Cooperative Societies-Concept, types, merits, and limitations.	<ul style="list-style-type: none"> <li>• Identify and explain the concept, merits and limitations of Cooperative Societies.</li> <li>• Understand the concept of consumers, producers, marketing, farmers, credit and housing co-operatives.</li> </ul>
Company - Concept, merits and limitations; Types: Private, Public and One Person Company – Concept	<ul style="list-style-type: none"> <li>• Identify and explain the concept, merits and limitations.</li> <li>• Understand the concept of private and public companies and one person company.</li> <li>• Understand the meaning of one person company.</li> <li>• Distinguish between a private company and a public company.</li> </ul>

Formation of company - stages, important documents to be used in the formation of a company	<ul style="list-style-type: none"> <li>● Highlight the stages in the formation of a company.</li> <li>● Discuss the important documents used in the various stages in the formation of a company.</li> </ul>
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### **Unit 3: Public, Private and Global Enterprises**

Public sector and private sector enterprises – Concept	<ul style="list-style-type: none"> <li>● Develop an understanding of Public sector and private sector enterprises</li> </ul>
Forms of public sector enterprises: Departmental Undertakings, Statutory Corporations and Government Company.	<ul style="list-style-type: none"> <li>● Identify and explain the features, merits and limitations of different forms of public sector enterprises</li> </ul>

### **Unit 4: Business Services**

Business services – meaning and types. Banking: Types of bank accounts - savings, current, recurring, fixed deposit and multiple option deposit account	<ul style="list-style-type: none"> <li>● Understand the meaning and types of business services.</li> <li>● Develop an understanding of different types of bank accounts.</li> </ul>
Banking services with particular reference to Bank Draft, Bank Overdraft, Cash credit. E-Banking meaning, Types of digital payments	<ul style="list-style-type: none"> <li>● Develop an understanding of the different services provided by banks</li> </ul>
Insurance – Principles. Types – life, health, fire and marine insurance– concept	<ul style="list-style-type: none"> <li>● Understand Utmost Good Faith, Insurable Interest, Indemnity, Contribution, Doctrine of Subrogation and Causa Proxima as principles of insurance</li> <li>● Discuss different types of insurance-life, health, fire, marine insurance</li> </ul>

### **Unit 5: Emerging Modes of Business**

E - business: concept, scope and benefits	<ul style="list-style-type: none"> <li>● Give the meaning of e-business.</li> <li>● Discuss the scope of e-business.</li> <li>● Appreciate the benefits of e-business</li> <li>● Distinguish e-business from traditional business.</li> </ul>
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### **Unit 6: Social Responsibility of Business and Business Ethics**

Concept of social responsibility	<ul style="list-style-type: none"> <li>● State the concept of social responsibility.</li> </ul>
Case for social responsibility	<ul style="list-style-type: none"> <li>● Examine the case for social responsibility.</li> </ul>
Responsibility towards owners, investors, consumers, employees, government and community.	<ul style="list-style-type: none"> <li>● Identify social responsibilities towards different interest groups.</li> </ul>
Role of business in environment protection	<ul style="list-style-type: none"> <li>● Appreciate the role of business in environment protection.</li> </ul>

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

**CLASS–XI Code -054 (2021-22) TERM WISE CURRICULUM**

	<b>TERM-2 SUBJECTIVE QUESTION PAPER</b>		
	<b>Theory - 40 Marks</b>	<b>DURATION:- 2 Hrs</b>	
<b>Part B</b>	<b>Finance and Trade</b>	<b>PERIODS</b>	<b>MARKS</b>
7	Sources of Business Finance	28	20
8	Small Business and Entrepreneurship Development	16	
9	Internal Trade	22	20
10	International Business	04	
	<b>TOTAL</b>	<b>70</b>	<b>40</b>
	<b>PROJECT WORK (PART - 2)</b>		<b>10</b>

