



Bal Bharati
PUBLIC SCHOOL
Sector -21, Noida

SYLLABUS 2021-22

CLASS-XII



SUBJECT : ENGLISH

BLUEPRINT OF ENGLISH PAPER

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| 1 | Part A – (a) Comprehension (b) Comprehension Based on Case Study (c) MCQs – Literature | 40 Marks |
| 2 | Part B – (a) Writing Skills (b) Literature(Question and Answers) | 16 Marks 24 Marks |
| 3 | A.S.L (INTERNAL ASSESSMENT) | 20 Marks |

| MONTH | UNIT/ TOPIC | LEARNING OBJECTIVES | INNOVATIVE PEDAGOGY | LEARNING OUTCOMES | ACTIVITIES |
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| MARCH- APRIL | Lesson-1 The Last Lesson | <ul style="list-style-type: none"> ➤ To begin the class with a discussion on patriotism and the importance of identity. ➤ Introduction of author Alphonse Daudet . Young scholars will initiate a discussion on the importance of independence and liberty | <ul style="list-style-type: none"> ➤ Discussion on Freedom Struggle of India - reference to different freedom fighters. ➤ | <ul style="list-style-type: none"> ➤ Students would be able to -Comprehend the lesson with "pre activity" ➤ Students to refer to the Freedom Struggle of India. | <ul style="list-style-type: none"> ➤ To hold a group discussion on the topic – loss of freedom and independence in one’s own country. – Group Activity. ➤ ART INTEGRATION ACTIVITY - Song - 'Ekbaar Bidai de maa ghure aashi' to be sung by the teacher to instill the feeling of patriotism. Students to sing patriotic songs as a group activity. |
| | Lesson 2 POEM – MY MOTHER AT SIXTY-SIX | <ul style="list-style-type: none"> ➤ Will initiate the class by sharing experiences of the teacher’s childhood days when she lived in a joint family. ➤ To enhance speaking skills , students to participate in debates . Topic - ' In the present pandemic days living in a joint family is a boon in disguise `. | <ul style="list-style-type: none"> ➤ Teacher to draw a pie chart and take the statistics of all those children who live a happy life with their grandparents in today’s world. ➤ To introduce the poet Kamala Das/Suraiya in class. | <ul style="list-style-type: none"> ➤ Group discussion will help the children express their thoughts and develop speaking skills. ➤ Reference assignment booklet - RTCs and short questions. | <ul style="list-style-type: none"> ➤ Share experiences of students, ➤ To recite the poem 'My Grandmother’s House' written by Kamla Das, through a Podcast. As a Listening Skill activity , children will answer an MCQ paper based on the audio. ➤ Students to write a notice inviting members to visit an old age home. ➤ To enhance the writing skills students will write a report on the virtual visit to the old age home. |

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| MAY | Lesson 3 Lost Spring | <ul style="list-style-type: none"> ➤ Initiate the class with reference to the slums and poverty. Reference to the great educationist Shyama, Chona and the slum mobile institution, ' school on wheels' . | <ul style="list-style-type: none"> ➤ PPTs to show highlighting works done by socialists and social works. | <ul style="list-style-type: none"> ➤ Children will also prepare PPTs and videos and present in class thereby participating and completing task on speaking skills. | <ul style="list-style-type: none"> ➤ Conducting virtual class for the slum children under the the guidance of teachers. ➤ ART INTEGRATION ACTIVITY-With The help of the art teacher, students will design posters highlight the art of education. |
| | Lesson 4 Deep Water | <ul style="list-style-type: none"> ➤ To begin the class with reference of great winners like Sudha Chandran, Mansi Joshi and many others who had conquered fear and one overall obstacle. | <ul style="list-style-type: none"> ➤ To refer to Tagore's poem Freedom' and recite the poem and help students understand the need to be self confident. | <ul style="list-style-type: none"> ➤ Students will be able to comprehend the poem. students will be able to answer MCQS and short answer questions ➤ Children will be able to figure Of speech. | <ul style="list-style-type: none"> ➤ ART INTEGRATION ACTIVITY- As a creative activity write composed poems on topics like freedom liberty highlighting different figures speech and rhyme scheme. |
| | Lesson 5 POEM- Elementary School Classroom in a Slum | <ul style="list-style-type: none"> ➤ Initiate discussion on the government school working for poor children. ➤ Schools run by NGOs will also be highlighted With different examples/ videos. | <ul style="list-style-type: none"> ➤ Students of the interact club will share experiences of teaching the slum children through online mode. | <ul style="list-style-type: none"> ➤ Children will do PPT presentation. | <ul style="list-style-type: none"> ➤ Discussion on importance of education for all. ➤ Debate on the topic right to education should be practised in earnest. |
| | Lesson 6 Third Level Reading Skills | <ul style="list-style-type: none"> ➤ To initiate the class by recapitulating lesson. ' The Adventure' ➤ To refer to example on case studies and complete the MCQs. | <ul style="list-style-type: none"> ➤ Videos and PPTs to be shown on time and space travel followed with introduction to lesson. ➤ Reference to case study material from CBSE website and sample papers. | <ul style="list-style-type: none"> ➤ Children will initiate an interview with leading a psychologist. ➤ Students will be able to complete the case study comprehension within a stipulated time. | <ul style="list-style-type: none"> ➤ Case studies will be taken up in class followed with assignments. |

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| | Comprehension based on case studies. | | | | |
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| JUNE | Lesson 7 The Rattrap | <ul style="list-style-type: none"> ➤ To begin the class with a debate on the topic 'Temptation is an Evil, but at times it leads to self realization'. | <ul style="list-style-type: none"> ➤ Reference to the story, 'The Justice' by John Galsworthy'. ➤ | <ul style="list-style-type: none"> ➤ Children will be able to comprehend the lesson and initiate discussions on the different characters. ➤ To complete MCQs and extrapolatory. | <ul style="list-style-type: none"> ➤ ART INTEGRATION ACTIVITY-To write slam poetry on topics like guilt, remorse and reliving. |
| | Lesson 8 The Enemy | <ul style="list-style-type: none"> ➤ To initiate the class through a documentary on the famous film on Dr. Kotnis Ki Amar Kahaniyan- flim time for students | <ul style="list-style-type: none"> ➤ Questionnaire on the film to be completed by the students. | <ul style="list-style-type: none"> ➤ To evaluate and understand the importance of the medical field. | <ul style="list-style-type: none"> ➤ Students to prepare reports based on virtual interviews on doctors serving on the days ➤ Students to share real life examples of parents working in the medical field. |
| | Lesson 9 POEM Keeping Quiet | <ul style="list-style-type: none"> ➤ Introduction of the modern poet Pablo Neruda and modern poetry highlighting issues. | <ul style="list-style-type: none"> ➤ Recreation of the poem with proper modulation followed with expansion. | <ul style="list-style-type: none"> ➤ To understand the importance of introspection and retrospection. | <ul style="list-style-type: none"> ➤ Elucidate the figures of speech and rhyme scheme |
| | Lesson 10 Indigo | <ul style="list-style-type: none"> ➤ A detailed introduction will be given about the journey of Mohandas Gandhi to the making of Mahatma ➤ | <ul style="list-style-type: none"> ➤ A recorded interview with the Great Grandson, Tushar Gandhi will be played. ➤ Excerpts from the film Gandhi will be shown through a video in class ➤ History teacher will be invited in class to narrate about the Great freedom fighters | <ul style="list-style-type: none"> ➤ PPTS to be prepared about movement by Gandhi | <ul style="list-style-type: none"> ➤ ART INTEGRATION ACTIVITY- plays to be done on Gandhi's movements/ policy and effective in todays time. |
| AUGUST | Lesson 11 Should Wizard Hit Mommy | <ul style="list-style-type: none"> ➤ Introduce the concept of magic, magician and Wizard. | <ul style="list-style-type: none"> ➤ To refer to videos on magic. | <ul style="list-style-type: none"> ➤ Based the event of the story -Students will have an interaction highlighting. | <ul style="list-style-type: none"> ➤ ART INTEGRATION ACTIVITY- Students will participate in a 'Spin a Yarn' activity. They will |

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| | | | <ul style="list-style-type: none"> ➤ Reference to world famous magician P. C sorcar. ➤ Introduce the class to the Shakespearean concept of story within a story 'Mid Summers Nights Dream'. | | give a new dimension to the end of the story. The video uploaded later on. |
| HALF YEARLY | | | | | |
| SEPTEMBER | Lesson 12 Evans Tries an O-level | <ul style="list-style-type: none"> ➤ Initiate the class to learn about rehabilitation of convicts ➤ Reference will be drawn from Kiran Bedi's 'Mission India'. | <ul style="list-style-type: none"> ➤ Videos on interviews of people who have been brought back to main stream of life will be taken. | <ul style="list-style-type: none"> ➤ Discussion to be held on the importance of rehabilitation. ➤ | <ul style="list-style-type: none"> ➤ Debates on the topic – Crimes and punishment goes hand in hand. |
| | Lesson 13 Poem- A thing of beauty | <ul style="list-style-type: none"> ➤ To the different genres of English poetry with special highlighting on the romantic era. | <ul style="list-style-type: none"> ➤ Recreation of poem and sonnets of poets like John Keats, P . B Shelley, S.T Coleridge. ➤ Elaborate explanation of the highlights on poetic device. ➤ Introduction to the poet Susan Hill and her contemporaries. | <ul style="list-style-type: none"> ➤ Students to learn the difference between sonnets, odes, ballads. | <ul style="list-style-type: none"> ➤ Students will answer MCQs on the poem. ➤ Podcast on poem, 'Od on a Grecian Urn'. |
| OCTOBER | Lesson 14 On The Face Of It | <ul style="list-style-type: none"> ➤ Initiate the class with discussion on ' Beauty is Skin Deep'. | <ul style="list-style-type: none"> ➤ Refer to the fairy tale like Beauty and the Beast and Cinderella. | <ul style="list-style-type: none"> ➤ To comprehend on facial disabilities | Panel discussion on fairy tale and implementation |
| NOVEMBER | Lesson 15 Aunt Jennifer's Tigers | <ul style="list-style-type: none"> ➤ Introduce students to modern poets like Adrienne Rich with poem like 'Mirror' | | <ul style="list-style-type: none"> ➤ Children will understand the difference between marital odyssey and how it has changed to ordeal | <ul style="list-style-type: none"> ➤ Under the guidance of art teacher art students will do a Pencil sketch /Shadow Paint of the tigers knitted by Aunt Jennifer. |

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| | | | | | ➤ ART INTEGRATION ACTIVITY- like to invite art teacher in class to paint the poem during the explanation. |
| DECEMBER- JANUARY | ASL activity to be conducted through audio in class. | | | | |

Text Books:
Flemingo class 12
Vista Class 12

SUBJECT: HINDI

भारांक 80

निर्धारित समय 3 घंटे

| खंड अ (वस्तुपरक प्रश्न) | | |
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| विषयवस्तु | | भार |
| 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 |
| | ब दो अपठित पद्यांशों में से कोई एक पद्यांश करना होगा। (250-250 शब्दों के) (1 अंक x 5 प्रश्न) | 05 |
| 2 | कार्यालयी हिंदी और रचनात्मक लेखन ('अभिव्यक्ति और माध्यम' पुस्तक के आधार पर) | 05 |
| | अभिव्यक्ति और माध्यम पुस्तक से बहुविकल्पात्मक प्रश्न (1 अंक x 5 प्रश्न) | 05 |
| 3 | पाठ्यपुस्तक आरोह भाग – 2 से बहुविकल्पात्मक प्रश्न | 10 |
| | अ पठित काव्यांश पर पाँच बहुविकल्पी प्रश्न (1 अंक x 05 प्रश्न) | 05 |
| | ब पठित गद्यांश पर पाँच बहुविकल्पी प्रश्न। (1 अंक x 05 प्रश्न) | 05 |
| 4 | अनुपूरक पाठ्यपुस्तक वितान भाग-2 से बहुविकल्पात्मक प्रश्न | 10 |
| | अ पठित पाठों पर दस बहुविकल्पी प्रश्न। (1 अंक x 10 प्रश्न) | 10 |
| खंड – ब (वर्णनात्मक प्रश्न) | | |
| विषयवस्तु | | भार |
| 5 | कार्यालयी हिंदी और रचनात्मक लेखन | 20 |
| | 1 दिए गए तीन नए और अप्रत्याशित विषयों में से किसी एक विषय पर लगभग 150 शब्दों में रचनात्मक लेखन (5 अंक x 1 प्रश्न) | 05 |
| | 2 औपचारिक विषय से संबंधित पत्र लेखन। (5 अंक x 1 प्रश्न) (विकल्प सहित) | 05 |
| | 3 कविता/कहानी/नाटक की रचना प्रक्रिया पर आधारित दो लघुउत्तरीय प्रश्न (3 अंक x 1 प्रश्न) + (2 अंक x 1 प्रश्न) (विकल्प सहित) | 05 |
| | 4 समाचार लेखन (उल्टा पिरामिड शैली)/फीचर लेखन/आलेख लेखन पर आधारित दो लघुउत्तरीय प्रश्न (3 अंक x 1 प्रश्न) + (2 अंक x 1 प्रश्न) (विकल्प सहित) | 05 |
| 6 | पाठ्यपुस्तक आरोह भाग – 2 | 20 |

कक्षा - बारहवीं
विषय - हिंदी कोर

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| मास | साहित्य खंड (गद्य , पद्य तथा वितान) | शिक्षण- अधिगम | नवीन शिक्षण युक्तियों तथा कला एकीकरण | कामकाजी हिंदी और रचनात्मक लेखन | गतिविधि |
| मार्च | भक्तिन | गद्य विधा का आनंद उठा पाने की क्षमता का विकास अनौपचारिक विषयों व संदर्भों में बातचीत करने की क्षमता का विकास, मंच भय से मुक्ति | सामाजिक सरोकार को स्थान देना सिखाना, समाज के पीड़ित वर्ग को नायकत्व प्रदान करना | अपठित बोध, कार्यालयी पत्र | कथा-वाचन , गद्य-विधा के प्रति जागरुकता का आह्वान, |
| | बाज़ार दर्शन | सहज अभिव्यक्ति कर पाने की क्षमता का विकास ,साहित्य की गद्य विधा के प्रति समझ, सकारात्मक दृष्टिकोण का विकास स्वाध्याय हेतु प्रेरणा सहयोगात्मक तथा सौहार्दपूर्ण रूप से कार्य करने की प्रेरणा भाषिककौशल- का विकास मंच भय से मुक्ति | बाज़ार की जादुई ताकत के प्रति सजगता का आह्वान , सोच समझकर बाजार का उपयोग करना सिखाना व उसकी चमक से दूर रहना | | कथा-कथन , चर्चा-परिचर्चा |
| | <u>पद्य खंड</u> आत्मपरिचय , एक गीत | परिवेश के महत्व का प्रतिपादन तथा उसके प्रति सहजता व सरलता का विकास , निरंतर आगे बढ़ने की प्रेरणा , रटंत विधा से मुक्ति | स्वयं को जानने की अनिवार्यता पर बल , समाज से ही व्यक्ति की पहचान समझाना , | | कविता-वाचन , संवादाभिव्यक्ति , नृत्य- नाटिका , चित्राभिव्यक्ति |

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| | सिल्वर वेडिंग | | उत्कृष्ट जिजीविषा एवं समय की सीमित उपलब्धता का प्रस्तुतीकरण | | |
| अप्रैल | काले मेघा पानी दे | प्रस्तुतीकरण हेतु स्वछंद वातावरण का निर्माण मातृभाषा, में निपुणता का अहसास , विज्ञान व विश्वास के प्रति सजगता , रीति-रिवाजों व परंपराओं में भी सजगता का आह्वान | लोक में प्रचलित विश्वास तथा विज्ञान के द्वन्द्व को चित्रित करना , अंधविश्वास के प्रति सतर्क रहना सिखाना | अपठित बोध, कार्यालयी पत्र, | नृत्य-नाटिका कथा-कथन |
| | पतंग | बालमन की उड़ान से परिचय , कविता व बच्चों में समानता , कविता के वास्तविक रूप को समझने की क्षमता का विकास | बालसुलभ इच्छाओं व उमंगों से परिचित कराना , पतंग बच्चों की उमंगों की प्रतीक | | कविता-वाचन |
| मई | कविता के बहाने, बात सीधी थी पर, जूझ | भाषा के सूक्ष्म अर्थ को समझने की क्षमता का विकास , कविता के मानवीकरण को समझने की क्षमता का विकास , कविता के अंत से नई कविता लिखना सीखना | कविता की व्यापकता को समझने की क्षमता का विकास , कविता की असीम सभवनाओं को समझना सिखाना , बात को सीधे तरीके से न कहने पर उसके प्रभावों से परिचित कराना , उलझी बात को समझना कठिन होना , कविता के अंत से नई कविता लिखना सिखाना | | नई कविता से परिचय, घटना वर्णन , संवाद , सिनेमा व ई चित्रों को शिक्षण सामग्री के तौर पर प्रयोग करना |