**TERM II**

**Part B: Finance and Trade**

**Unit 7: Sources of Business Finance**

Business finance: Concept and Importance	<ul style="list-style-type: none"> <li>State the meaning, nature and importance of business finance.</li> </ul>
Owners' funds- equity shares, preferences share, retained earnings, Global Depository receipt (GDR), American Depository Receipt (ADR) and International Depository Receipt (IDR) – concept	<ul style="list-style-type: none"> <li>Classify the various sources of funds into owners' funds.</li> <li>State the meaning of owners' funds.</li> <li>Understand the meaning of Global Depository receipts, American Depository Receipts and International Depository Receipts.</li> </ul>
Borrowed funds: debentures and bonds, loan from financial institution and commercial banks, public deposits, trade credit	<ul style="list-style-type: none"> <li>State the meaning of borrowed funds.</li> <li>Discuss the concept of debentures, bonds, loans from financial institutions and commercial banks ,public deposits&amp;Trade credit</li> <li>Distinguish between owners' funds and borrowed funds.</li> </ul>

**Unit 8: Small Business and Entrepreneurship Development**

Entrepreneurship Development (ED): Concept and Need. Process of Entrepreneurship Development: Start-up India Scheme, ways to fund startup. Intellectual Property Rights and Entrepreneurship	<ul style="list-style-type: none"> <li>Understand the concept and need of Entrepreneurship Development (ED), Intellectual Property Rights</li> <li>Understand the process of Entrepreneurship Development</li> </ul>
Small scale enterprise – Definition	<ul style="list-style-type: none"> <li>Understand the definition of small enterprises</li> </ul>
Role of small business in India with special reference to rural areas	<ul style="list-style-type: none"> <li>Discuss the role of small scale business in India with special reference to rural areas</li> </ul>
Government schemes and agencies for small scale	<ul style="list-style-type: none"> <li>Appreciate various schemes of NSIC and</li> </ul>

industries: National Small Industries Corporation (NSIC) and District Industrial Centre (DIC) with special reference to rural, backward areas	DIC with special reference to rural, backward area.
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### **Unit 9: Internal Trade**

Internal trade - meaning and types of services rendered by a wholesaler and a retailer	<ul style="list-style-type: none"> <li>• State the meaning and types of internal trade.</li> <li>• Appreciate the services of wholesalers and retailers.</li> </ul>
Large scale retailers-Departmental stores, chain stores – concept	<ul style="list-style-type: none"> <li>• Highlight the distinctive features of departmental stores, chain stores</li> </ul>

### **Unit 10: International Trade**

International trade: concept and benefits	<ul style="list-style-type: none"> <li>• Understand the concept of international trade.</li> <li>• Describe the benefit of international trade to the nation and business firms.</li> </ul>
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**PROJECT WORK IN BUSINESS STUDIES (ONLY ONE PROJECT): GUIDELINES AS GIVEN IN CLASS XII CURRICULUM**



## **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.

- e) Working conditions.
- f) Modernization of the process over a period of time.
- g) Facilities, security and training for the staff and workers.
- h) Subsidies available/ availed.
- i) Any other aspect that the teachers deem fit.

## **2. Visit to an Industry.**

The students are required to observe the following:

- a) Nature of the business organisation.
- b) Determinants for location of business unit.
- c) Form of business enterprise: Sole Proprietorship, Partnership, Undivided Hindu Family, Joint Stock Company (a Multinational Company).
- d) Different stages of production/process
- e) Auxiliaries involved in the process.
- f) Workers employed, method of wage payment, training programmes and facilities available.
- g) Social responsibilities discharged towards workers, investors, society, environment and government.
- h) Levels of management.
- i) Code of conduct for employers and employees.
- j) Capital structure employed- borrowed v/s owned.
- k) Quality control, recycling of defective goods.
- l) Subsidies available/availed.
- m) Safety Measures employed.
- n) Working conditions for labour in observation of Labour Laws.
- o) Storage of raw material and finished goods.
- p) Transport management for employees, raw material and finished goods.
- q) Functioning of various departments and coordination among them (Production, Human Resource, Finance and Marketing)
- r) Waste Management.
- s) Any other observation.

## **3. Visit to a wholesale market: vegetables/fruits/flowers/grains/garments etc.**

The students are required to observe the following:

- a) Sources of merchandise.
- b) Local market practices.
- c) Any linked up businesses like transporters, packagers, money lenders, agents, etc.
- d) Nature of the goods dealt in.
- e) Types of buyers and sellers.
- f) Mode of the goods dispersed, minimum quantity sold, types of packaging employed.
- g) Factors determining the price fluctuations.
- h) Seasonal factors (if any) affecting the business.
- i) Weekly/ monthly non-working days.
- j) Strikes, if any- causes thereof.
- k) Mode of payments.
- l) Wastage and disposal of dead stock.
- m) Nature of price fluctuations, reason thereof.
- n) Warehousing facilities available\availed.
- o) Any other aspect.

#### **4. Visit to a Departmental store**

The students are required to observe the following:

- a) Different departments and their layout.
- b) Nature of products offered for sale.
- c) Display of fresh arrivals.
- d) Promotional campaigns.
- e) Spaces and advertisements.
- f) Assistance by Sales Personnel.
- g) Billing counter at store – Cash, Credit Card/ Debit Card, swipe facility. Added attractions and facilities at the counter.
- h) Additional facilities offered to customers
- i) Any other relevant aspect.

#### **5. Visit to a Mall.**

The students are required to observe the following:

- a) Number of floors, shops occupied and unoccupied.
- b) Nature of shops, their ownership status
- c) Nature of goods dealt in: local brands, international brands,
- d) Service business shops- Spas, gym, saloons etc.
- e) Rented spaces, owned spaces,
- f) Different types of promotional schemes.
- g) Most visited shops.
- h) Special attractions of the Mall- Food court, Gaming zone or Cinema etc.
- i) Innovative facilities.
- j) Parking facilities. Teachers may add more to the list.

### **II. Project Two: Case Study on a Product**

- a) Take a product having seasonal growth and regular demand with which students can relate. For example,
  - Apples from Himachal Pradesh, Kashmir.
  - Oranges from Nagpur,
  - Mangoes from Maharashtra/U.P./Bihar/Andhra Pradesh etc.
  - Strawberries from Panchgani,
  - Aloe vera from Rajasthan,
  - Walnuts/almonds from Kashmir,
  - Jackfruit from South,
  - Guavas from Allahabad,
  - Pineapples from North East India,
  - Tea from Assam,
  - Orchids from Sikkim and Meghalaya,
  - Pottery of Manipur,
  - Fishes from coastal areas.

Students may develop a Case Study on the following lines:

- (i) Research for change in price of the product. For example, apples in Himachal Pradesh during plucking and non plucking season.
- (ii) Effect on prices in the absence of an effective transport system.
- (iii) Effect on prices in the absence of suitable warehouse facilities.
- (iv) Duties performed by the warehouses.

- (v) Demand and supply situation of the product during harvesting season, prices near the place of origin and away.

Students may be motivated to find out the importance of producing and selling these products and their processed items along with the roles of Transport, Warehousing, Advertising, Banking, Insurance, Packaging, Wholesale selling, Retailing, Co-operative farming, Co-operative marketing etc.

The teacher may develop the points for other projects on similar lines for students to work on.

The teacher may assign this project as 'group' project and may give different products to different groups. It could conclude in the form of an exhibition.

### **III. Project Three: Aids to Trade**

Taking any one AID TO TRADE, for example Insurance and gathering information on following aspects

1. History of Insurance Lloyd's contribution.
2. Development of regulatory Mechanism.
3. Insurance Companies in India
4. Principles of Insurance.
5. Types of Insurance. Importance of insurance to the businessmen.
6. Benefits of crop, orchards, animal and poultry insurance to the farmers.
7. Terminologies used (premium, face value, market value, maturity value, surrender value) and their meanings.
8. Anecdotes and interesting cases of insurance. Reference of films depicting people committing fraudulent acts with insurance companies.
9. Careers in Insurance.