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| | पहलवान की ढोलक | भाषिक कौशलों का विकास, पारंपरिक खेलों की महत्ता प्रतिपादित करना, सहयोगात्मक तथा सौहार्दपूर्ण रूप से कार्य करने की प्रेरणा महामारियों के प्रति सतर्कता व सजगता का आह्वान, | राजसत्ता में परिवर्तनों से परिचय , सामाजिक व्यवस्था व लोककलाओं के अप्रासंगिक होने की प्रक्रिया का यथार्थ चित्रण (शारीरिक शिक्षा के साथ समन्वित गतिविधि) | नाटक की रचना प्रक्रिया , अपठित बोध फीचर लेखन , रचनात्मक लेखन , कार्यालयी पत्र , पत्रकारीय लेखन और उसके विविध आयाम | लुप्त होते पारंपरिक खेलों को दर्शाते हुए डिजिटल पोस्टर का निर्माण तथा Padlet पर प्रस्तुति |
| जून | चार्ली चैप्लिन यानी हम सब | चित्रों के माध्यम से प्रकृति के सौंदर्य का विवरण , वर्णन , भारतीय फिल्मों के प्रति समझ की क्षमता का विकास , , फिल्मी सिद्धांतों की जकड़ से बाहर निकलना | कलाकार के भीतर के इंसान से परिचित कारना , करुणा व हास्य का सामंजस्य, भारतीय फिल्मों पर इसका प्रभाव | विभिन्न माध्यमों के लिए लेखन | चार्ली चैप्लिन की फिल्में देखने को छात्रों को प्रेरित करना तथा उन पर चर्चा-परिचर्चा कराना |
| | कैमरे में बंद अपाहिज | करुणा के मुखौटे में छिपी क्रूरता को समझना , व्यंग्यात्मकता को समझने की क्षमता का विकास , समाज की दारुण विडंबनाओं को समझना , पत्रकारिता की दुनिया में होने वाले व्यवसायीकरण को समझना , रटंत विधा से मुक्ति | मीडिया व समाज की संवेदनहीनता के प्रति कटाक्ष को समझाना , विकलांगों की दयनीयता को अत्यंत क्रूरता से उभारने को समझाना , अपाहिजों के दर्द को उकेरना | | मीडिया संबंधी संवादाभिव्यक्ति |
| | सहर्ष स्वीकारा है | जीवन के प्रति सकारात्मक दृष्टिकोण का विकास , जीवन की प्रत्येक परिस्थिति को स्वीकार करते हुए संघर्ष हेतु उद्यत होना | जीवन के अनुभवों को बाँटना सिखाना , कमजोरियों व उपलब्धियों में भी प्रियजनों का साथ समझना, अत्यधिक प्रेम से | | कविता-वाचन |

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| | | | कमज़ोर व असहाय हो जाने पर प्रकाश डालना | | |
| | उषा | प्रकृति के मानवीकरण को समझने की क्षमता का विकास , प्राकृतिक सौंदर्य के प्रति जागरूकता व समझ का विकास , रटंत विधा से मुक्ति | सूर्योदय के पूर्व पल-पल होते परिवर्तनों से परिचित कराना, शब्द- चित्र से परिचय कराना (कला के साथ समन्वित गतिविधि) | | ग्रामीण अंचल की प्रातः के दृश्य का चित्रांकन |
| जुलाई | नमक | रोचक , सक्रिय व प्रासंगिक वातावरण का निर्माण , पारस्परिक मेल-जोल की भावना से ओत-प्रोत , राजनीतिक अर्थ में देश बदल जाने पर भी हृदय का देश वही होना , लीक से हटकर सोचने की क्षमता का विकास , मंच भय से मुक्ति | कहानी की मार्मिकता से परिचय , लीक से हटकर सोचने की क्षमता का विकास , भारत-पाक के लोगों की भावनाओं व चुनौतियों से परिचय | कविता , कहानी नाटक की रचना प्रक्रिया , अपठित बोध , फीचर , आलेख , रचनात्मक लेखन , कार्यालयी पत्र , पत्रकारीय लेखन और उसके विविध आयाम | कहानी मंचन , कथा-वाचन , चरित्राभिनय |
| | कवितावली, लक्ष्मण-मूर्छा और राम का विलाप | सगुण भक्ति शाखा से परिचय व ईश्वर से सगुण रूप का परिचय, भ्रातृ-प्रेम के प्रति जागरूकता, धार्मिक आडंबरों को समझना, दास्य भक्ति-भावना को समझने की क्षमता का विकास | लोकमंगल की साधना को महत्त्व देना सिखाना, सगुण भक्ति का परिचय (नृत्य के साथ समन्वित गतिविधि) | | राम, लक्ष्मण तथा हनुमान का पात्राभिनय |

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| | अतीत में दबे पाँव | | (इतिहास के साथ समन्वित गतिविधि) | | मोहनजोदड़ो तथा सिंधु घाटी सभ्यता से मिली वस्तुओं पर चित्र सहित जानकारी का फाइल-रूप में Padlet पर प्रस्तुतीकरण |
| अगस्त | शिरीष के फूल | धैर्यवान व कर्तव्यशील बने रहने की प्रेरणा , शारीरिक बल के ऊपर आत्मबल का महत्व समझना , पुरानी व नई पीढ़ी के अंतर को समझना | निरंतर संघर्षशील रहने की प्रेरणा देना , हार न मानना सिखाना , प्राकृतिक सौंदर्य से अभिभूत कराना | कविता , कहानी , नाटक की रचना प्रक्रिया , अपठित बोध , फीचर , आलेख, रचनात्मक लेखन , कार्यालयी पत्र , पत्रकारीय लेखन और उसके विविध आयाम | कथा-कथन , वाद-विवाद , दृढ़ इच्छाशक्ति व जिजीविषा का आह्वान |
| | रुबाइयाँ, डायरी के पन्ने गज़ल | वात्सल्य वर्णन की सादगी को समझना, मातृ-प्रेम के विविध रूपों से परिचय , वात्सल्य रस से परिचय , प्रकृति के मानवीकरण को समझना , गज़ल के वास्तविक रूप से परिचित होना | मातृ-प्रेम के विविध रूपों से परिचय, वात्सल्य रस से परिचय, गज़ल के वास्तविक रूप से परिचय (संगीत के साथ समन्वित गतिविधि) | | कविता-वाचन सुर, लय तथा ताल के साथ गज़ल का गायन |
| अक्टूबर | श्रम विभाजन और जाति प्रथा | निम्न वर्ग के अधिकारों से परिचय , कार्यकुशलता के आधार पर श्रम | श्रम विभाजन का अर्थ व उससे मुक्ति के प्रति सजगता , समानता , | कविता, कहानी , नाटक की रचना प्रक्रिया, अपठित बोध | भाषण , वाद-विवाद , नुक्कड़ नाटक |

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| | | विभाजन की आवश्यकता को समझना , बेरोज़गारी के वास्तविक रूप से परिचय | स्वतंत्रता , बंधुता की अनिवार्यता को समझने की क्षमता का विकास | , फीचर , आलेख , रचनात्मक लेखन , कार्यालयी पत्र , पत्रकारीय लेखन और उसके विविध आयाम | |
| | छोटा मेरा खेत, बगुलों के पंख | कविता व कृषि कर्म में समानता को समझना , प्राकृतिक सौंदर्य को प्रतीकों के माध्यम से समझना , | खेती के रूपक में कवि-कर्म के हर चरण को समझाना , कविता व कवि- कर्म में समानता को दर्शाना , प्रतीकात्मकता को समझाना , | | कविता के अंत से नई कविता के लेखन का अभ्यास , चित्राभिव्यक्ति , |

अतिरिक्त पठन-पाठन हेतु प्रस्तावित पुस्तकों की सूची -

अरिहंत- ऑल-इन-वन

फुल मार्क्स- हिंदी

SUBJECT : MATHEMATICS

COURSE STRUCTURE Weightage of contents (Unit wise)

| NO. | UNITS | MARKS |
|------|--|-----------|
| I. | Relations and Functions | 08 |
| II. | Algebra | 10 |
| III. | Calculus | 35 |
| IV. | Vectors and Three – Dimensional Geometry | 14 |
| V. | Linear Programming | 05 |
| VI. | Probability | 08 |
| | Total | 80 |
| | Internal Assessment | 20 |

Question paper pattern

| Type of Question | Mark Per Question | Total No. of Question | Total Marks |
|-----------------------------------|-------------------|-----------------------|-------------|
| Very Short Answer(Objective Type) | 1 | 20 | 20 |
| Short Answer | 2 | 6 | 12 |
| Long Answer – I | 4 | 6 | 24 |
| Long Answer – II | 6 | 4 | 24 |
| Total | 36 | 80 | |

| MONTH | UNIT/ CHAPTER | SUB TOPICS | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY/ART INTEGRATION/INTERDISCIPLINARY APPROACH | ACTIVITY/ PRACTICAL/ PROJECT |
|-------|----------------------|---|---|---|---|
| MARCH | CH 1- Matrices | >Concept, notations, order, equality, types of matrices, zero matrix, transpose of a matrix, symmetric and skew-symmetric matrices. >Addition, multiplication and scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication. >Non-commutativity of multiplication of matrices Inverse of a matrix using ERT/ECT | Students would be able to – > Identify a matrix of specific order >Form a matrix of certain order > Perform operations like sum, difference, product of matrices | INDUCTIVE METHODOLOGY Moving from specific examples to general results, students will be able to connect the various operations on matrices. | Preparing Matrices of various orders eg. 1x3, 2x4, 3x4 with given mathematical formula |
| | CH-2 Determinants | >Determinant of a square matrix (up to 3 x 3 matrices), pr >Application of determinants in finding the areas of a triangle >Adjoint and inverse of a square matrix. >Solving system of linear equations in 2 or 3 variables (having unique solution)using inverse of a matrix. | Students will be able to- >Evaluate a determinant of order 2 and 3 >Find inverse of a matrix using adjoint >Solve a system of linear equations in 2 and 3 variables | Use of the E A D method E – Easy A-Average D- Difficult Problem Solving Method to be used | Evaluation of Area of a Triangle using Determinants Solution of a system of Linear equations in 3 variables using Matrices |

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|-------|---|--|--|---|--|
| APRIL | CH-3 Relations and Functions | <ul style="list-style-type: none"> ➤ Types of Relations: reflexive, symmetric, transitive and equivalence relations. ➤ One to one and onto functions. Invertible functions | <p>Students will be able to-</p> <ul style="list-style-type: none"> ➤ Identify the types of relations ➤ Verify a function to be injective and surjective | <ul style="list-style-type: none"> ➤ Correlating Real Life situations with abstract mathematics ➤ Mapping to be used as a Tool | Verification of a relation as Reflexive, Symmetric, Transitive , Equivalence |
| | CH-4 Inverse Trigonometric Functions | <ul style="list-style-type: none"> ➤ Definition, range, domain, principal value branches. | <p>Students will be able to:</p> <ul style="list-style-type: none"> ➤ Find principal values of inverse trigonometric functions ➤ Solve inverse trigonometric equations using identities | <p>INDUCTIVE METHOD</p> <p>Moving from specific examples to general results, students will be able to connect the various results on inverse trigonometric functions.</p> | |
| MAY | CH-5 Continuity and Differentiability | <ul style="list-style-type: none"> ➤ Continuity and differentiability, derivative of composite functions, chain rule, derivatives of inverse trigonometric functions, derivative of implicit functions. ➤ Concept of exponential and logarithmic functions and their derivative. Logarithmic differentiation, Derivative of function expressed in parametric forms. ➤ Second order derivatives. | <p>Students would be able to:</p> <ul style="list-style-type: none"> ➤ Evaluate simple derivatives ➤ Find continuity and differentiability of a function at a point | <p>INDUCTIVE METHOD</p> <p>Examples from real life situations to be taken up</p> <p>MANDALA PAINTING/ DRAWING The word Mandala means circle and circle Mandalas are the most commonly available form of Mandalas. Students to draw/ paint Mandalas</p> | <p>Continuity of a Function using Graphs and Analytical methods</p> <p>Differentiability of a Function using Graphs and analytical methods</p> |

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| | | <ul style="list-style-type: none"> > Increasing / decreasing functions, > Tangents & Normals, approximation, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). > Simple problems that illustrate basic principles and understanding of the subject as well. | <p>Students would be able to:</p> <ul style="list-style-type: none"> > Find equations of tangents and normals > Find maximum and minimum values of functions in an interval > Use the concept in practical problems | <p>DEDUCTIVE METHOD Deducing results from an array of earlier results</p> | |
| | <p>CH-6 Applications of Derivatives</p> | | | | |
| JULY | <p>CH-7 Integrals</p> | <ul style="list-style-type: none"> > Integration as inverse process of differentiation. Integration of a variety of function by substitution, by partial fractions and by parts, only simple Integrals of the type to be evaluated. > Basic properties of definite Integrals and evaluations of definite Integrals. > Applications in finding the area under simple curves, especially lines, areas of circles/parabolas/ellipses (in standard form only). | <p>Students would be able to:</p> <ul style="list-style-type: none"> > Find simple integrals using various methods > Definite integral to be evaluated using basic definition and properties > Find areas bounded by standard curves | <p>USAGE OF CONCEPTS TO BE HIGHLIGHTED THROUGH EXAMPLES</p> <p>3-Dimensional Models of combination Figures like sphere+cone, Cylinder+cone, Hemishphere+Cone, etc, to be made using Eco Friendly material. To understand the concept of combination, surface areas and volumes</p> | |
| | <p>CH-8 Applications of Integrals</p> | | | | <p>Area under a curve to be taken up using Integrals</p> |

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| | | | | Area under a curve for a given function to be evaluated using colour strips of various types | |
| | | | | VISUALISATION & DEDUCTION METHOD | |
| SEPTEMBER | Ch- 11 Three-Dimensional Geometry | <ul style="list-style-type: none"> > Direction cosines / ratio of a line joining two points. > Cartesian and vector equation of a line, coplanar and skew lines > Shortest distance between two lines. > Cartesian and vector equation of a plane. > Distance of a point from a plane. | <p>Students would be able to:</p> <ul style="list-style-type: none"> > Find equation of a line in 3 dimensional space in cartesian and vector form > Shortest distance between 2 lines > Equation of a plane in Cartesian and vector form | <p>VISUALIZATION METHOD</p> <p>Maths Lab Equipment to be used in order to help students visualize the various topics</p> <p>OPTIMISATION METHOD</p> <p>Real life examples to be taken up</p> | To find distance of a point from a line or a plane using Vector & Cartesian methods |
| | Ch -12 Linear Programmig | <ul style="list-style-type: none"> > Introduction, definition of related terminology such as constraints, objective function, optimization, different types of linear programming (L.P.) problems > Graphical method of solution for problems in two variables, feasible and infeasible regions, feasible and infeasible solutions, optimal feasible solution. | <p>Students would be able to:</p> <ul style="list-style-type: none"> > Solve an LPP graphically for optimum solution | <p>Poster/Digital Poster to be prepared for various career options available using Higher Mathematics</p> | To find the optimised solution for an LPP using graphical method |

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| | Ch-13 Probability | Multiplication theorem on probability. > Conditional probability > Independent events, total probability > Bayes' Theorem > Random variable and its probability | Students would be able to: > Find conditional probability for 2 or more events > Check whether 2 events are independent > Use Bayes Theorem appropriately > Find probability distribution for a random variable | AXIOMATIC & EXPERIMENTAL APPROACH Difference between the axiomatic and practical probability to be highlighted | Practical applications of Bayes' Theorem |
| | | | | Sports Activity- How probability plays an important role in sports | |

Reference Books

Mathematics Class XII (R.D. Sharma) Volume 1 & Volume 2
 Mathematics Class XII (R.S. Agarwal)

***Reference books are not to be bought mandatorily**

SUBJECT : PHYSICS

Max Marks: 70

Time: 3 hrs.

| | | Marks |
|------------------|---|-----------|
| UNIT- I | Electrostatics | 16 |
| | Chapter-I Electric Charges and Fields | |
| | Chapter-2 Electrostatic Potential and Capacitance | |
| UNIT-II | Current Electricity | 17 |
| | Chapter-3: Current Electricity | |
| UNIT-III | Magnetic Effects of Current and Magnetism | 17 |
| | Chapter-4: Moving Charges and Magnetism | |
| | Chapter-5: Magnetism and Matter | |
| UNIT-IV | Electromagnetic Induction and Alternating Currents | 18 |
| | Chapter-6: Electromagnetic Induction | |
| | Chapter-7: Alternating Current | |
| UNIT-V | Electromagnetic Waves | 18 |
| | Chapter-8: Electromagnetic Waves | |
| UNIT-VI | Optics | 12 |
| | Chapter-9: Ray Optics and Optical Instruments | |
| | Chapter-10: Wave Optics | |
| UNIT-VII | Dual Nature of Radiation and Matter | 7 |
| | Chapter-11: Dual Nature of Radiation and Matter | |
| UNIT-VIII | Atoms and Nuclei | 70 |
| | Chapter-12: Atoms | |
| | Chapter-13: Nuclei | |
| UNIT-IX | Electronic Devices | 7 |
| | Chapter-14: Semiconductor Electronics : Materials ,Devices and Simple Circuits | |
| | Total | 70 |

QUESTION-PAPER DESIGN

Time : 3 Hrs

Max. Marks : 70

| S.No | Typology of Questions | Total Marks | Approximate Percentage |
|--------------------|--|-------------|------------------------|
| 1 | Remembering: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Understanding: Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas | 27 | 38% |
| 2 | Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way. | 22 | 32% |
| 3 | Analysing : Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations Evaluating : Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Creating: Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions. | 21 | 30% |
| Total Marks | | 70 | 100 |