Teachers develop such aspects for other aids to trade.

### **IV. Project Four: Import /Export Procedure**

Any one from the following

1. Import /Export procedure

The students should identify a product of their city/country which is imported /exported. They are required to find the details of the actual import/export procedure. They may take help from the Chambers of Commerce, Banker, existing Importers/Exporters, etc.

They should find details of the procedure and link it with their Text knowledge.

The specimens of documents collected should be pasted in the Project file with a brief description of each. They may also visit railway godowns/dockyards/ transport agencies and may collect pictures of the same.

Presentation and submission of project report.

At the end of the stipulated term, each student will prepare and submit his/her project report. Following essentials are required to be fulfilled for its preparation and submission.

1. The total project will be in a file format, consisting of the recordings of the value of shares and the graphs.
2. The project will be handwritten.
3. The project will be presented in a neat folder.
4. The project report will be developed in the following sequence-
  - Cover page should project the title, student information, school and year.

- ☐ List of contents.
- ☐ Acknowledgements and preface (acknowledging the institution, the news papers read, T.V. channels viewed, places visited and persons who have helped).
- ☐ Introduction.
- ☐ Topic with suitable heading.
- ☐ Planning and activities done during the project, if any.
- ☐ Observations and findings while conducting the project.
- ☐ News paper clippings to reflect the changes of share prices.
- ☐ Conclusions (summarised suggestions or findings, future scope of study).
- ☐ Appendix (if needed).
- ☐ Teachers report.
- ☐ Teachers will initial preface page.
- ☐ At the completion of the evaluation of the project, it will be punched in the centre so that the report cannot be reused but is available for reference only.
- ☐ The projects will be returned after evaluation. The school may keep the best projects.

## **V. Project Five: A visit to any State Emporium (other than your school state).**

The purpose of this project is that it leads to -

- ☐ Development of deeper understanding of the diversity of products in the states like Assam, Tripura, Nagaland, Mizoram, Manipur, Meghalaya, Sikkim, Arunachal Pradesh, Jammu and Kashmir, Kerala, Chhattisgarh, Telangana, Andhra Pradesh and other states of the country.
- ☐ Sensitization and orientation of students about other states, their trade, business and commerce,
- ☐ Understanding the cultural and socio-economic aspects of the state by the students,
- ☐ Developing the understanding of role of folk art, artisanship and craftsmanship of the state in its growth and economic development
- ☐ Understanding the role of gifts of nature and natural produce in the development of trade, business and commerce
- ☐ Understanding the role of vocational skills and abilities on the livelihood of artisans/ craftsman
- ☐ Understanding of entrepreneurial skills and abilities of the artisans/craftsman
- ☐ Understanding of the unemployment problem of the state and role of art and craft of the state in generating employment opportunities
- ☐ Value aspect -
- ☐ Sense of gratitude - by appreciating the contributions made by others in the betterment of our lives
- ☐ Appreciating the dignity of work
- ☐ Sensitivity towards social, cultural, ethical and religious differences Benefits of social harmony and peace
- ☐ Understanding and appreciating the unity in diversity in India
- ☐ Appreciating differences in race, skin colour, languages, religion, habits, festivals, clothing coexistence

## **Presentation and Submission of Project Report**

At the end of the stipulated term, each student will prepare and submit his/her project report.

Following essentials are required to be fulfilled for its preparation and submission.

1. Nature of the business organisation (emporium)
2. Determinants for location of the concerned emporium
3. Is the space rented or owned

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.

# **ECONOMICS (Code No. 030)**

## **(2021-22)**

### **Rationale**

Economics is one of the social sciences, which has great influence on every human being. As economic life and the economy go through changes, the need to ground education in children's own experience becomes essential. While doing so, it is imperative to provide them opportunities to acquire analytical skills to observe and understand the economic realities.

At senior secondary stage, the learners are in a position to understand abstract ideas, exercise the power of thinking and to develop their own perception. It is at this stage, the learners are exposed to the rigour of the discipline of economics in a systematic way.