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|-------|--------------------------------|---|--|---|--|
| APRIL | CH-1 Electric charges & fields | Electric Charges; Conservation of charge, Coulomb's law-force between two-point charges, forces between multiple charges; superposition principle and continuous charge distribution. Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field | Learners would be able to <ul style="list-style-type: none"> • Characterize the properties of electric charge. • state Gauss's Theorem and Superposition principle . | <p>The use of technology in sports is growing rapidly . New devices are used such as Wearable devices , RFID ,Pressure sensor , accelerometer and gyroscope sensors are used for different reasons such as to increase accuracy in time measurements of sport performance, enabling referees,umpires and sport officials to</p> | <p>Experiment – 1: To find resistance of a given wire / standard resistor using metre bridge.</p> <p>Experiment -2 :</p> |
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| | <p>CH-2 Electric Potential & Capacitance</p> | <p>due to a dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet Chapter-2: Electrostatic Potential and Capacitance Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipole in an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor.</p> | <ul style="list-style-type: none"> • Formulate electric field due to an electric dipole at axial and equatorial point • Interpret the properties of electric field of different types of charge distributions using electric field lines . • Chapter. – 2 Electric Potential and Capacitance . • Learners would be able to: • Distinguish between Electric Potential and potential difference . • Sketch equipotential surface due to different charge distribution . • Deduce the electrical potential energy of a system of two point charges and of electric dipole in an electrostatic field • Illustrate the principle behind | <p>make better decisions on rule infringements, improvements in the design of sport equipment and apparel , providing spectators with better viewing of sport performance.</p> <p>Hence Make a power point presentation using advanced tools like Prezi and Powtoon while making Presentation .</p> | <p>To compare the EMF of two given primary cells using potentiometer</p> <p>Activity -1 To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter.</p> |
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| | | | <p>construction of Capacitor .</p> <ul style="list-style-type: none"> Describe the effect of using dielectric or conducting slab on the capacitance of a capacitor. | |
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| MAY | Chapter – 3 Current Electricity | <p>Chapter–3: Current Electricity Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity; temperature dependence of resistance. Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's laws and simple applications, Wheatstone bridge, metre bridge(qualitative ideas only) Potentiometer - principle and its applications to measure potential difference and for comparing EMF of two cells; measurement of internal resistance of a cell(qualitative ideas only)</p> <p>Chapter–4: Moving Charges and Magnetism</p> | <p>Learners would be able to</p> <ul style="list-style-type: none"> State the principle of Meter Bridge , Potentiometer and Ohm's law Describe the way of finding out internal resistance of a cell using Potentiometer . Draw the circuit diagrams based on Potentiometer and Meter – Bridge . Compare different types of materials based on electrical resistivity and conductivity value Describe the temperature dependence of resistance . | <p>Experiment – 3 : To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.</p> <p>Experiment -4 : To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.</p> <p>Activity -2 : To assemble the components of a given electrical circuit.</p> <p>Activity -3 :</p> |
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| | <p>CH-4 Magnetic effects of current</p> <hr/> <p>JULY</p> | <p>Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire. Straight and toroidal solenoids (only qualitative treatment), force on a moving charge in uniform magnetic and electric fields Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors- definition of ampere, torque experienced by a current loop in uniform magnetic field; moving coil galvanometer-its current sensitivity and conversion to ammeter and voltmeter.</p> | <ul style="list-style-type: none"> • Chapter –4 : Magnetic Effects of Electric Current • Learners would be able to: • Describe Oersted’s experiment leading to the discovery of Magnetic Effects of Electric Currentv . • State Ampere’s circuital and Biot – Savart `s law • Deduce magnetic field due to a straight current carrying wire and current carrying circular coil . • Compare the force acting between two parallel current – carrying conductors when current flow through both the wires in same direction or in opposite direction | <p>Draw colorful pictures showing Straight , Toroidal Solenoids ,Force on a current carrying conductors ,Force between two parallel current carrying conductors ,Moving Coil Galvanometer . Label it also</p> | <p>To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.</p> |
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| AUGUST | <p>Chapter –5 : Magnetism and Matter.</p> <p>Chapter – 6 : Electromagnetic Induction</p> <p>Chapter – 7 : Alternating Current</p> | <p>Chapter–5: Magnetism and Matter Current loop as a magnetic dipole and its magnetic dipole moment, magnetic dipole moment of a revolving electron, bar magnet as an equivalent solenoid, magnetic field lines; earth's magnetic field and magnetic elements.</p> <p>Chapter–6: Electromagnetic Induction Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Eddy currents. Self and mutual induction.</p> <p>Chapter–7: Alternating Current Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LC oscillations (qualitative treatment only), LCR series circuit, resonance; power in AC circuits AC generator and transformer.</p> | <p>Chapter –5 : Magnetism and Matter.</p> <p>Learners would be able to</p> <ol style="list-style-type: none"> 1. Calculate magnetic dipole moment of a revolving electron . 2. Illustrate bar magnet as an equivalent solenoid. 3. Describe earth's magnetic field using magnetic elements . <p>Chapter – 6 : Electromagnetic Induction</p> <p>Learners would be able to:</p> <ol style="list-style-type: none"> 1. Describe Faraday's laws for explaining electromagnetic induction . 2. Distinguish between Self Induction and Mutual Induction 3. Experimentally show the concept of magnetic field . 4. Explain the law of conservation of energy . | | <p>Experiment -5 : To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$.</p> <p>Experiment -6 : To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.</p> <p>Activity -4: To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.</p> <p>Activity -5 : To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.</p> |
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| | | | <p>Chapter – 7 : Alternating Current</p> <p>Learners would be able to:</p> <ul style="list-style-type: none"> • Distinguish between resistance , reactance and impedance . • Describe peak and rms values of alternating current / voltage . • Deduce the expression of power in AC circuits. | |
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| MONTH | UNIT/ TOPIC | SUB-TOPIC | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY/ART INTEGRATION/ INTERDISCIPLINARY APPROACH | ACTIVITY/PRACTICALS |
|-----------|---|--|--|---|---------------------|
| SEPTEMBER | Ch 11 Dual Nature of Radiation and Matter CHAPTER-12 Atoms | Chapter- 11 Dual Nature of Radiation and Matter Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light. Experimental study of photoelectric effect Matter waves-wave nature of particles, de-Broglie relation | <p>Learners would be able to</p> <ul style="list-style-type: none"> • State de – broglie hypothesis • Deduce the wavelength of electron moving in a potential difference of 'V' volt • Conclude the observations of | <p>In 6th century BCE, Acharya Kanada proposed that all matter must consist of indivisible particles and called them "anu". 430 BCE¹¹ Democritus speculates about fundamental indivisible particles—calls them "atoms" . Atoms and Nuclei have a rich historical background . Considering the contributions of various scientists like Rutherford , Dalton , Bohr etc and anecdotes from their life , design a Comic Strip based on any topic of "Atoms and Nuclei "</p> | |

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| | <p>Chapter–13 NUCLEI</p> | <p>Chapter–12: Atoms Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum.</p> <p>Chapter–13: Nuclei Composition and size of nucleus Nuclear force Mass-energy relation, mass defect, nuclear fission, nuclear fusion.</p> | <p>Frank and Hertz's experiment based on Photoelectric effect .</p> <ul style="list-style-type: none"> • Make use of particle nature nature of electron to explain the observations of Frank and Hertz experiment • Prove that the wave nature of electron is irrelevant in explaining the observations of Frank and Hertz experiment . • Postulates the observations of Rutherford's " Gold Foil Experiment • Compare different Atomic Models – Plum Pudding , Rutherford and Bohr Atomic • Identify the drawbacks of each Atomic Model studied . • Deduce the radius , velocity , Kinetic Energy , Potential Energy and Total Energy of a revolving electron based on Bohr's Atomic Model . | | |
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| | <p>Chapter -13 Nuclei</p> <p>Chapter - 14 Electronic Devices</p> | <p>Chapter–13: Nuclei Composition and size of nucleus Nuclear force Mass-energy relation, mass defect, nuclear fission, nuclear fusion.</p> <p>Electronics: Materials, Devices and Simple Circuits Energy bands in conductors, semiconductors and insulators (qualitative ideas only) Semiconductor diode - I-V characteristics in forward and reverse bias, diode as a rectifier; Special purpose p-n junction diodes: LED, photodiode, solar cell.</p> | <p>Learners would be able to</p> <ul style="list-style-type: none"> • describe the properties of Nuclei. • describe the principle , construction and working of devices like Rectifiers etc • differentiate between forward and reverse biasing . • explain the formation of PN junction . | | |
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| <p>OCTOBER</p> | <p>Chapter – 8 :Electromagnetic Waves</p> <p>Electromagnetic waves, their characteristics, their Transverse nature (qualitative ideas only). Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.</p> <p>CHAPTER -9</p> <p>Ray Optics</p> <p>CHAPTER -10</p> <p>Wave Optics</p> <p>Chapter–9: Ray Optics and Optical Instruments Ray Optics: Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lensmaker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism. Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers. Chapter–10: Wave Optics Wave optics: Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light,</p> | <p>Chapter – 8 : Electromagnetic Waves</p> <ul style="list-style-type: none"> Learners would be able to: Characterize the electromagnetic waves based on their wavelength and frequency Describe the different uses of em waves . <p>Chapter – 9 : Ray Optics CH-10 Wave Optics</p> <p>Learners would be able to:</p> <ul style="list-style-type: none"> Write all the formulae related to Reflection of light through mirrors refraction of light through lenses , lensmaker's formula etc . Explore the phenomenon of refraction of white light through Prism . | <p>Shadow play, also known as shadow puppetry, is an ancient form of storytelling and entertainment .It uses the concept of light .</p> <p>Hence Students will explore Shadow formation and using Shadow puppets , create a story telling session in groups . They can involve their family members also .</p> | <p>Experiment – 7 : To determine refractive index of a glass slab using a travelling microscope.</p> <p>Experiment -8: To find refractive index of a liquid by using convex lens and plane mirror.</p> <p>Activity -6: To study the nature and size of the image formed by a (i) convex lens, (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).</p> |
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| | <p>diffraction Due to a single slit and central maxima .</p> | <ul style="list-style-type: none"> • Construct telescope using convex mirror of different focal length and aperture . • Interpret the significance of various optics phenomenon like reflection , refraction , interference etc to explain the real life phenomenon . • Compare and contrast Interference and Diffraction . | | |
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Books :

1. NCERT part 1 and 2
2. Simplified Physics - S.L. Arora (Dhanpat Rai Publication)
3. APC Physics lab Manual by R.S. Mittal (Arya Publications)

SUBJECT : CHEMISTRY

| UNIT NO. | TITLE | NO. OF PERIODS | MARKS |
|-----------|---|----------------|-----------|
| Unit-I | Solid State | 10 | 23 |
| Unit II | Solutions | 10 | |
| Unit III | Electrochemistry | 12 | |
| Unit IV | Chemical Kinetics | 10 | |
| Unit V | Surface Chemistry | 08 | |
| Unit VI | General Principles and Processes of Isolation of Elements | 08 | 19 |
| Unit VII | p -Block Elements | 14 | |
| Unit VIII | d -and f -Block Elements | 12 | |
| Unit IX | Coordination Compounds | 12 | |
| Unit X | Haloalkanes and Haloarenes | 12 | |
| Unit XI | Alcohols, Phenols and Ethers | 12 | 28 |
| Unit XII | Aldehydes, Ketones and Carboxylic Acids | 14 | |
| Unit XIII | Organic Compounds containing Nitrogen | 12 | |
| Unit XIV | Biomolecules | 12 | |
| Unit XV | Polymers | 06 | |
| Unit XVI | Chemistry in Everyday Life | 06 | |
| | Total | 160 | 70 |

| MONTH | UNIT/ TOPIC | SUB TOPICS | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY/INTER DISCIPLINARY APPROACH | PRACTICALS / ACTIVITIES |
|--|---|---|--|---|--|
| MARCH APRIL MAY | UNIT-10 HALOALKANES AND HALOARENES | <ul style="list-style-type: none"> Haloalkanes - Nomenclature, nature of C - X bond, physical and chemical properties, mechanism of substitution reactions, optical rotation. Haloarenes -Nature of C - X bond substitution reactions. (Directive influence of halogen in-monosubstituted compounds only) Uses and environmental effects of dichloromethane, trichloromethane, tetra chloromethane, iodoform, freons & DDT | <ul style="list-style-type: none"> Halo alkanes - Nomenclature, physical and chemical properties, mechanism of substitution reactions optical rotation. Haloarenes -Nature of C - X bond, substitution reactions. Uses and environmental effects of Polyhalogen compounds | Pedagogy-Learning by doing Nomenclature, conversion, Name reaction | Identification of functional group in given organic compounds |
| | UNIT-11 ALCOHOLS AND PHENOLS | <ul style="list-style-type: none"> Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols; mechanism of dehydration, uses of methanol and ethanol Phenols : Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitutions reactions, uses of phenols. Ethers : Nomenclature, methods of preparation, physical and chemical Aproperties, uses. | <ul style="list-style-type: none"> Preparation and properties of alcohols mechanism of dehydration uses of methanol and ethanol Phenols : Nomenclature, methods of preparation, properties, acidic nature of phenol, electrophilic substitutions reactions, uses of phenols. Ethers: Nomenclature, preparation, properties& uses. | Pedagogy-Learning by doing Nomenclature ,conversion, Name reaction | Identification of functional group in given organic compounds. |
| JUNE JULY | UNIT-1 SOLID STATE | <ul style="list-style-type: none"> Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea). Unit cell in two dimensional and three-dimensional lattices, calculation of density of unit cell, packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties. Band theory of metals, conductors, semiconductors and insulators and n and p type semiconductors. | <ul style="list-style-type: none"> Classification of solids Types of Unit Cells Calculation of density of unit cells Defects in solids Electrical and magnetic properties | Pedagogy-Computational Learning ,Numerical, To collect gem stones from surrounding and to identify their colour and the presence of which transition element in that. These chemicals are the constituents of oil colours also. | |
| | UNIT--2 SOLUTION | <ul style="list-style-type: none"> TTypes of solutions, expression of conCcentration of solution, solubilityH of solids in liquids, solubility of gases in liquids, solid solutions, | <ul style="list-style-type: none"> Terms to express the concentration of solution solubility of gases in liquids, | Pedagogy-Learning by doing and computational learning | Volumetric Analysis |

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| | | <ul style="list-style-type: none"> Colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass van't Hoff factor. | <ul style="list-style-type: none"> colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure determination of molecular abnormal molecular mass & van't Hoff factor. | | Numerical based on colligative property |
| UNIT-3 ELECTRO CHEMISTRY | <ul style="list-style-type: none"> To understand Redox reactions, conductance in electrolytic solutions, specific and molar conductivity variations of conductivity with concentration, Kohlrausch's Law, electrolysis and laws of electrolysis (elementary idea), dry cell - electrolytic cell and Galvanic cells; lead accumulator, EMF of a cell, standard electrode potential Nernst equations and its application to chemical cells, fuel cells, corrosion | <ul style="list-style-type: none"> conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis and laws of electrolysis dry cell - electrolytic cell and Galvanic cells; lead accumulator EMF of a cell, Nernst equations and its application to chemical cells, fuel cells, corrosion. | Pedagogy- Computational Thinking, Critical thinking, Learning by doing | Numericals based on chapter Setting up of an electrochemical cell | |
| UNIT-4 CHEMICAL KINETICS | <ul style="list-style-type: none"> The Rate of a reaction (average and instantaneous), factors affecting rate of reaction, concentration, temperature, catalyst, order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half life (only for zero and first order reactions), concept of collision theory (elementary idea, no mathematical treatment). Activation energy and Arrhenius equation. | <ul style="list-style-type: none"> rate of a reaction (average and instantaneous), factors affecting rate of reaction, concentration, temperature, catalyst, order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions), Concept of collision Theory ,Activation energy and Arrhenius equation. | Pedagogy-Learning by doing and computational learning by understanding the concept. | Effect of concentration on the rate of reaction Numericals based on chapter | |

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| AUGUST | UNIT-12 ALDEHYDES, KETONES AND CARBOXYLIC ACIDS | <ul style="list-style-type: none"> Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses. Carboxylic acids – Nomenclature, acidic nature, methods of preparation, physical and chemical properties, uses. | <ul style="list-style-type: none"> Preparation, properties and uses of Aldehydes, Ketones and Carboxylic acids. Factors affecting the rate of reaction Electrophilic substitution reaction in benzoic acid | Pedagogy-Learning by doing | Identification of functional group in given organic compounds. |
| | UNIT-13 AMINES | <ul style="list-style-type: none"> Amines - Nomenclature, classification, structure, methods of preparation, physical and chemical properties, identification of primary, secondary and tertiary amines, uses. Cyanides and Isocyanides-will be mentioned at relevant places in context. Diazonium salts | <ul style="list-style-type: none"> Preparation properties and comparison of basicity of amines Preparation and properties of Benzene Diazonium salts Coupling Reactions | | |
| SEPTEMBER | CH-5 SURFACE CHEMISTRY | <ul style="list-style-type: none"> To understand Adsorption - physisorption and chemisorption, Factors affecting adsorption of gases on solids, catalysis, homogenous and heterogeneous, activity and selectivity, enzyme catalysis, colloidal state, distinction between true solutions, colloids and suspensions, lyophilic, lyophobic, multimolecular and macromolecular colloids, properties of colloids, Tyndall effect, Brownian movement, electrophoresis, coagulation; emulsion-types of emulsions. | <ul style="list-style-type: none"> Adsorption - physisorption and chemisorption, factors affecting adsorption of gases on solids, catalysis, homogenous and heterogeneous, activity and selectivity, enzyme catalysis, colloidal state-preparation, properties and uses | Pedagogy- Teaching in conversational mode rather than in the modes of authoritarian manner. Learning by doing | Preparation of lyophilic and lyophobic colloids |
| | CH-6 GENERAL PRINCIPLES & | <ul style="list-style-type: none"> To understand the Principles and methods of extraction -concentration, oxidation, reduction | <ul style="list-style-type: none"> Principles and methods of extraction of aluminium, copper zinc and iron | Pedagogy- | |

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| | PROCESSES OF ISOLATION OF ELEMENTS | <ul style="list-style-type: none"> electrolytic method and refining; occurrence and principles of extraction of aluminium, copper zinc and iron. | <ul style="list-style-type: none"> Techniques used in Refining of metals Chromatography | Content attainment approach, Context based learning ,On line assessment and quizzes | |
| OCTOBER | CH-7 P-BLOCK ELEMENTS | <ul style="list-style-type: none"> Group -15 Elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; Nitrogen preparation properties and uses; compounds of Nitrogen: preparation and properties of Ammonia and Nitric Acid, Oxides of Nitrogen (Structure only) Phosphorus - allotropic forms, compounds of Phosphorus: Preparation and properties of Phosphine, Halides and Oxoacids (elementary idea only). Group 16 Elements - General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, dioxygen, preparation, properties and uses, simple oxides, Ozone, Sulphur - allotropic forms, compounds of sulphur, preparation, properties and uses of sulphur dioxide, sulphuric acid : industrial process of manufacture, properties and uses, oxoacids of sulphur. Group 17 elements - General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, compounds of halogens, preparation, properties and uses of chlorine and hydrochloric acid, inter halogen compounds, oxoacids of halogens. | <ul style="list-style-type: none"> Group 15 Elements - General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, dinitrogen, preparation, properties and important compounds Group 16 Elements - General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, dioxygen, preparation, properties and important compounds Group 17 elements - General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, compounds of halogens, preparation, properties and uses, Group 18 Elements - General introduction, electronic configuration, trends in physical and chemical properties, uses. | Pedagogy- Content attainment approach, Context based learning ,On line assessment and quizzes Structures of different oxoacids of phosphorous and sulphur using are and craft. The letters (P,O,H,S) can be drawn on papers and cut into different shapes. All the parts can be intermingled and students have to pick them to draw the shape of allotted structures. | Reasoning questions, structure of molecules and equation |

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| | | <ul style="list-style-type: none"> Group 18 Elements - General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses. | | | |
| | CH-8 d & f BLOCK ELEMENTS | <ul style="list-style-type: none"> To understand the General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals -metallic character ionization enthalpy,oxidation states, ionic radii, colour catalytic property, magnetic properties, interstitial compounds, alloy formation preparation of $K_2Cr_2O_7$ and $KMnO_4$ Lanthanoid- Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences. Actinoid - Electronic configuration, oxidation states and comparison with A UGUS Tlanthanoid. | <ul style="list-style-type: none"> General introduction, electronic configuration, occurrence and characteristics of transition metals, General trends in properties of the first row transition metals formation preparation of $K_2Cr_2O_7$ and $KMnO_4$ Lanthanoids & Actinoids | Pedgogy- Conceptual questions, worksheet based on reasoning questions | |
| OCTOBER & NOVEMBER | CH-9 COORDINATION COMPOUNDS | <ul style="list-style-type: none"> concept of Coordination compounds, Introduction, ligands, coordination number, colour,magnetic properties and shapes, IUPAC nomenclature of coordination compounds. Bonding, Werner's Theory, VBT, CFT, structure Importance of coordination compounds. | <ul style="list-style-type: none"> Type of ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature, Bonding, Werner's Theory, Valence bond theory Crystal Field Theory Importance of coordination compounds | Pedagogy- Context based learning | |
| | CH-14 BIOMOLECULES | <ul style="list-style-type: none"> Carbohydrates- Classification monosaccharide, oligosaccharides, polysaccharide, importance. Proteins - Elementary idea of amino acids, peptide bond, polypeptide, proteins, structure of proteins Primary, secondary, tertiary quaternary structures, denaturation of proteins, enzymes, hormones -Elementary idea excluding structure, Vitamins - Classification and functions Nucleic acids – DNA and RNA. | <ul style="list-style-type: none"> Classification of carbohydrates, Properties and structure Proteins, enzymes Hormones(basic idea) Vitamins, Nucleic acids – DNA and RNA. | Structure of proteins primary structure, secondary structure ,tertiary structure and quaternary structure using quilling arts. | |

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| | CH-15 POLYMERS | <ul style="list-style-type: none"> • Copolymerization, Some important polymers -natural and synthetic like polythene, nylon, polyesters, rubber, Bakelite's • Biodegradable and non biodegradable polymers | <ul style="list-style-type: none"> • Copolymerization-natural and synthetic like polythene, nylon polyesters, rubber, bakelites • Biodegradable and non biodegradable polymers, | | |
| | CH-16 CHEMISTRY IN EVERYDAY LIFE | <ul style="list-style-type: none"> • Chemicals in medicines-analgesics, tranquilizers, antiseptics, disinfectants, antimicrobial, antibiotics, antacids, antifertility drug, antihistamines • Chemicals in food - preservatives, artificial sweetening agents. • Elementary idea of oxidants & antioxidants • Cleansing agents - soaps and deter-gents, cleansing actions. Identification of Functional groups | <ul style="list-style-type: none"> • Chemicals in medicines - analgesics, tranquilizers, antiseptics, disinfectants, antimicrobial, antibiotics, antacids, antifertility drug, antihistamines, • Chemicals in food - preservatives, artificial sweetening agents, Cleansing agents - soaps and deter-gents, cleansing actions. | | |

SUBJECT : BIOLOGY

BIOLOGY

LEARNING OUTCOMES

- promote understanding of basic principles of Biology;
- encourage learning of emerging knowledge and its relevance;
- promote rational/scientific attitude towards issues related to population, environment and development;
- enhance awareness about environmental issues, problems and their appropriate solutions; create awareness among 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.

Weightage of Contents (Unit Wise):

| UNIT | TITLE | MARKS |
|------|------------------------------------|-------|
| VI | Reproduction | 14 |
| VIII | Genetics and Evolution | 18 |
| VIII | Biology and Human Welfare | 14 |
| IX | Biotechnology and its Applications | 10 |
| X | Ecology and Environment | 14 |

| Month | Unit/Chapter/Weightage | Sub topics | Learning Outcomes | Innovative Pedagogy/ Art Integration | Practicals |
|--------------|--|--|---|--|--|
| MARCH /APRIL | REPRODUCTION(14 Marks) Chapter 1- Reproduction in Organisms | <ul style="list-style-type: none"> • Reproduction, a characteristic feature of all organisms for continuation of species; • modes of reproduction - asexual and sexual reproduction; • asexual reproduction - binary fission, sporulation, budding, gemmule formation, fragmentation; vegetative propagation in plants; • events in sexual reproduction. | <p>Students would be able to-</p> <ul style="list-style-type: none"> • Comprehend the new terms and concepts. • Compare the process of Micro and Megasporogenesis • Assimilate the facts and use new vocabulary | To explain micro and megasporogenesis through art/diagram | <p>1.To study pollen germination on a slide.</p> <p>2.To study the adaptations in flowers for pollination by wind and insects.</p> |
| | Chapter 2: Sexual Reproduction in Flowering Plants | <ul style="list-style-type: none"> • Flower, Pre-Fertilisation: Structure and Events, Double Fertilisation, Post-Fertilisation : Structure and Events, Apomixis and Polyembryony. | | | |
| MAY | Chapter 3: Human Reproduction | <ul style="list-style-type: none"> • Male and Female Reproductive Systems, Gametogenesis, Menstrual Cycle, Fertilisation and Implantation, Pregnancy and Embryo Development, Parturition and Lactation. | <ul style="list-style-type: none"> • Understand the need on ban on amniocentesis. | | <p>3. To study and identify the stages of gamete development</p> |

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| <p>JULY</p> | <p>Chapter 4: Reproductive Health</p> <p><u>GENETICS & EVOLUTION</u> (18 Marks)</p> <p>Chapter 5: Principles of Inheritance and Variation</p> | <ul style="list-style-type: none"> • Problems and Strategies, population Explosion and Birth Control, MTP, STDs, Infertility. • Mendel's laws of Inheritance, Chromosomal theory of Inheritance, Linkage and Recombination, Sex Determination, Mutation, Pedigree Analysis, Mendelian disorders, Chromosomal disorders. | <ul style="list-style-type: none"> • Comprehend new terms pertaining to genetics. • Analyse the problems based on laws of inheritance. • Apply gained knowledge in daily life. • Infer the experiments by Griffith, Hershey & Chase and Messelson & Stahl. • Assimilate the facts and analyse the steps in DNA fingerprinting. | <p>GROUP DISCUSSION ON MTP</p> <p>To visually experience sex determination</p> <p>Genes and sport: Are your parents responsible for your wins & losses?</p> <p>To explain replication using art as a tool</p> | <p>through permanent slides.</p> <p>4.To study the T.S. of Blastula.</p> |
| | <p>AUGUST</p> | <p>Chapter 6 : Molecular basis of Inheritance</p> <p>Chapter-7: Evolution</p> | <ul style="list-style-type: none"> • DNA, Search for genetic material, RNA world, Replication, Transcription, Genetic Code, Translation, Regulation of Gene expression, Human Genome Project, DNA Fingerprinting • Origin of life; biological evolution and evidences for biological evolution (palaeontology, comparative anatomy, embryology and molecular evidences); adaptive radiation; Biological evolution: Lamarck's theory of use and disuse of organs, Darwin's theory of | <ul style="list-style-type: none"> • Differentiate between theories of Evolution • Understand the Origin of Life on earth • Analyse the importance of Natural Selection • Recall the account of common diseases. | |

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| <p>SEPTEMBER</p> | <p>BIOLOGY IN HUMAN WELFARE(14 Marks) Chapter 8 : Human Health and Disease</p> <p>Chapter-9: Strategies for Enhancement in Food Production</p> <p>Chapter 10: Microbes in Human Welfare</p> | <p>evolution; mechanism of evolution - variation (mutation and recombination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy - Weinberg's principle; brief account of evolution; human evolution</p> <ul style="list-style-type: none"> • Common Human Diseases, Immunity, AIDS, Cancer, Drugs and Alcohol Abuse • Animal husbandry, Plant breeding, tissue culture, single cell protein. • Microbes in Household Products, Industrial Products, Sewage treatment, Production of Biogas, Microbes as Biocontrol agents and Biofertilizers. • Recombinant DNA Technology, Tools and Processes • Biotechnological applications in Agriculture, Medicine, Transgenic animals, Ethical Issues • Organism and its Environment, major Abiotic Factors, Response to Abiotic factors, Populations, | <ul style="list-style-type: none"> • Assimilate the facts and new vocabulary of pathogens. • Distinguish between types of tumours. • Understand the techniques to enhance food production. • Assess the importance of microbes in life. • Comprehend the terms used in Biotechnology. • Comprehend various applications of biotechnology in Agriculture, Medicine etc. • Analyse the importance of dependence of organisms on each other • Understand the role and functions of Ecosystems • Distinguish between types of conservation of biodiversity. • Present their ideas and knowledge effectively. | <p>Poster making activity on drug and alcohol abuse</p> <p>Interactive quiz on covid vaccine</p> <p>Virtual field trip to iari, pusa road</p> <p>Debate on gm crops</p> | <p>6.To identify common pathogens through permanent slides.</p> |
| <p>OCTOBER</p> | | | | | |

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| <p>NOV.</p> | <p><u>BIOTECHNOLOGY(10Marks)</u></p> <p>Chapter 11 : Biotechnology: Principles and Processes</p> <p>Chapter 12 : Biotechnology and its Applications</p> <p><u>ECOLOGY(14Marks)</u></p> <p>Chapter 13 : Organisms and Populations</p> <p>Chapter-14: Ecosystem</p> <p>Chapter 15 : Biodiversity and Conservation</p> <p>Chapter-16: Environmental Issues</p> <p>Annual Exam Pre- Board I Pre-Board II</p> | <p>Adaptations, population Interactions.</p> <ul style="list-style-type: none"> • Ecosystem: structure and function; productivity and decomposition; energy flow; pyramids of number, biomass, energy; nutrient cycles (carbon and phosphorous); ecological succession; ecological services - carbon fixation, pollination, seed dispersal, oxygen release (in brief). • Genetic, Species and Ecological Biodiversity, Patterns of Biodiversity, Loss of Biodiversity, Biodiversity Conservation • Air pollution and its control; water pollution and its control; agrochemicals and their effects; solid waste management; radioactive waste management; greenhouse effect and climate change impact and mitigation; ozone layer depletion; deforestation; case study exemplifying success story addressing environmental issues | <ul style="list-style-type: none"> • Improve communication skills. • Gain confidence. | <p>Seminar on Ecology</p> | <p>7.To isolate DNA from given samples.</p> <p>8.To study the effect of temperature and pH on activity of salivary amylase.</p> <p>9.To study soil samples for texture and moisture content.</p> <p>10.To study pH and water holding capacity of soil samples.</p> <p>11. To study the Population Density and Frequency</p> |
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Text Book: BIOLOGY (TEXTBOOK FOR CLASS XII)- NCERT

SUBJECT : ACCOUNTS

| UNITS | | PERIODS | MARKS |
|---------------|---|------------|-----------|
| Part A | Accounting for Not-for-Profit Organizations, Partnership Firms and Companies | | |
| | Unit 1. Financial Statements of Not-for-Profit Organizations | 25 | 10 |
| | Unit 2. Accounting for Partnership Firms | 65 | 30 |
| | Unit 3. Accounting for Companies | 25 | 20 |
| | | 115 | 60 |
| Part B | Financial Statement Analysis | | |
| | Unit 4. Analysis of Financial Statements | 30 | 12 |
| | Unit 5. Cash Flow Statement | 20 | 8 |
| | | 50 | 20 |
| Part C | Project Work | 10 | 20 |
| | Project work will include: | | |
| | Project File 4 Marks | | |
| | Written Test 12 Marks (One Hour) | | |
| | Viva Voce 4 Marks | | |
| Or | | | |
| Part B | Computerized Accounting | | |
| | Unit 4. Computerized Accounting | 50 | 20 |
| Part C | Practical Work | 20 | 20 |
| | Practical work will include: | | |
| | Practical File 4 Marks | | |
| | Practical Examination 12 Marks (One Hour) | | |
| | Viva Voce 4 Marks | | |

| MONTH | UNIT/ TOPIC | SUB TOPICS | LEARNING OUTCOMES | PRACTICALS/ ACTIVITIES/INNOVATIVE PEDAGOGY | PROJECT/ PRACTICAL |
|-------|--|---|--|---|---|
| APRIL | Financial Statements of Not-for-Profit Organizations | <ul style="list-style-type: none"> Preparation of Receipts and Payments A/c Preparation of Income and Expenditure Ac/ Preparation of Opening and Closing Balance Sheets. Adjustments. | <p>Students would be able to</p> <ul style="list-style-type: none"> explain features of not-for-profit organisations Prepare fund based accounts. | <ul style="list-style-type: none"> Practice Assignment- Fund based Accounting, Receipt & Payment A/C Textual illustration- Receipt & Payment A/c, Fund based Accounting Quiz : Receipt & Payment A/c and Income & Expenditure Account | To prepare the Receipts and Payment for the Annual Sports day. |
| MAY | Accounting for Partnership Firm | <ul style="list-style-type: none"> Partnership : features, Partnership Deed. Provisions of Indian Partnership Act 1932 in the absence of partnership deed. Fixed vs Fluctuating capital accounts. Preparation of P&L appropriation account, division of profits among the partners, guarantee of profits. Past Adjustment (relating to interest on capital, interest on drawings, salary and profit sharing ratio | <p>Students would be able to</p> <ul style="list-style-type: none"> Explain the meaning and features of partnership. Distribute the profits among partners as per partnership deed. | <ul style="list-style-type: none"> Practice Assignment: Past Adjustments Textual illustration: Guarantee of Profits, Preparation of Profit and Loss Appropriation Account Class test: Guarantee of Profits | <p>Project based on segment reporting</p> <p>Features of partnership form of business to be explained through a skit.</p> |
| JULY | Goodwill: Nature and Valuation Change in the Profit Sharing Ratio Among Existing Partners Admission of a partner | <ul style="list-style-type: none"> Goodwill: nature, factors affecting and methods of valuation-average profit, super profit and capitalization. Change in Profit Sharing ratio among the existing partners-sacrificing ratio, gaining ratio Accounting for revaluation of assets and reassessment | <p>Students would be able to</p> <ul style="list-style-type: none"> Evaluate goodwill. Prepare the accounts after the admission of a partner Prepare accounts on change in profit sharing ratio | <ul style="list-style-type: none"> Textual illustration: Valuation of Goodwill, Journal Entries for Change in Profit Sharing Ratio, Accounting on Admission of a partner Class test: Valuation of Goodwill | ----- |

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| | | <p>of liabilities and distribution of reserves and accumulated profits.</p> <ul style="list-style-type: none"> Admission of a partner: effect of admission of a partner on change in the profit sharing ratio, treatment of goodwill (as per AS26) , treatment of revaluation of assets and reassessment of liabilities, adjustment of accumulated profits and reserves | | | |
| AUGUST AND SEPTEMBER | Retirement and Death of a Partner Dissolution of Partnership Firms | <ul style="list-style-type: none"> Retirement and death of a partner: effect of retirement / death of a partner on change in profit sharing ratio, treatment of goodwill (as per AS26) Treatment of revaluation of assets and reassessment of liabilities, adjustment of accumulated profits and reserves, and preparation of balance sheet. Calculation of deceased partner's share of profit till the date of death. Dissolution of Partnership firms: settlement of accounts-preparation of realisation account and other related accounts. NOTE : (i) if the value of asset is not given, its realised value should be taken as nil. (ii) In case, the realisation expenses are borne by a partner, clear indication should be given regarding the payment thereof | <p>Students would be able to</p> <ul style="list-style-type: none"> prepare of accounts on retirement of a partner settle books of accounts after dissolution | <ul style="list-style-type: none"> Textual illustrations: Death of a partner, Dissolution of partnership firms Class test: Dissolution of partnership firms | <p>Concept of gaining and sacrificing ratio to be explained through role play</p> |
| OCTOBER | Accounting for Share Capital | <ul style="list-style-type: none"> Issue and allotment of Equity shares, private | <p>Students would be able to</p> | <ul style="list-style-type: none"> Textual illustrations: Accounting for over | <p>To compare the share price of five selected companies over a</p> |