The economics courses are introduced in such a way that in the initial stage, the learners are introduced to the economic realities that the nation is facing today along with some basic statistical tools to understand these broader economic realities. In the later stage, the learners are introduced to economics as a theory of abstraction.

The economics courses also contain many projects and activities. These will provide opportunities for the learners to explore various economic issues both from their day-to-day life and also from issues, which are broader and invisible in nature. The academic skills that they learn in these courses would help to develop the projects and activities. The syllabus is also expected to provide opportunities to use information and communication technologies to facilitate their learning process.

### **Objectives:**

- Understanding of some basic economic concepts and development of economic reasoning which the learners can apply in their day-to-day life as citizens, workers and consumers.
- Realisation of learners' role in nation building and sensitivity to the economic issues that the nation is facing today.
- Equipment with basic tools of economics and statistics to analyse economic issues. This is pertinent for even those who may not pursue this course beyond senior secondary stage.
- Development of understanding that there can be more than one view on any economic issue and necessary skills to argue logically with reasoning.

**ECONOMICS (Code No. 030)**  
(2021-22)  
**CLASS XI - TERM-WISE CURRICULUM**

Units	TERM 1 - MCQ BASED QUESTION PAPER	Marks
	Theory: 40 Marks Time: 90 minutes	
<b>Part A</b>	<b>Statistics for Economics</b>	
	Introduction	4
	Collection, Organisation and Presentation of Data	9
	Statistical Tools and Interpretation – Arithmetic Mean, Median and Mode	10
	<b>Sub Total</b>	<b>23</b>
<b>Part B</b>	<b>Introductory Microeconomics</b>	
	Introduction	4
	Consumer's Equilibrium and Demand	13
	<b>Sub Total</b>	<b>17</b>
	<b>Total</b>	<b>40 marks</b>
<b>Part C</b>	<b>Project Work (Part 1): 10 Marks</b>	

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: Statistics for Economics

#### Unit 1: Introduction

What is Economics?

Meaning, scope, functions and importance of statistics in Economics

#### Unit 2: Collection, Organisation and Presentation of data

**Collection of data** - sources of data - primary and secondary; how basic data is collected with concepts of Sampling; methods of collecting data; some important sources of secondary data: Census of India and National Sample Survey Organisation.

**Organisation of Data:** Meaning and types of variables; Frequency Distribution.

**Presentation of Data:** Tabular Presentation and Diagrammatic Presentation of Data:

(i) Geometric forms (bar diagrams and pie diagrams), (ii) Frequency diagrams (histogram, polygon and Ogive) and (iii) Arithmetic line graphs (time series graph).

#### Unit 3: Statistical Tools and Interpretation

**Measures of Central Tendency-** Arithmetic mean, median and mode



## Part B: Introductory Microeconomics

### Unit 4: Introduction

Meaning of microeconomics and macroeconomics; positive and normative economics

What is an economy? Central problems of an economy: what, how and for whom to produce; opportunity cost.

### Unit 5: Consumer's Equilibrium and Demand

Consumer's equilibrium - meaning of utility, marginal utility, law of diminishing marginal utility, conditions of consumer's equilibrium using marginal utility analysis.

Indifference curve analysis of consumer's equilibrium-the consumer's budget (budget set and budget line), preferences of the consumer (indifference curve, indifference map) and conditions of consumer's equilibrium.

Demand, market demand, determinants of demand, demand schedule, demand curve and its slope, movement along and shifts in the demand curve; price elasticity of demand - factors affecting price elasticity of demand; measurement of price elasticity of demand – percentage-change method.