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| | | <p>placement of shares, public subscription of shares — over subscription and under subscription of shares; Issue of shares at par, at premium and at a discount, calls in arrears and advance (excluding interest), issue of shares for consideration other than cash</p> <p>Accounting treatment for forfeiture and reissue of shares Disclosure of share capital in Company's Balance Sheet</p> <ul style="list-style-type: none"> • Concept of Private Placement and ESOP. | <ul style="list-style-type: none"> • pass Journal entries for issue of shares at par and premium • pass Journal entries for forfeiture and reissue of shares • disclose share capital in company's Balance Sheet • pass journal entries for issue of debentures | <p>subscription and under subscription of shares.</p> <ul style="list-style-type: none"> • Class test: Issue of Shares • Quiz: Issue of shares for Consideration other than cash | <p>period of three weeks and draw graphs depicting the highest price , lowest price and absolute profit on each of these 15 days</p> |
| NOVEMBER | <p>Issue of Debentures</p> <p>Financial Statements of A Company</p> <p>Tools for Financial Statement Analysis</p> | <ul style="list-style-type: none"> • Debentures: Issue of debentures at par, at premium and at a discount. Issue of debentures for consideration other than cash • Financial Statements of a company : • Statement of profit and loss and Balance Sheet in the prescribed form with major headings and sub headings(as per Schedule VI to the Companies Act 1956) • Tools of financial statement analysis: Comparative statements and Common size statement | <p>Students would be able to</p> <ul style="list-style-type: none"> • prepare statement of profit and loss and balance sheet of a company | <ul style="list-style-type: none"> • Textual illustrations: Issue of debentures for consideration other than cash • Class test: Redemption of Debentures- Lump sum | <p>Analyse the financial statements of a sole proprietorship firm and comment upon its profitability</p> |
| DECEMBER | <p>Cash Flow Statement Tools for Financial Statement Analysis</p> <p>Accounting Ratios</p> | <p>Accounting ratios:</p> <ul style="list-style-type: none"> • Liquidity ratios: current ratio and quick ratio. • Solvency ratios: debt equity ratio, total assets to debt ratio, proprietary ratio and interest coverage ratio. | <p>Students would be able to</p> <ul style="list-style-type: none"> • Prepare Cash Flow Statement as per AS 3(Revised) • Analyze financial statements of a company | <ul style="list-style-type: none"> • practice Assignment- Cash Flow Statement • Textual illustrations: Cash Flow Statement • Class test: Cash Flow Statement | |

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| | | <ul style="list-style-type: none"> • Activity ratios: stock turnover ratio, debtors turnover ratio, creditors turnover ratio and working capital turnover ratio. • Profitability ratios: gross profit ratio, operating ratio, operating profit ratio, net profit ratio and return on investment. <p>Cash Flow Statement-meaning , objectives and preparation Note: bank overdraft and cash credit to be taken as short term borrowing</p> | <ul style="list-style-type: none"> • Compute ratios. | | |
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TEXT BOOK:

1. ACCOUNTANCY FOR CLASS XII NCERT

REFERENCE BOOKS:

1. DOUBLE ENTRY BOOK KEEPING BY T S GREWAL
2. ACCOUNTANCY FOR CLASS XII BY D K GOEL

SUBJECT : BUSINESS STUDIES

One Paper

3 Hours

100 Marks

| Units | | Marks |
|---------------|---|-------|
| Part A | Principles and Functions of Management | |
| 1 | Nature and Significance of Management | 16 |
| 2 | Principles of Management | |
| 3 | Business Environment | |
| 4 | Planning | 14 |
| 5 | Organising | |
| 6 | Staffing | 20 |
| 7 | Directing | |
| 8 | Controlling | |
| | | 50 |
| Part B | Business Finance and Marketing | |
| 9 | Financial Management | 15 |
| 10 | Financial Markets | |
| 11 | Marketing Management | 15 |
| 12 | Consumer Protection | |
| Part C | Project Work(one only) | 20 |
| | | 50 |

| MONTH | TOPIC | SUB-TOPIC | INNOVATIVE PEDAGOGIES/ACTIVITY | LEARNING OUTCOMES | PRACTICAL/PROJECT |
|-------|---|---|---|---|--|
| MARCH | Unit-1 Nature and Significance of Management | Management - concept, objectives and importance. Management as Science, Art and Profession. Levels of management. Management functions - planning, organising, staffing, directing and controlling. Coordination - concept, characteristics and importance. | <p>a) Role play Task - to organize an outstation trip (to understand the concept of functions of management)</p> <p>b) Quiz on companies and their CEOs to understand management qualities reflected through the performance of company</p> <p>c) Organisational Structure of CES and Bal Bharati Public school to understand levels of management</p> | After going through this Unit, the students will be able to: understand the meaning, objectives and importance of management. Develop the knowledge of essential features of science, art and profession and on the basis of knowledge so acquired to be able to conclude. whether management is an art, a science or a profession. Explain the different levels of management and the functions performed by managers at these levels. Describe that managers at all levels perform the function of planning, organising, staffing, directing and controlling however the scope & importance of these functions differ from level to level. Discuss the need, characteristics and importance of coordination. Develop an understanding that coordination is the essence of management. | Preparing list of companies in and around Noida to conduct online survey. Functions of management mother dairy as case study |
| | Unit-2 Principles of Management | Principles of Management - concept, nature and significance. Fayol's principles of management. Taylor's Scientific Management - principles and techniques. | <p>Practical demonstration of work study technique of F.W. Taylor through paper bag making process.</p> <p>Play Script writing on principles of management</p> <p>Comic strip making on any one of the principles to give visual representation.</p> | After going through this Unit, the students will be able to: recognise the meaning, nature and significance of principles of management. Fayol's general principles of management develop an understanding of the principles of management as developed by Henny Fayol and appreciate the fact that these principles are general in nature and are universally applicable in all types of management activities. Taylor's | Virtual visit to manufacturing units Special focus on Mother Dairy case study |

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| | | | | scientific management principles and techniques. State the meaning of scientific management. Understand its principles and techniques. | |
| APRIL | Unit -3 Business Environment | Business Environment - concept and importance. Dimensions of Business Environment - Economic, Social, Technological, Political and Legal. Impact of Government policy changes on business with special reference to liberalization, privatisation and globalization in India Demonetizations – concept and features | Power Point Presentation capturing various real life situation on slides to discuss various dimensions of Business environment followed by related worksheets. Special focused was on Covid pandemic Video on demonetization | After going through this Unit, the students will be able to: Describe the meaning of business environment & its importance. Discuss different types of business environment. They will be able to discuss the impact of LPG on business. Students will be able to define term demonetization. | Reading digital copy of Business Today Magazine and Economics Time Newspaper for a week and putting the news clippings under various dimensions of business environment using paint tool/ppt |
| MAY | Unit -4 Planning | Planning Concept, importance and limitations. Planning process. Single use and standing plans. Objective Strategy, Policy, Procedure, Method, Rule, Budget and Programme | Develop a plan in health care sector using demographic information and analysis for vaccination | After going through this Unit, the students will be able to: Explain the meaning of planning as a function of management. Develop an understanding about the features, importance and limitation of planning. Planning process. Identify the steps of planning process. Students will be able to explain and distinguish between different types of plans | PPT on process of plan Sample of health care sector plan |
| JYLY | Unit-5 Organising | Concept and importance. Organising Process. Structure of organisation - functional and divisional. Delegation: concept, elements and importance. Decentralisation: concept and importance. | Organisational structure of CES to discuss various steps in organising process and discussion on social media platforms such as face book WhatsApp and Insta as informal organizational setup tools | After going through this Unit, the students will be able to: Define the concept of Organising, state features, need and importance of organizing. Organizing Process- Understand the steps in the organising process. Structure of organisation - Describe meaning of organisational structures. Appreciate that informal organisation cannot be | Case study to be developed to understand organizational structures Ref <u>Mother Dairy</u> |

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| | | | | eliminated and management has to make its effective use. Functional and Divisional- Classify different types of organisational structures, their merits and demerits appreciate the suitability of different forms of organization structures. Delegation: concept, elements and importance. Understand the meaning and need for delegation and decentralization, be aware of the elements of delegation, i.e. authority, responsibility and accountability. and appreciate the distinction between delegation and decentralisation. | |
| JULY | Unit-6 Staffing | Concept and importance of staffing. Staffing as a part of Human Resource Management. Staffing process: Recruitment - sources; Selection - process. Training and Development- Concept and importance. Methods of training- on the job and off the job- Induction training, vestibule training, apprenticeship training and internship training induction training. | Example of staffing process and training procedures followed in school PPT on process of staffing | After going through this Unit, the students will be able to: Develop the understanding of the concept and importance of staffing as a management function. Appreciate that staffing is a part of human resource management. Examine the process of staffing and become aware of recruitment and selection process. Develop understanding of meaning and benefits of training and development and know different methods of training. | Preparation starts for project file making |
| AUGUST | Unit- 7 Directing | Concept and importance. Elements of Directing: - Supervision - concept; - Motivation - Concept, Maslow's hierarchy of needs; Financial and non-financial incentives.; - Leadership - concept, styles - authoritative, democratic and laissez faire.; - Communication - concept, formal and informal communication; barriers to | Encouraging Robinson Crusoe book reading to understand Maslow's need hierarchy theory followed by screening of movie with same title. PPT on the process of communication with case study | After going through this Unit, the students will be able to: State the meaning and importance of directing as a function of management. Become aware of the elements of directing viz. supervision, motivation, leadership and communication. Understand the meaning of supervision, meaning of motivation, Maslow's theory of need hierarchy and types of incentives. Describe the concept and styles of leadership. | Preparation continues |

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| | | effective communication, how to overcome the barriers | | Understand the concept of communication Understand the elements of the communication process. Discuss the concept of formal and informal communication. Discuss the various barriers to effective communication. Suggest measures to overcome barriers to communication. | |
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Text Book : NCERT Business Studies Class 12 Part 1 and 2

SUBJECT : ENTREPRENEURSHIP

| UNITS | MARKS | PROJECT MARKS | TOTAL MARKS |
|----------------------------------|--------------|----------------------|--------------------|
| 1. Entrepreneurial Opportunities | 30 | 30 | 100 Marks |
| 2. Entrepreneurial Planning | | | |
| 3. Enterprise Marketing | 20 | | |
| 4. Enterprise Growth Strategies | | | |
| 5. Business Arithmetic | 20 | | |
| 6. Resource Mobilization | | | |

| MONTH | UNIT/ TOPIC | SUB TOPICS | LEARNING OUTCOMES | PRACTICALS/ ACTIVITIES/INNOVATIVE PEDAGOGY | PROJECT |
|------------|--|--|---|--|---|
| APRIL | Unit- 1 Entrepreneurial Opportunities | <ul style="list-style-type: none"> • Sensing Entrepreneurial Opportunities • Environment Scanning • Problem Identification • Spotting Trends • Creativity and innovation • Selecting the Right Opportunity | <p>After going through this unit, the student/ learner would be able to:</p> <ul style="list-style-type: none"> • Understand the concept and elements of business opportunity • Give the meaning of environment scanning • To understand the need to see the environment • Enlist the various forces affecting the business environment • Understand the different fields of ideas • Understand the process of transformation of ideas into opportunities • Explain the meaning of trend spotting • Differentiate the process of creativity and innovation | <ul style="list-style-type: none"> • Learning through discussion • Class Assignment • Assignment Booklet | <p>MARKET SURVEY As given in the guidelines, one of the topics to be chosen and meticulously followed for a proper file presentation</p> |
| MAY & JULY | Unit-II Enterprise Planning | <ul style="list-style-type: none"> • Forms of Business Entities - Sole Proprietorship Joint Stock Company, etc. • Business Plan • Organizational Plan • Operational and Production Plan • Financial Plan • Marketing Plan • Human resource planning | <p>After going through this unit, the student/ learner would be able to:</p> <ul style="list-style-type: none"> • Understand the concept of entrepreneurial planning • Understand the forms of business enterprise • Distinguish among the various forms of Business enterprise • Explain the concept of a Business plan • Describe the various components of a Business plan | <p>BUSINESS PLAN As given in the guidelines in the text book one product or service to be chosen and accordingly business plan to be prepared</p> | <p>Preparing power point presentation on PESTEL model of a Restaurant, beauty Salon and a Fitness centre – Group Activity</p> <p>Draw out a financial plan for the Annual Sports meet</p> |

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| AUGUST | Unit-III Enterprise Marketing | <ul style="list-style-type: none"> • Goals of Business, Goal Setting, • SMART Goals • Formalities for starting a business • Formalities for starting a business • Promotion strategy | <p>After going through this unit, the student/ learner would be able to:</p> <ul style="list-style-type: none"> • Understand the goal setting and SMART goals • Explain the concepts of Product, Price, Place, and Promotion • Understand the concept of Branding, Packaging, and Labelling • Describe the various methods of pricing. • Explain the various channels of distribution • Understand the sales strategy • Enumerate the different tools of promotion • Understand the meaning and objectives of Advertising | <p>MARKET SURVEY As given in the guidelines, one of the topics to be chosen and meticulously followed for a proper files presentation</p> | <p>BUSINESS PLAN As given in the guidelines in the text book one product or service to be chosen and accordingly business plan to be prepared</p> <p>Designing a print advertisement for an innovative product keeping in mind the USP of the product.</p> |
| SEPTEMBER | Unit-IV Enterprise Growth Strategies | <ul style="list-style-type: none"> • Franchising • Merger and Acquisition <p>Moving Up the Value Chain and Value Addition</p> | <p>After going through this unit, the student/ learner would be able to:</p> <ul style="list-style-type: none"> • Understand the concept of growth & development of an enterprise • Explain the concept of franchise • Understand growth of a firm is possible through mergers and acquisitions • Explain the different types of mergers • State the meaning and types of acquisitions • Understand the reasons for mergers and acquisitions • Explain the concept of value addition • State the meaning of value chain • Discuss the Porters Model of Value Chain | <ul style="list-style-type: none"> • Learning through discussion • Class Assignment • Assignment Booklet | <p>Depicting the advantages of Franchising to the franchisor and the franchisee using Role Play Method</p> |

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| OCTOBER | Unit-V Business Arithmetic | <ul style="list-style-type: none"> • Unit of Sale, Unit Cost, Unit Price for multiple products or services • Break Even Analysis for multiple products or service • Computation of working capital • Inventory control and EOQ <ul style="list-style-type: none"> • Return on Investment (ROI) and Return on Equity (ROE) | <p>After going through this unit, the student/ learner would be able to:</p> <ul style="list-style-type: none"> • Understand the concept of Unit Cost • Understand the concept of unit price • Calculate Break-even point for Multiple products • Understand the meaning of inventory control • Understand the meaning of Economic Order Quantity • Enumerate the meaning of cash flow projection • Explain the concept of working capital • Calculate Return on Investment • Explain the concept of Return on Equity | <ul style="list-style-type: none"> • Learning through discussion • Class Assignment • Assignment Booklet | |
| NOVEMBER | Unit-VI Resource Mobilization Revision | <ul style="list-style-type: none"> • Angel investor • Venture Capital funds | <p>After going through this unit, the student/ learner would be able to:</p> <ul style="list-style-type: none"> • Understand the need for finance in the Business • Understand the various sources of funds required for a firm • Understand the methods of raising finance in the primary market | <ul style="list-style-type: none"> • Learning through discussion • Class Assignment • Assignment Booklet | ----- |

TEXT BOOK:

1. ENTREPRENEURSHIP FOR CLASS XII BY CBSE

REFERENCE BOOKS:

1. ENTREPRENEURSHIP FOR CLASS XII BY FULL MARKS

SUBJECT : HISTORY

| UNITS | PERIODS | MARKS |
|---|------------|------------|
| Themes in Indian History Part-I (Units 1 – 4) | 55 | 25 |
| Unit 1 The Story of the First Cities: Harappan Archaeology | 13 | |
| Unit 2: Political and Economic History: How Inscriptions tell a story | 14 | |
| Unit 3: Social Histories: using the Mahabharata | 14 | |
| Unit 4: A History of Buddhism: Sanchi Stupa | 14 | |
| Themes in Indian History Part-II (Units 5 – 9) | 65 | 25 |
| Unit 5: Medieval Society through Travellers' Accounts deleted | 13 | |
| Unit 6: Religious Histories: The Bhakti-Sufi Tradition | 13 | |
| Unit7: New Architecture: Hampi | 13 | |
| Unit 8: Agrarian Relations: The Ain-i-Akbari deleted | 13 | |
| Unit 9: The Mughal Court: Reconstructing Histories through Chronicles | 13 | 25 |
| Themes in Indian History Part-III (Units 10 – 15) | 80 | |
| Unit 10: Colonialism and Rural Society: Evidence from Official Reports | 13 | |
| Unit 11: Representations of 1857 | 13 | |
| Unit 12: Colonialism and Indian Towns: Town Plans and Municipal Reports deleted | 13 | |
| Unit 13: Mahatma Gandhi through Contemporary Eyes | 13 | |
| Unit 14: Partition through Oral Sources deleted | 14 | |
| Unit 15: The Making of the Constitution | 14 | |
| Map Work | 10 | 05 |
| Total | 210 | 80 |
| Project work (Internal Assessment) | 10 | 20 |
| Total | 220 | 100 |

| MONTH | UNIT/ CHAPTER | SUB TOPIC | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY/ ART INTEGRATION/ INTERDISCIPLINARY APPROACH |
|-------|---|--|--|--|
| MAR | Bricks, Beads and Bones Kings, farmers And Towns | <p>Broad overview: Early urban centres Story of discovery: Harappan civilization Excerpt: Archaeological report on a major site Discussion: How it has been utilized by archaeologists/historians.</p> <p>Broad overview: Political and economic history from the Mauryan to the Gupta period Story of discovery: Inscriptions and the decipherment of the script. Shifts in the understanding of political and economic history</p> | <p>The learner becomes aware of early urban centres</p> <ul style="list-style-type: none"> understands how archaeological sources have been put together, analysed and interpreted by archaeologists to present the story of early urban centres. understands how new data or new questions can lead to a fresh interpretation and suggestion for revision in existing notions of history. <ul style="list-style-type: none"> Familiarize the learner with major trends in the political and economic history of the subcontinent. Introduce inscripational analysis and the ways in which these have shaped the understanding of political and economic processes | <p>Illustrate steps of making archaeological reports.</p> <p>Visit to the national history museum Mapwork as per the list – CBSE</p> <p>Analysis Sources PPT</p> <p>Research Boxes mark different terms/concepts appearing in the chapter and make a dictionary of history to understand the terms. Suggest students to visit Google cultural institute site to take a virtual tour of: ✓ Harappa</p> <p>Trace the reasons for Magadh to rise to the power. Excerpt: Asokan inscription and Gupta period land grant Discussion: Interpretation of inscriptions by historians</p> <p>Integration with Economics, Political science, Sociology, English and Art IT SKILLS AND MORAL VALUES</p> |
| | Kinship, Caste and Class | <p>Broad overview: Issues in social history, including caste, class, kinship and gender Story of discovery: Transmission and publications of the Mahabharata Excerpt: from the Mahabharata, illustrating how it has been used by historians. Discussion: Other sources for reconstructing social history.</p> | <p>Familiarize the learner with major trends in the political and economic history of the subcontinent.</p> <ul style="list-style-type: none"> Introduce inscripational analysis and the ways in which these have shaped the understanding of political and economic processes. <p>Familiarize the learner with issues in social history.</p> | <p>PPT Project work Role play</p> <p>Trilingual Dictionary of History for Schools (HindEnglishUrdu) > e-material > material available on the Abhilekh Patal</p> <p>Discussion Debates Ppt Project work Sources Research Analysis</p> |

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| | Thinkers, Beliefs and Building | <p>Story of discovery: Sanchi stupa</p> <p>Excerpt: Reproduction of sculptures from Sanchi.</p> <p>Discussion: Ways in which sculpture has been interpreted by historians, other sources for reconstructing the history of Buddhism. and for whom they wrote.</p> | <p>Introduce strategies of textual analysis and their use in reconstructing social history.</p> <p>Introduce strategies of visual analysis and their use in reconstructing histories of religion.</p> | <p>Visual analysis</p> <p>Visual tour</p> <p>Ppt</p> <p>Project work</p> <p>Discussion</p> <p>Videos</p> <p>Google classroom support material</p> <p>Integration with Economics, Political science, Sociology, English and Art</p> <p>IT SKILLS AND MORAL VALUES</p> |
| MAY- JUNE | <p>Agrarian relations the Ain-1-Akbari.</p> <p>The Mughal Court</p> | <p>Broad overview: (a) Structure of agrarian relations in the 16th and 17th centuries. (b) Patterns of change over the period.</p> <p>Story of Discovery: Account of the compilation and translation of Ain-i-Akbari.</p> <p>Excerpt: from the Ain-i-Akbari</p> <p>Discussion: Ways in which historians have used the text to reconstruct history.</p> <p>Broad overview: (a) Outline of political history 15th-17th centuries. (b) Discussion of the Mughal court and politics.</p> <p>Story of Discovery: Account of the production of court chronicles, and their subsequent translation and transmission.</p> | <p>Discuss developments in agrarian relations.</p> <ul style="list-style-type: none"> • Discuss how to supplement official documents with other sources. • Familiarize the learner with the major landmarks in political history. • Show how chronicles and other sources are used to reconstruct the histories of political institutions. <p>The learner learns the political ,social, cultural and economic aspects of this rule .</p> <p>Learns about the policies and reforms</p> <p>Etiquettes followed in royal life.</p> | <p>Excerpts: from the Akbarnama and Padshahnama. Discussion: Ways in which historians have used the texts to reconstruct political histories.</p> <p>Paintings speak volume</p> <p>Biographies</p> <p>Role characterization</p> <p>PPT</p> <p>Project work</p> <p>Discussion</p> <p>Debates</p> <p>Ppt</p> <p>Project work</p> <p>Sources</p> <p>Research Analysis</p> <p>PAINTING</p> <p>Different style Of Mughal PAINTINGS AND INTERPRETATION</p> <p>period discussed with Painting students and teacher.</p> |
| JULY | New Architecture | <p>Broad overview:</p> <p>a. Outline of new buildings during Vijayanagar period- temples, forts, irrigation facilities.</p> | <p>Familiarize the learner with the new buildings that were built during the time.</p> <ul style="list-style-type: none"> • Discuss the ways in which architecture can be analyzed to reconstruct history | <p>the architectural features that are present till date. Hampi fair video</p> <p>The contributions to trade can be discussed along with the rulers of the Vijayanagara empire.</p> <p>Pictures of monuments can be collected.</p> |

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| MAY | Religious histories Bhakti-Sufi traditions | <p>b. Relationship between architecture and the political system</p> <p>Broad overview: a. Outline of religious developments during this period b. Ideas and practices of the Bhakti-Sufi saints Story of Transmission: How Bhakti-Sufi compositions have been preserved.</p> | <p>Familiarize the learner with religious developments.</p> <p>Discuss ways of analyzing devotional literature as sources of history</p> | <p>A chart can be prepared on important items that were exported and imported and shared with the peers through email.</p> <p>Learners may be encouraged to prepare a tool kit on items needed for preserving monuments. Character sketch PPT Project work Discussion Debates Ppt Project work Sources Research Analysis Integration with Economics, Political science, Sociology, English and Art IT SKILLS AND MORAL VALUES</p> |
| JUNE | <p>Traveller's Accounts</p> <p>Colonialism & Rural Society</p> | <p>Broad overview: Outline of social and cultural life as they appear in travellers' accounts.</p> <p>Broad overview: a. Structure of agrarian relations in the 16th and 17th centuries. Patterns of change over the period Story of Discovery: Account of the compilation and translation of Ain-i-Akbari Excerpt: from the Ain-i-Akbari</p> | <p>Familiarize the learner with the salient features of social histories described by the travellers.</p> <ul style="list-style-type: none"> • Discuss how travellers' accounts can be used as sources of social history. <p>Discuss how colonialism affected zamindars, peasants and artisans.</p> <ul style="list-style-type: none"> • Comprehend the problems and limits of using official sources for understanding the lives of people.— explains the causes that led to its occurrence — <p>draws linkages with socio, economic and political causes that culminated in igniting it.</p> <p>demonstrates sensitivity by reflecting the contributions of men and women in the revolt.</p> | <p>Excerpts: from AlBiruni, Ibn Battuta, Francois Bernier Discussion: What these travel accounts can tell us and how they have been interpreted by historians. Discussion: Ways in which historians have used the text to reconstruct history.</p> <p>Story of official records: An account of why official investigations into rural societies were undertaken and the types of records and reports produced. Excerpts: From Firminger's Fifth Report, Accounts of Frances Buchanan-Hamilton, and Deccan Riots Report. Discussion: What the official records tell and do not tell, and how they have been used by historians. Discuss how the events of 1857 are being reinterpreted. Discuss how visual material can be used by historians. Videos Google classroom support material Analysis Sources Smart class Modules</p> |

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| | | | <p>Integration with Economics, Political science, Sociology, English and Art</p> <p>IT SKILLS AND MORAL VALUES</p> | <p>Research Boxes</p> <p>Mapwork as per the list – CBSE</p> <p>Picture Analysis</p> <p>Sources</p> <p>Research Boxes</p> <p>Paintings</p> |
| JULY. | <p>Representations of 1857</p> <p>Colonialism & Indian Towns</p> | <p>Broad overview: (a) The events of 1857-58. (b) How these events were recorded and narrated. Focus: Lucknow. Excerpts: Pictures of 1857. Extracts from contemporary accounts. Discussion: How the pictures of 1857 shaped British opinion of what had happened</p> <p>Broad overview: The growth of Mumbai, Chennai, hill stations and cantonments in the 18th and 19th centuries. Excerpts: Photographs and paintings. Plans of cities. Extract from town plan reports. Focus on Kolkata town planning. Discussion: How the above sources can be used to reconstruct the history of towns. What these sources do not reveal</p> <p>Broad overview: (a) The Nationalist Movement 1918 - 48. (b) The nature of Gandhian politics and leadership. Focus: Mahatma Gandhi in 1931.</p> | <p>Discuss how the events of 1857 are being reinterpreted.</p> <ul style="list-style-type: none"> • Discuss how visual material can be used by historians. <p>Familiarize the learner with the history of modern urban centres.</p> <p>Discuss how urban histories can be written by drawing on different types of sources</p> <p>Familiarize the learner with significant elements of the Nationalist Movement and the nature of Gandhian leadership. Discuss how Gandhi was perceived by different groups. Discuss how historians need to read</p> | <p>e-content UTube on Mahatma Gandhi and the freedom struggle. State textbooks/ neighbouring countries textbooks/other countries books. Collected Works of Mahatma Gandhi Abhilekh patal of the National Archives. Imperial Gazetter of India Newspaper and magazines articles</p> <p>Ppt</p> <p>Project work</p> <p>Letters, media ,reports and their impact in history.</p> <p>Videos</p> <p>Google classroom support material</p> <p>Discussion: What such interviews and videos reveal and how they can be analyzed. Related to political science.</p> <p>Discussion: What such debates reveal and how they can be analyzed. (Related to political science).</p> <p>Role play and panel discussion</p> <p>Discuss the last decade of the national movement, the growth of communalism and the story of partition</p> <p>Ppt</p> <p>Project work</p> <p>Letters, media ,reports and their impact in history.</p> <p>Videos</p> |
| AUG | <p>Gandhiji through contemporary eyes</p> | | | |

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| SEPT. | <p>Partition through oral sources</p> <p>Making of the Constitution</p> <p>PB I</p> <p>PB II</p> | <p>Excerpts: Reports from English and Indian language newspapers and other contemporary writings. Discussion: How newspapers can be a source of history.</p> <p>Broad overview: (a) The history of the 1940s. (b) Nationalism, Communalism and Partition. Focus: Punjab and Bengal. Excerpts: Oral testimonies of those who experienced partition. Discussion: Ways in which these have been analyzed to reconstruct the history of the event.</p> <p>Broad overview: (a) Independence and the new nation state. (b) The making of the Constitution. Focus: The Constitutional Assembly debates. Excerpts: from the debates.</p> <p>REVISION</p> | <p>and interpret newspapers, diaries and letters as historical source.</p> <p>.</p> <p>Understand the events through the experience of those who lived through these years of communal violence.</p> <ul style="list-style-type: none"> • Show the possibilities and limits of oral sources. • Familiarize students with the history of the early years after independence. • Discuss how the founding ideals of the new nation state were debated and formulated. • Understand how such debates and discussions can be read by historians. <p>ART INTEGRATION</p> <p>CASE STUDIES AS PER CBSE SAMPLES</p> <p>SAMPLE PAPER</p> | <p>Google classroom support ma</p> <p>Ppt on partition made by students of class xii of previous years.</p> <p>Discussion: What such interviews and videos reveal and how they can be analyzed. Related to political science.</p> <p>Integration with Economics, Political science, Sociology, English and Art</p> <p>IT SKILLS AND MORAL VALUES</p> <p>Discussion: What such debates reveal and how they can be analyzed.</p> <p>Related to political science.</p> <ul style="list-style-type: none"> ➤ Map Art ➤ Divide and Conquer ➤ Forget-Me-Not Diorama ➤ Folk Art ➤ Transformation ➤ Film Recreations ➤ Documentaries ➤ Write History ➤ Hero History ➤ Twisted Timeline <p>LAST YEARS PAPERS</p> |
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SUBJECT : POLITICAL SCIENCE

Time: 3hrs.

Max. Marks: 80

Part A: Contemporary World Politics

| UNITS | CONTENTS | PERIODS | MARKS |
|-------|---------------------------------------|-----------|-----------|
| 1 | Cold War Era and Non-aligned Movement | 11 | 5 |
| 2 | The End of Bipolarity | 11 | 5 |
| 3 | New Centers of Power | 11 | 5 |
| 4 | South Asia and the Contemporary World | 12 | 5 |
| 5 | United Nations and its Organizations | 12 | 5 |
| 6 | Security in Contemporary World | 11 | 5 |
| 7 | Environment and Natural Resources | 12 | 5 |
| 8 | Globalization | 10 | 5 |
| | Total | 90 | 40 |

Part B: Politics in India Since Independence

| UNITS | CONTENTS | PERIODS | MARKS |
|-------|--|---------|-------|
| 7 | Challenges of Nation-Building | 20 | 06 |
| 8 | Planned Development | 04 | 04 |
| 9 | India's Foreign Policy | 05 | 04 |
| 10 | Parties and the Party Systems in India | 15 | 06 |
| 11 | Democratic Resurgence | 15 | 06 |
| 12 | Regional aspirations | 05 | 04 |

| MONTH | UNIT/ TOPIC | SUB TOPIC/ CONTENT | PRACTICALS/ ACTIVITIES/INNOVATIVE PEDAGOGY/AIL | LEARNING OUTCOMES |
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| MAR | CH-1 : COLD WAR ERA | | .Discussion on concepts Cartoon Analysis | The learner |

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| <p>JUNE</p> | <p>IN WORLD POLITICS (may)</p> <p>CH-1 NATION BUILDING & ITS PROBLEMS</p> <p>CH-2 : THE END OF BIPOLARITY</p> <p>CH-2 POLITICS OF PLANNED DEVELOPMENT</p> | <p>Emergence of two power blocs/Bipolarity, Non-aligned Movement (NAM).</p> <p>Nation and Nation Building Sardar Vallabh Bhai Patel and Integration of States Legacy of Partition: Challenge of Refugee, Resettlement, Kashmir Issue, Nehru's Approach to Nation – Building Political Conflicts over Language and Linguistic Organization of States.</p> <p>Disintegration of Soviet Union, Unipolar World, Middle East Crisis – Afghanistan, Gulf War, Democratic Politics and Democratization – CIS and the 21st Century (Arab Spring).</p> <p>Expansion of state sector and the rise of new economic interests. National Development Council, NITI Aayog.</p> | <p>Debate, 2014 / 2019 Elections as case study PPT</p> <p>Discussion on challenges and solutions References present and past. Facts: news related</p> <p>Events : after and before</p> <p>Articles on given topics</p> <p>Cartoon analysis and observations</p> <p>Sources and questions</p> <p>Picture interpretation</p> <p>Tables of comparison</p> <p>Talks on related topics</p> <p>collect articles on the Partition of India.</p> <p>Prepare a script for a small documentary on Partition and Beyond. Imagine you are a press reporter writing a brief write-up on 'The Challenges of Nation Building'. as leaders. Write a biography on any leader who has inspired you and share it</p> <p>Sources e-content QR-Code You-Tube Print materials like Newspaper and Magazines Radio Talk / TV programme on the theme links on Google Classroom</p> <p>SHORT PPT TALKS</p> <p>Sources e-content QR-Code You-Tube Print materials like Newspaper and Magazines Radio Talk / TV programme on the theme PPT</p> <p>Debate on related topics</p> <p>Practical WORK</p> <p>Research on given topics</p> <p>Collect information from the website of different Ministries on the scheme and programmes for the educational welfare of SC/ST and Minorities communities</p> | <p>Is familiarized with some of the key political events and processes in the post cold war era.</p> <p>E Is conscious of the way in which global events and processes shape our everyday lives.</p> <p>Politics in India since Independence.</p> <ul style="list-style-type: none"> explains the processes of integration of Princely states into the Indian Union. interprets sources on the Partition of India <p>Identify/s certain key features of the Constitution and compare these to other constitutions in the world. ·</p> <p>Strengthened their capacity for political analysis by thinking of contemporary developments in a historical · perspective.</p> <p>Research based learning</p> <p>Integration with Geography, Art</p> <p>Expands horizons beyond India and make sense of the political map of contemporary world.</p> <p>Will understand Uni polar, bipolar and multi polar world.</p> <p>Will understand new terms and concepts.</p> <p>Integration with Geography, Art and current affairs</p> <p>The learner.....</p> <p>meaningfully participate in and develop internal concerns of the political life that surrounds them.</p> <p>familiar with some of the key political events and figures in the post-independence period.</p> <p>explains the past and present of planning — Planning Commission to Niti Aayog.</p> <p>explains what is de-centralised planning.</p> <p>Distinguishes between public and private sectors.</p> <p>Integration with Economics, History and Art</p> |
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| <p>MAY JUNE</p> | <p>CH-4 SOUTH ASIA AND THE CONTEMPORARY WORLD</p> <p>CH-4 PARTY AND PARTY SYSTEM IN INDIA</p> | <p>Conflicts and efforts for Peace and Democratization in South Asia: Pakistan, Nepal, Bangladesh, Sri Lanka, Maldives.</p> <p>Congress System Bi-party System Multi-party Coalition System.</p> | <p>Events and impact Talk on different topics PPT Discussion in groups Cartoons interpretation Case Study REGIONAL ASPIRATIONS Sources e-content QR-Code You-Tube Print materials like Newspaper and Magazines Radio Talk / TV programme on the theme PPT Present day situation Talk on Research Cartoons :analysis Events during this period Split - Today's Congress Project work</p> | <p>develop skills of political analysis through an understanding of events and processes of recent history world politics develops capacity to link macro processes with micro situations and their own life takes a historical perspective of making sense of contemporary India is introduced to the various streams of the discipline of Political Science: Political Theory, Indian Politics and International Politics. Concerns of the other two streams - Comparative Politics develop internal concerns of the political life that surrounds them. capacity to link macro processes with micro situations and their own life.</p> |
| <p>JULY</p> | <p>CH-5 UNITED NATION AND ITS ORGANISATION</p> <p>CH 5 DEMOCRATIC RESURGENCE</p> <p>CH 7</p> | <p>Principle Organs, Key Agencies: UNESCO, UNICEF, WHO, ILO, Security Council and the Need for its Expansion.</p> <p>ai Prakash Narayan and Total Revolution Ram Manohar Lohiya and Socialism Pandit Deendayal Upadhyaya and Integral Humanism National Emergency Democratic Upsurges– Participation of the Adults, Backwards and Youth</p> | <p>Sources e-content QR-Code You-Tube Print materials like Newspaper and Magazines Radio Talk / TV programme on the theme Discussion on challenges and solutions References present and past Cartoon analysis and observations PPT</p> <p>Facts: news related Events : after and before Articles on given topics Sources e-content Cartoon analysis and observations PPT</p> <p>Discussion on challenges and solutions References present and past Facts: news related. PROJECT WORK</p> <p>Sources e-content QR-Code You-Tube Print materials like Newspaper and Magazines Radio Talk / TV programme on the theme</p> <p>Discussion on challenges and solutions References present and past. Facts: news related</p> | <p>Developed their capacity to link macro processes with micro situations and their own life. to take a historical perspective of making sense of contemporary India. analysis by thinking of contemporary developments in a historical perspective Understands situations, challenges and find solutions. understands the relevance of UNO.....agencies, organs discusses role of WHO will know the importance of parties and party system in India understands the importance of public opinion, protests and voice of the people. to relate to the reality of our Constitution and leadership Democracy and its merits and advantages become clear.</p> <p>Strengthen their capacity for political analysis by thinking of contemporary developments in a historical perspective Understanding situations, challenges and find solutions.</p> |