## Part C: Project in Economics - Guidelines as given in class XII curriculum

Units	TERM 2 - SUBJECTIVE QUESTION PAPER	Marks
	Theory: 40 Marks Time: 2 Hours	
<b>Part A</b>	<b>Statistics for Economics</b>	
	Statistical Tools and Interpretation – Measures of Dispersion, Correlation, Index Number	17
	<b>Sub</b>	<b>17</b>
	<b>Total</b>	
<b>Part B</b>	<b>Introductory Microeconomics</b>	
	Producer Behaviour and Supply	13
	Forms of Market and Price Determination under perfect competition with simple applications	10
	<b>Sub Total</b>	<b>23</b>
	<b>Total</b>	<b>40 marks</b>
<b>Part C</b>	<b>Project Work (Part 2): 10 Marks</b>	

## **Part A: Statistics for Economics**

### **Unit 3: Statistical Tools and Interpretation**

**Measures of Dispersion** - absolute dispersion (standard deviation); relative dispersion (co-efficient of variation)

**Correlation** – meaning and properties, scatter diagram; Measures of correlation - Karl Pearson's method (two variables ungrouped data)

**Introduction to Index Numbers** - meaning, types - wholesale price index, consumer price index, uses of index numbers; Inflation and index numbers.

## **Part B: Introductory Microeconomics**

### **Unit 6: Producer Behaviour and Supply**

Meaning of Production Function – Short-Run and Long-Run Total Product, Average Product and Marginal Product.

Returns to a Factor

Cost: Short run costs - total cost, total fixed cost, total variable cost; Average cost; Average fixed cost, average variable cost and marginal cost-meaning and their relationships.

Revenue - total, average and marginal revenue - meaning and their relationship.

Supply, market supply, determinants of supply, supply schedule, supply curve and its slope, movements along and shifts in supply curve, price elasticity of supply; measurement of price elasticity of supply - percentage-change method.

### **Unit 7: Forms of Market and Price Determination under Perfect Competition with simple applications.**

Perfect competition - Features; Determination of market equilibrium and effects of shifts in demand and supply.

Simple Applications of Demand and Supply: Price ceiling, price floor.

## **Part C: Project in Economics** - Guidelines as given in class XII curriculum

**HISTORY**  
**Code No. 027**  
**Class XI (2021-22)**  
**THEMES IN WORLD HISTORY**

**TERM I**

S.NO	THEMES	WEIGHTAGE (IN MARKS)
1.	Theme 2 -Writing And City Life	10
2.	Theme 3 - An Empire Across Three Continents	10
3.	Theme 4 - Central Islamic lands	10
4.	Theme 6 -The Three Orders	10
	<b>Total</b>	<b>40</b>

**TERM-II**

S.NO	THEMES	WEIGHTAGE (IN MARKS)
5.	Theme 7 - Changing Cultural Traditions	10
6.	Theme 9 - The Industrial Revolution	10
7.	Theme 10 - Displacing Indigenous People	10
8.	Theme 11 - Paths To Modernization	10
	<b>Total</b>	<b>40</b>

\* 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
			-----
		=	<b>100 Marks</b>
			-----

**POLITICAL SCIENCE (Code No. 028)**

**Class XI (2021-22)**

**TERM WISE SYLLABUS**

**TERM- 1**

**40 Marks**

Units	Contents	WEIGHTAGE (IN MARKS)
<b>Part A: Indian Constitution at Work</b>		
1	Constitution	12
2	Election and Representation	05
3	Local Government	03
<b>Part B: Political Theory</b>		
4	Political Theory: An Introduction	07
5	Rights	07
6	Development	06
<b>Total</b>		<b>40</b>

**TERM- 2**

**40 Marks**

Units	Contents	WEIGHTAGE (IN MARKS)
<b>Part A: Indian Constitution at Work</b>		
7	Legislature	07
8	Executive	07
9	Judiciary	06
<b>Part B: Political Theory</b>		
10	Liberty	07
11	Equality	07
12	Justice	06
<b>Total</b>		<b>40</b>

**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
			-----
		=	<b>100 Marks</b>
			-----

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

<b>TERM I – THEORY</b> <b>MCQ BASED - 35 MARKS</b>		<b>TERM II – THEORY</b> <b>SHORT/LONG ANSWER – 35 MARKS</b>	
<b>*Unit No.</b>	<b>Name</b>	<b>*Unit No.</b>	<b>Name</b>
1.	Changing Trends & Career in Physical Education <ul style="list-style-type: none"> <li>• Meaning &amp; definition of Physical Education</li> <li>• Aims &amp; Objectives of Physical Education</li> <li>• Career Options in Physical Education.</li> <li>• Khelo-India Program</li> </ul>	4.	Physical Education & Sports for CWSN (Children With Special Needs- Divyang) <ul style="list-style-type: none"> <li>• Aims &amp; objectives of Adaptive Physical Education</li> <li>• Organization promoting Adaptive Sports (Special Olympics Bharat; Paralympics; Deaflympics)</li> <li>• Role of various professionals for children with special needs (Counsellor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist &amp; special Educator)</li> </ul>
2.	Olympic Value Education <ul style="list-style-type: none"> <li>• Olympics</li> <li>• Olympic Symbols, Ideals, Objectives &amp; Values of Olympism</li> <li>• International Olympic Committee</li> <li>• Indian Olympic Association</li> </ul>	5.	Yoga <ul style="list-style-type: none"> <li>• Meaning &amp; Importance of Yoga</li> <li>• Elements of Yoga</li> <li>• Introduction - Asanas, Pranayam, Meditation &amp; Yogic Kriyas</li> <li>• Yoga for concentration &amp; related Asanas (Sukhasana; Tadasana; Padmasana &amp; Shashankasana, Naukasana, Vrikshasana (Tree pose), Garudasana (Eagle pose)</li> </ul>
3.	Physical Fitness, Wellness & Lifestyle <ul style="list-style-type: none"> <li>• Meaning &amp; Importance of Physical Fitness, Wellness &amp; Lifestyle</li> <li>• Components of physical fitness and Wellness</li> <li>• Components of Health related fitness</li> </ul>	6.	Physical Activity & Leadership Training <ul style="list-style-type: none"> <li>• Leadership Qualities &amp; Role of a Leader</li> <li>• Meaning, objectives &amp; types of Adventure Sports (Rock Climbing, Tracking, River Rafting, Mountaineering, Surfing and Paragliding)</li> <li>• Safety measures to prevent sports injuries</li> </ul>
7	Test, Measurement & Evaluation <ul style="list-style-type: none"> <li>• Define Test, Measurement &amp; Evaluation</li> <li>• Importance of Test, Measurement &amp; Evaluation In Sports</li> <li>• Calculation of BMI &amp; Waist - Hip Ratio.</li> <li>• Measurement of health related fitness.</li> </ul>	9.	Psychology & Sports <ul style="list-style-type: none"> <li>• Definition &amp; Importance of Psychology in Phy. Edu. &amp; Sports</li> <li>• Define &amp; Differentiate Between Growth &amp; Development.</li> <li>• Adolescent Problems &amp; Their Management</li> </ul>
8	Fundamentals of Anatomy, Physiology & Kinesiology in Sports <ul style="list-style-type: none"> <li>• Definition and Importance of Anatomy, Physiology &amp; Kinesiology</li> <li>• Function of Skeleton System, Classification of Bones &amp; Types of Joints .</li> </ul>	10.	Training and Doping in Sports <ul style="list-style-type: none"> <li>• Meaning &amp; Concept of Sports Training</li> <li>• Principles of Sports Training</li> <li>• Concept &amp; classification of doping</li> <li>• Prohibited Substances &amp; their side effects</li> </ul>

	<ul style="list-style-type: none"> <li>• Function &amp; Structure of Respiratory System and Circulatory System</li> <li>• Equilibrium – Dynamic &amp; Static And Centre of Gravity and its application in sports</li> </ul>		
<b>TERM I – PRACTICAL</b>		<b>TERM II – PRACTICAL</b>	
05 Marks	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 Viva Voce (From Project File; General Motor Fitness; Yoga)

\*For resource material refer Class XI Physical Education Handbook available at Board's Academic website:  
[www.cbseacademic.nic.in](http://www.cbseacademic.nic.in)