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| <p>AUG</p> | <p>SECURITY IN CONTEMPORARY WORLD</p> <p>CH 8 REGIONAL ASPIRATIONS AND CONFLICTS</p> <p>CH 7 ENVIRONMENT & NATURAL RESOURCES IN GLOBAL POLITICS</p> <p>CH 8 RISE OF NEW SOCIAL MOVEMENTS</p> | <p>Traditional concerns of security and politics of disarmament. Non-traditional or human security: global poverty, health and education. Issues of human rights and migration.</p> <p>.Rise of regional parties. Punjab crisis and the anti-Sikh riots of 1984. The Kashmir situation.</p> <p>Challenges and responses in the North East.</p> <p>Environment movement and evolution of global environmental norms. Conflicts over traditional and common property resources. Rights of indigenous people. India's stand in global environmental debates. Farmers' movements, Women's movement, Environment and Development-affected people's movements. Implementation of Mandal Commission report and its aftermath.</p> | <p>Events : after and before Articles on given topics Cartoon analysis and observations Discussion Sources and questions Picture interpretation Analysis on topics Tables of comparison Present situation Talks on related topics</p> <p>Discussion on concepts Cartoon Analysis Debate, 2014 / 2019 Elections as case study Smart class Modules Discussion on challenges and solutions References present and past. Facts: news related Events : after and before Articles on given topics Cartoon analysis and observations Discussion Sources and questions Picture interpretation Analysis on topics Tables of comparison Present situation Talks on related topics</p> | <p>Integration with Economics, History and Art</p> <p>Encouraged the students to analyse any unexamined prejudices that one may have inherited.</p> <p>Equip students to be conscious of the way in which global events and processes shape our everyday lives. ·Science=Geography and politics Encouraged the students to analyse any unexamined prejudices that one may have inherited. Enabled the students to expand their horizons beyond India and make sense of the political map of contemporary world. · Integration with Economics, History and Art</p> |
| <p>SEPT</p> | <p>CH-9 GLOBALIZATION & ITS CRITICS</p> | <p>Economic, cultural and political manifestations. Debates on the 11 Periods nature of consequences of globalization. Globalization: Meaning, Manifestations and Debates.</p> | <p>How Globalisation has helped in boosting different games and sports and bringing countries close.</p> <p>Events : after and before Articles on given topics Cartoon analysis and observations PPT</p> | <p>The learner analyses any unexamined prejudices that one may have inherited... Contemporary World Politics · expands horizons beyond India and make sense of the political map of contemporary world. ·</p> |

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| | <p>CH-9 INDIAN POLITICS: TRENDS AND DEVELOPMENTS</p> | <p>Era of Coalitions: National Front, United Front, United Progressive Alliance [UPA] – I & II, National Democratic Alliance [NDA] – I, II, III& IV, Issues of Development and Governance.</p> | <p>Discussion on challenges and solutions References present and past Facts: news related Articles on given topics Cartoon analysis and observations PPT Project work Present Pandemic times</p> | <p>Equipped to be conscious of the way in which global events and processes shape our everyday lives. · able to handle challenges and present situations.</p> <p>To understand coalition government with merits and demerits.</p> <p>Latest developments and its impact.</p> <p>Integration with Economics, History and Art</p> <p>CASE STUDIES AS PER CBSE SAMPLES</p> |
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- **Project work , webinar, PPT, Case studies involve multiple Art forms.**
- **Compulsory Reading Current Affairs :**
- **Important Sources (Follow any one newspaper for news items (preferably The Hindu); one for editorial (best Indian Express)**
- **Lok Sabha and Rajya Sabha Debates**
- **Monthly Magazine : Yojana, career competition, India Today, Probe. Alive.**
- **Spectrum Modern India - Rajiv Ahir**
- **NCERT BOOKS** Contemporary World Politics, Class XII, Published by NCERT
Politics in India since Independence, Class XII, Published by NCERT
- **Reference Books : Fullmarks, Together with (not mandatory to buy)**
- **Material on Google classroom :** Uploaded Additional Study Materials

SUBJECT : ECONOMICS

Theory: 80 Marks
Duration: 3 Hours
Project: 20 Marks

| UNITS | | |
|---------------|--|-----------|
| PART A | Introductory Macroeconomics | |
| | National Income and Related Aggregates | 10 |
| | Money and Banking | 6 |
| | Determination of Income and Employment | 12 |
| | Government Budget and the Economy | 6 |
| | Balance of Payments | 6 |
| | | 40 |
| Part B | Indian Economic Development | |
| | Development Experience (1947-90) and Economic Reforms since 1991 | 12 |
| | Current Challenges facing Indian Economy | 22 |
| | Development Experience of India – A Comparison with Neighbours | 06 |
| | Theory Paper (40+40 = 80 Marks) | 40 |
| | | |
| Part C | Project Work | 20 |

| MONTH | UNIT/ CHAPTER | SUB TOPIC | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY/ INTERDISCIPLINARY APPROACH | ACTIVITY/ PRACTICAL/PROJECTS |
|-------|---|--|---|--|---|
| May | Unit 1 : National Income and Related Aggregates | <p>National Income and Related Aggregates</p> <p>28 Periods</p> <p>What is Macroeconomics?</p> <p>Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.</p> <p>Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.</p> <p>Aggregates related to National Income:</p> <p>Gross National Product (GNP), Net National Product (NNP), Gross and Net Domestic Product (GDP and NDP) - at market price, at factor cost; Real and Nominal GDP.</p> <p>GDP and Welfare</p> | Deriving expressions for the related formulae for the aggregates of National Income will also be possible for the students. | This lesson would be integrating and sharpening the mathematical skills of the students | <p>A project can be made on the importance given in India to Welfare economics.</p> <p>A reference can be taken to the excerpts of the study done by the great economist Dr. Amartya Sen and Dr. Abhijit Banerjee Nobel Prize winners from India)</p> |
| JULY | Unit 2 : Money and Banking | <p>Money - meaning and supply of money- Currency held by the public and net demand deposits held by commercial banks.</p> <p>Money creation by the commercial banking system</p> <p>Central bank and its functions (example of the Reserve Bank of India) : Bank of issue, Govt. Bank, Banker's Bank</p> <p>Concept of demonetization</p> | <p>A spirit of enquiry can be instilled through this exercise. Students learnt the effectiveness of teams - they should also be able to discover each other's talents and use them advantageously – someone researches, someone writes the text, another finds relevant pictures and develops the presentation, whilst yet some</p> | <p>Students should make the effort to research beyond the text book and gather very interesting information on the respective topics.</p> <p>Impact of demonetization on the status of corruption- A cartoon making competition can be done</p> | <p>Peer- Teaching and Learning: Students teaching each other in a variety of ways is another strategy to enhance learning.</p> |

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| | | | others present it to the class | | |
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| AUGUST | <p>Unit 4 :Government Budget and the Economy</p> <p>Unit 5: Balance of Payments</p> | <p>Government budget - meaning, objectives and components.</p> <p>Classification of receipts - revenue receipts and capital receipts; classification of expenditure - revenue expenditure and capital expenditure</p> <p>Measure of government deficit - revenue deficit, fiscal deficit, primary deficit their meaning.</p> <p>Balance of payments account - components; balance of payments deficit meaning. Foreign exchange rate - meaning of fixed and flexible rates and managed floating.</p> | <p>Through this exercise students themselves come up with the economic problem of allocating their money to its best possible use. Also they are able to comprehend that there is a need to take loans when money becomes scarce.</p> | <p>Problem solving based learning: Many a times problem solving is an effective strategy to help students construct their concepts.</p> <p>The students develop the analytical ability and integrate the study of psychology to the behaviour of human beings in times of financial crisis.</p> <p>Foreign exchange origin can be integrated with ancient trading system in the world in history.</p> | <p>Forming a budget with their pocket money to a huge extent helps them understand this concept.</p> |
| SEPTEMBER | <p>Unit 3 : Determination of Income and Employment</p> | <p>Aggregate demand and its components.</p> <p>Explain the Concept of Propensity to consume and propensity to save (average and marginal).</p> <p>To enable the Students to know - Short-run equilibrium output; investment multiplier and its mechanism. Meaning of full</p> | <p>This brings in camaraderie and creates a non-threatening and conducive environment for learning.</p> | <p>Interactive Lectures - In a traditional lecture we find most students bored, disengaged and distracted. Interactive lectures method of teaching is the most significant way of imparting the curriculum in any classroom.</p> <p>Electronic Media plays a great role in explanation.</p> | <p>Reading articles from 'MINT' newspaper and discussing in class</p> |

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| | | <p>employment and involuntary unemployment</p> <p>Concept of -Problems of excess demand and deficient demand; measures to correct them - changes in government spending, taxes and money supply</p> <p>Types of Unemployment – their impact on India</p> | <p>A ' Nukkad Natak' on this topic can be done on this topic.</p> | | |
| OCTOBER | <p>Unit 6 : Development Experience (1947-90) and Economic Reforms since 1991</p> | <p>A brief introduction of the state of Indian economy on the eve of independence. Common goals of Five Year Plans Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy, etc.) industry (industrial licensing, etc.) and foreign trade</p> <p>Economic Reforms since 1991 : Features and appraisals of liberalisation, globalisation and privatisation (LPG policy);</p> <p>Concepts of demonetization and GST</p> | <p>An in depth insight into the past of the Indian economy is a must for the students to understand its working in future . It will develop the analysis capacity into the particular economic conditions faced by the students.</p> | <p>This chapter is essentially associating the knowledge of the students gained in the subject history and applying it in their study of economics. It also integrates political science subject too as it explains the starting of the political regime in India and its importance.</p> <p>A cartoon making competition – Showcasing the ultimate impact of Demonetisation</p> | <p>Case Studies</p> |
| NOVEMBER | <p>Unit 7 : Current Challenges facing Indian Economy</p> | <p>Poverty - absolute and relative; Main programms for poverty alleviation : A critical assessment;</p> <p>Rural development : Key issues - credit and marketing - role of cooperatives; agricultural diversification; alternative farming - organic farming</p> <p>Human Capital Formation : How people become resource; Role of human capital in economic development; Employment :</p> | <p>This allows students to perceive the problem in their own way, analyse it and suggest solutions</p> | <p>To explore the possibility of learning through the case study method. For example, in teaching Unemployment. This can take the study of all sports persons life after 35 years of age- The governments stand on uplifting the lives of the sports person – a discrepancy of the lives of cricketers and other sports- a critical analysis.</p> | <p>Each group then made a</p> |

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| | | Formal and informal growth; problems and policies | | in Class XII, the class was divided into small groups. Data on unemployment in India over the years was given to each group so that they could discuss the given data, identify the problem, the potential causes of unemployment and its possible solutions | presentation on the given problem. This method has been a successful way of educating the students. |
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| DECEMBER | Unit 7 : Current challenges facing Indian Economy | <p>Infrastructure : Meaning and Types : Case</p> <p>Studies: education and Health : Problems</p> <p>Railways in India – Privatisation</p> <p>Policies - A critical assessment; Sustainable Economic Development : Meaning, Effects of Economic Development on Resources and Environment, including global warming.</p> | <p>Poster making competition to be held showing before and after consequences of Privatisation of Railways</p> <p>The teacher uses the case study method to extend a student's understanding of real life issues and in turn enhances his/ her existing conceptual knowledge</p> | <p>This chapter again takes up an interdisciplinary case between political science and Economics. This chapter associates the need for policy making and their implementation.</p> <p>Case Study: Case studies comparing the status of the infrastructure development over the year is a good way of understanding the Indian economy.</p> | <p>Students need to provide possible options to the given situation which are backed by conceptual justifications.</p> |
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- REFERENCE BOOKS-**
1. INTRODUCTORY STATISTICS- VK PUBLISHERS
 2. INTRODUCTORY MICRO ECONOMICS – SANDEEP GARG

SUBJECT : HOME SCIENCE

COURSE STRUCTURE

Weightage of contents (Unit wise)

| UNITS | | MARKS |
|-------------------|---|--------------|
| UNIT – I | Work, Livelihood and Career | 05 |
| UNIT - II | Nutrition, Food Science and Technology | 18 |
| UNIT – III | Human Development and Family Studies | 12 |
| UNIT – IV | Fabric and Apparel | 16 |
| UNIT – V | Resource Management | 12 |
| UNIT - VI | Communication and Extension | 07 |
| | <u>PRACTICAL</u> | |
| | <u>TOTAL</u> | |

| MONTH | UNIT/ CHAPTER | SUB TOPIC | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY/ ART INTEGRATION/ INTERDISCIPLINARY APPROACH | ACTIVITY/ PRACTICAL/ PROJECTS |
|-------|--|--|---|---|-------------------------------|
| April | Chapter 1 Work, livelihood and Career | <p>1. Introduction</p> <ul style="list-style-type: none"> • Work and meaningful work • Work, careers and livelihood <p>2. Traditional occupation in India</p> <ul style="list-style-type: none"> • Agriculture • Handicrafts • Indian cuisine • Visual arts <p>3. Work ,Age and Gender</p> <ul style="list-style-type: none"> • Gender issues in relation to work • Issues and concerns related to women and work • KGBV • Beti bachao ,Beti Padhao Yojana <p>4. Attitudes and approaches to work and life skills for livelihood</p> <ul style="list-style-type: none"> • Attitudes and approaches to work • Lifeskills for livelihood • Essential soft skills at workplace <p>5. Ergonomics</p> <ul style="list-style-type: none"> • Definition and need for ergonomics • Benefits of Ergonomics <p>6. Entrepreneurship</p> <ul style="list-style-type: none"> • Definition and characteristics <p>1. Introduction</p> <ul style="list-style-type: none"> • Nutrition | <p>Students would be able to –</p> <ul style="list-style-type: none"> - Explain meaningful work, career and livelihood. -Behave as a productive and responsible individual -Relate the Gender issues in relation to work -Apply the knowledge of Ergonomics and Entrepreneurship - Equip for enrichment and higher studies | <ul style="list-style-type: none"> ➤ Cross over learning by linking the various group processes with the daily life of the learner. ➤ - Adaptive teaching- in order to help the students understand traditional occupation in India, information is presented in the form of tables and flow charts. Reference is made to diagrams and charts. ➤ Assignment Booklet ➤ Learn the technique of Printing the cloth using Tie and Dye. Prepare different samples and Masks individually and present it all in the form of Video. ➤ Theatre in Education A short skit will be prepared by the students and shown in the class | |

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| | <p>UNIT II NUTRITION, FOOD SCIENCE AND TECHNOLOGY</p> <p>Chapter: 2 CLINICAL NUTRITION AND DIETETICS</p> <p>Chapter: 3 PUBLIC NUTRITION AND HEALTH</p> | <ul style="list-style-type: none"> • Clinical Nutrition 2. Significance 3. Basic concepts <ul style="list-style-type: none"> ➤ Diet therapy 4. Types of diets: <ul style="list-style-type: none"> ➤ Regular Diet and Modified diets • Changes in consistency • Feeding routes • Prevention of chronic diseases 5. Preparing for career 6. Scope <p>1. Introduction</p> <p>2. Significance</p> <p>3. Basic concept</p> <ul style="list-style-type: none"> • Public health nutrition • Nutritional Problems of India <ul style="list-style-type: none"> o Protein energy malnutrition o Micronutrient deficiencies ➤ Iron deficiency anemia ➤ Vitamin A deficiency ➤ Iodine deficiency disorders <p>4. Strategies/Intervention to tackle Nutritional problems</p> <ul style="list-style-type: none"> • Diet or food based strategies • Nutrient based strategies <p>5. Nutrition programmes operating in India</p> <ul style="list-style-type: none"> • ICDS • Nutrient Deficiency Control Programmes • Food Supplementation Programmes • Food Security Programme <p>6. Health Care Scope</p> | <p>Students would be able to –</p> <ul style="list-style-type: none"> -Identify the meaning of Nutrition -Understand the concept of clinical nutrition -Utilise the knowledge of diet therapy and types of diets -Sensitized regarding prevention of chronic diseases. -Understand and learn about various types of Diet Modification. - Equip for enrichment and higher studies <p>Students would be able to –</p> <ul style="list-style-type: none"> -Differentiate between clinical nutrition and Public health nutrition -sensitise towards nutritional problems of India. -Understand the PEM and various types of micronutrient deficiencies -Become alert to tackle nutritional problems - Relate to the various nutritional programmes such as ICDS , Nutrient Deficiency Control Programmes , Food Supplementation | <p>related to the clinical and its basic concepts</p> <ul style="list-style-type: none"> ➤ Assignment Booklet ➤ Project Based Learning ➤ Assignment Booklet | <ul style="list-style-type: none"> 1. Modification of normal diet to soft diet for elderly person. 2. Development and preparation of supplementary foods for nutrition programme. <p>Planning a menu for a school canteen or mid-day meal in school for a week.</p> |
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| | <p>PROCESSING AND TECHNOLOGY</p> | <p>4. Development of food processing and technology 5. Importance of Food processing and Preservation 6. Classification of food on the basis of extent and type of processing 7. Preparing for a career 8. Scope</p> | <p>Students would be able to – -Understand the Significance, basic Concepts of Food Science , Food Processing, Food Technology, Food Manufacturing -Explain the development of food processing and technology -Define the Importance of Food processing and Preservation. - Classify the food on the basis of extent and type of processing - Equip for enrichment and higher studies</p> | <p>Home science lab for better understanding of food preservation.</p> <ul style="list-style-type: none"> ➤ Assignment Booklet ➤ Eating right on the game day- Students will prepare three days food menu for a sports meet considering their nutritional requirements. | <p>4. Design, prepare and evaluate a processed food product.</p> |
| | <p>Chapter: 6 FOOD QUALITY AND FOOD SAFETY</p> | <p>1. Introduction 2. Significance 3. Basic Concepts</p> <ul style="list-style-type: none"> • Food safety (Toxicity & Hazard) • Hazards (Physical, chemical and biological) • Food infection • Food poisoning • Food quality <p>4. Food standards regulation in India-FSSA (2006) 5. International Organization and agreements in the area of Food Standards, Quality, Research and Trade</p> <ul style="list-style-type: none"> • Codex Alimentarius Commission • International Organization for Standardisation • World Trade Organization | <p>Students would be able to – -Understand the importance and basic concepts of Food safety (Toxicity & Hazard), Hazards (Physical, chemical and biological), Food infection, Food poisoning, Food quality. -explain Food standards regulation in India-FSSA (2006) -sensitize towards the Food Safety Management Systems -access the performance of GMP,GHP and HACCP. -Identify the adulterants present in various food items.</p> | <ul style="list-style-type: none"> ➤ Learning by doing-students will test various food products in the Home science lab to identify the adulterants. ➤ Use of Technology. Compiled Book in the form of video prepared by FSSAI called DART (Detect Adulteration With Rapid Test) will be shown. ➤ Assignment Booklet ➤ Culinary Classics (a cooking competition) Students will be given themes based on different cuisines of different states (Meghalaya / Arunachal Pradesh). The dish will be prepared and presented by all in front of cameras in the given time slot. The recording of this edited later and a video presentation will be done. | <p>5. Qualitative test for food adulteration in: pure ghee, tea leaves, whole black pepper, turmeric powder, milk, asafoetida.</p> |

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| | <p>UNIT III HUMAN DEVELOPMENT AND FAMILY STUDIES</p> <p>Chapter: 7. Early Childhood Care and Education</p> <p>Chapter: 9 Special Education and Support Services</p> | <p>6. Food Safety Management Systems</p> <ul style="list-style-type: none"> • Good manufacturing practices (GMP) • Good handling practices (GHP) • Hazard Analysis Critical Control Points (HACCP) <p>7. Scope</p> <p>1. Significance</p> <p>2. Basic concepts</p> <p>3. Preparing for a career</p> <p>4. Scope</p> <p>1. Significance</p> <p>2. Basic Concepts</p> <ul style="list-style-type: none"> • Disability and its classification • Causes of disabilities • Special education methods <p>3. Knowledge and Skills</p> <p>4. Preparing for a career in special education</p> <p>5. Scope</p> | <p>- Achieve the knowledge and skills required for a career in this field.</p> <p>Students would be able to –</p> <p>- Understand the importance and basic concepts of childhood care and education</p> <p>-Equip for enrichment and higher studies</p> <p>Students would be able to –</p> <p>- Understand the importance and basic concepts of Disability and its classification, Causes of disabilities , Special education methods.</p> <p>- Achieve the knowledge and skills required for a career in this field.</p> | <p>➤ Context based learning by encouraging students to read associated book available in library.</p> <p>➤ Assignment Booklet</p> <p>➤ Cross over learning by linking the various group processes with the daily life of the learner.</p> <p>➤ Assignment Booklet</p> | <p>6. Preparation and use of any one teaching aid to communicate socially relevant messages for children/ adolescents /adults in the community.</p> <p>OR</p> <p>Preparation of any one toy for children (age appropriate) using locally available and indigenous material</p> |
| July | <p>Chapter: 10 Management of support services, Institutions and programmes for children, youth and elderly</p> | <p>1. Significance</p> <p>2. Basic concepts</p> <p>3. Why are children vulnerable?</p> <p>4. Institutions, programmes and initiatives for children</p> <ul style="list-style-type: none"> • ICDS • SOS Children’s Village | <p>Students would be able to –</p> <p>-Explain Why are children vulnerable?</p> <p>-Compare the Institutions, programmes and initiatives for children</p> | <p>➤ Cross over learning by linking the various group processes with the daily life of the learner.</p> <p>➤ Assignment Booklet</p> <p>➤ Prepare posters on the topic Rainbow eating, Water safety, Girl child and Consumer protection.</p> | |

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| | <p>UNIT VI COMMUNICATION AND EXTENSION</p> <p>Chapter: 21 Development communication and Journalism</p> <p>Chapter: 23 Media Management, Design and Production</p> | <p>3. Basic concepts</p> <ul style="list-style-type: none"> • Development • Development journalism • Development Communication <p>4. Methods of communication</p> <ul style="list-style-type: none"> • Campaign • Radio and television • Print media • Information and communication technologies <p>5. Knowledge and skills required for a career in this field</p> <p>6. Scope and career avenues in development communication</p> <p>1. Introduction</p> <p>2. Significance</p> <p>3. Basic concepts</p> <ul style="list-style-type: none"> • Media • Media planning • Media designing and production • Media evaluation and feedback <p>4. Scope</p> | <p>- Equip for enrichment and higher studies</p> <p>Students would be able to –</p> <ul style="list-style-type: none"> -Relate the Significance and basic concepts -comprehend with the methods of communication. -achieve the knowledge and skills required for a career in this field. <p>Students would be able to –</p> <ul style="list-style-type: none"> -Understand the terms and functioning of Media. - Equip for enrichment and higher studies | <p>Videos and PPT related to the chapter will be shown.</p> <ul style="list-style-type: none"> ➤ Assignment Booklet <p>➤ A workshop on Media management will be organized</p> <ul style="list-style-type: none"> ➤ Assignment Booklet | <p>12. Analysis and discussion of any one print/ radio/ electronic media with reference to focus, presentation, technology and cost.</p> |
| November | | Revision | | ➤ Students will solve the worksheets having previous paper questions. | |
| December | | Revision | | ➤ Sample question papers | |
| January | | Revision | | | |

Text book :

- Human Ecology and Family Science class XII, NCERT PART I
- Human Ecology and Family Science class XII, NCERT PART II

Note:

- The students are required to bring the ingredients for the cooking classes
- They should follow all the rules of safety and hygiene and follow the dress code i.e. apron and head cover for girls and laboratory coat and head cover for boys during cooking practicals

SUBJECT : PSYCHOLOGY

Psychology is introduced as an elective subject at the higher secondary stage of school education. As a discipline, psychology specializes in the study of experiences, behaviours, and mental processes of human beings within a socio-cultural historical context. This course purports to introduce the learners to the basic ideas, principles, and methods in Psychology. The emphasis is to create interest and exposure needed by learners to develop their own knowledge base and understanding.

The course deals with psychological knowledge and practices which are contextually rooted. It emphasizes the complexity of behavioural processes and discourages simplistic cause-effect thinking. This is pursued by encouraging critical reasoning, allowing students to appreciate the role of cultural factors in behaviour, and illustrating how biology and experiences shape behaviour.

It is suggested that the teaching - learning processes should involve students in evolving their own understanding, therefore, teaching of Psychology should be based on the use of case studies, narratives, experiential exercises, analysis of common everyday experiences, etc.

Objectives:

- To develop appreciation about human mind and behaviour in the context of learners' immediate society and environment.
- To develop in learners an appreciation of the nature of psychological knowledge and its application to various aspects of life.
- To enable learners to become perceptive, socially aware and self-reflective.
- To facilitate students' quest for personal growth and effectiveness, and to enable them to become responsive and responsible citizens.

One Theory Paper :3 hrs

Marks 70

| Units | | Period | Weightage in Marks |
|--------------|--|---------------|---------------------------|
| I | Variations in Psychological Attributes | 20 | 9 |
| II | Self and Personality | 24 | 10 |
| III | Meeting Life Challenges | 14 | 7 |
| IV | Psychological Disorders | 24 | 10 |
| V | Therapeutic Approaches | 20 | 7 |
| VI | Attitude and Social Cognition | 20 | 8 |
| VII | Social Influence and Group Processes | 22 | 7 |
| VIII | Psychology and Life | 13 | 6 |
| IX | Developing Psychological Skills | 13 | 6 |
| | Total | 170 | 70 |

| MONTH | UNIT/ TOPIC | SUB TOPICS | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY | PRACTICALS/ ACTIVITIES/PROJECT |
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| MARCH | Ch 1- Variations in Psychological Attributes | <ul style="list-style-type: none"> ➤ Individual Differences in Human Functioning ➤ Assessment of Psychological Attributes ➤ Intelligence ➤ Theories of Intelligence ➤ Individual Differences in Intelligence ➤ Variations of Intelligence ➤ Some Misuses of Intelligence ➤ Culture and Intelligence ➤ Emotional Intelligence ➤ Aptitude : Nature and Measurement ➤ Creativity | <p>Students would be able to –</p> <ul style="list-style-type: none"> ➤ understand the concept of individual difference ➤ To be able to enlist the various psychological attributes. ➤ Will be able to compare, contrast and analyze various theories of intelligence ➤ Will be able to critically evaluate the role of heredity and environment in intelligence. ➤ will be able to evaluate and discuss the variations in intelligence ➤ Will be able to assess the role of culture in fostering intelligence ➤ Will be able to enumerate the characteristics of emotional intelligence ➤ Will be able to explain the concept of aptitude and its measurement ➤ To critically evaluate the nature of relationship between creativity and intelligence. | <ul style="list-style-type: none"> ➤ Research based analysis of factors contributing to intelligence ➤ Discussion and debate about importance of IQ and EQ | <ul style="list-style-type: none"> ➤ Practical to study the intelligence of an individual using Ravens Progressive Matrices. ➤ Powerpoint presentation Competition ➤ Brochure/Poster Making Activity on importance of Emotional Intelligence and ways to enhance EQ ➤ Class assignments ➤ Assignment Booklet |
| APRIL | CH-2 Self and Personality | <ul style="list-style-type: none"> ➤ Self and Personality ➤ Concept of Self ➤ Cognitive and Behavioural Aspects of Self ➤ Culture and Self Concept of Personality ➤ Major Approaches to the Study of Personality ➤ Assessment of Personality | <p>Students will be able to-</p> <ul style="list-style-type: none"> ➤ explain the concept of personality ➤ To be able to critically evaluate the difference between self esteem, self efficacy and self regulation ➤ To critically evaluate the relationship between culture and self | <ul style="list-style-type: none"> ➤ Learning through argumentation ➤ Display of varied Personality test used for clinical diagnosis | <ul style="list-style-type: none"> ➤ Practical to study the personality of an individual using Eysenck's Personality inventory ➤ Class assignment ➤ Assignment booklet ➤ John Holland, created a personality grid to help guide |

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| | | | <ul style="list-style-type: none"> ➤ To compare and contrast the various theories of personality ➤ To critically evaluate the various methods of personality assessment. | | <p>career decision-making. Since Senior Secondary school provides a critical juncture for future planning, use Holland's research to explore career options. Brainstorm career options that fit the word you have selected. Prepare a career and educational path that would lead you to an ideal profession.</p> |
| JULY | CH-3 Meeting Life Challenges | <ul style="list-style-type: none"> ➤ Nature, Types and Sources of Stress ➤ Effects of Stress on Psychological Functioning and Health ➤ Coping with Stress ➤ Promoting Positive Health and Well-being | <p>Students will be able to:</p> <ul style="list-style-type: none"> ➤ Explain the various types and sources of stress ➤ To evaluate the effect of stress on our psychological functioning ➤ To critically evaluate the relationship between stress and health ➤ To discuss in detail the various models of stress ➤ To analyse the role of lifestyle in fostering and coping with stress ➤ Enlist the various techniques to cope with stress ➤ Explain the significance of life skills and well being ➤ To critically evaluate the factors that foster positive health and wellbeing | <ul style="list-style-type: none"> ➤ Embodied learning by using relaxation procedures, yogasans , breathing exercises to reduce stress in students ➤ Cross over learning by linking the various life skills and their use in everyday life | <ul style="list-style-type: none"> ➤ Class Assignment ➤ Assignment booklet ➤ Case Based Questions |

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| | <p>CH- 4 Psychological Disorders</p> | <ul style="list-style-type: none"> ➤ Concepts of Abnormality and Psychological Disorders ➤ Classification of Psychological Disorders ➤ Factors Underlying Abnormal Behaviour ➤ Major Psychological Disorders | <p>Students will be able to:</p> <ul style="list-style-type: none"> ➤ state the definition of abnormal behavior and discuss the various approaches to understand abnormal behavior ➤ understand the importance of classification of psychological disorders ➤ enlist the signs and symptoms of major psychological disorders | <ul style="list-style-type: none"> ➤ Case Discussions ➤ Quiz | <ul style="list-style-type: none"> ➤ Project Based Learning- To prepare a detailed case profile of an individual diagnosed with a psychological disorder ➤ Class assignment ➤ Assignment Booklet ➤ Prepare a Case Profile of a Famous Personality like Painters, musicians, actors etc who have been diagnosed with a mental illness. Highlight how the disorder impacted their profession and their life. |
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| | | <ul style="list-style-type: none"> ➤ Schemas and Stereotypes ➤ Impression Formation and Explaining Behaviour of Others through Attributions ➤ Behaviour in the Presence of Others ➤ Pro-social Behaviour | | | <ul style="list-style-type: none"> ➤ Practical- To assess the attitude of an individual using Sodhi's attitude Scale ➤ Practical-To assess the adjustment of an individual using Adjustment inventory for school students ➤ In groups of 5 prepare a skit/ nukkad natak/jingle etc. about any one issue prevalent among students for which you wish to change |
| SEPTEMBER | CH-7 Social Influence And Group Processes | <ul style="list-style-type: none"> ➤ Nature and Formation of Groups ➤ Type of Groups ➤ Influence of Group on Individual Behaviour ➤ Conformity, Compliance, and Obedience ➤ Cooperation and Competition ➤ Social Identity ➤ Intergroup Conflict : Nature and Causes ➤ Conflict Resolution Strategies | <p>Students will be able to:</p> <ul style="list-style-type: none"> ➤ Understand the concept of group <ul style="list-style-type: none"> ➤ To differentiate between different types of groups ➤ To state the influence of environment on humans and vice versa ➤ Differentiate between conformity, compliant and obedience ➤ To critically evaluate the formation of social identity ➤ Understand the difference between cooperation and competition ➤ To state the factors that influence cooperation and competition ➤ Critically evaluate the various factors for inter group conflict ➤ Suggest appropriate strategies to resolve intergroup conflict | <ul style="list-style-type: none"> ➤ Cross over learning by linking the various group processes with the daily life of the learner ➤ Learning through argumentation | <ul style="list-style-type: none"> ➤ Class assignments ➤ Assignment booklet |

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| | CH-8 Psychology and Life | <ul style="list-style-type: none"> ➤ Human-Environment Relationship ➤ Different Views of the Human-Environment Relationship ➤ The Bishnois and the Chipko Movement (Box 8.1) ➤ Environmental Effects on Human Behaviour ➤ Human Influence on the Environment ➤ Noise ➤ Pollution ➤ Crowding ➤ Natural Disasters ➤ Promoting Pro-environmental Behaviour ➤ Psychology and Social Concerns ➤ Poverty and Discrimination ➤ Aggression, Violence, and Peace ➤ Mahatma Gandhi on Non-violence : Why Does ➤ Non-violence Work (Box 8.2) ➤ Health ➤ Impact of Television on Behaviour | <p>Students will be able to</p> <ul style="list-style-type: none"> ➤ Understand the concept of ecology ➤ To appreciate and compare the various viewpoint about the human-environment relationship ➤ To critically evaluate the effect of environment of humans and vice versa ➤ Suggest various ways to promote and save environment ➤ Evaluate and analyze the various causal factors of major social concerns ➤ To discuss the psychological impact of social issues on an individual ➤ Suggest remedies to overcome the various social concerns | <ul style="list-style-type: none"> ➤ Cross over learning by linking the various group processes with the daily life of the learner ➤ Learning through argumentation ➤ | <ul style="list-style-type: none"> ➤ Class assignments ➤ Assignment booklet |
| OCTOBER | CH-9 Developing Psychological Skills | <ul style="list-style-type: none"> ➤ Developing as an Effective Psychologist ➤ General Skills ➤ Intellectual and Personal Skills; Sensitivity to Diversity ➤ Observational Skills ➤ Specific Skills ➤ Communication Skills ➤ Characteristics of Communication | <p>Student are able to -</p> <ul style="list-style-type: none"> ➤ Understand the different skills required to be and effective counselor ➤ Critically analyze the characteristics of essential skills to be an effective helper ➤ To appreciate the factors that characterizes an effective helper | <ul style="list-style-type: none"> ➤ Class assignments ➤ Assignment booklet | <ul style="list-style-type: none"> ➤ Listening Skill activity ➤ Class assignments ➤ Assignment booklet |

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| | | <ul style="list-style-type: none">➤ Some Tips to Improve Your Listening Skills➤ Psychological Testing Skills➤ Essentials of Psychological Assessment Skills➤ Interviewing Skills➤ Types of Interview Questions➤ Counselling Skills | | | |
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Text Book : NCERT Psychology

SUBJECT : PHYSICAL EDUCATION

| MONTH | TOPICS | SUB-TOPICS | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY | PRACTICALS |
|----------------------|---|---|---|--|---|
| April and May | Unit-1. Planning in Sports Unit-7, Physiology and Injuries in Sports | <p>Meaning and Objectives of Planning · Various Committees and its Responsibilities (Pre-during and Post) · Tournament- Knockout, League or Round Robin and Combination · Procedure to Draw Fixture- Knock-Out (Bye and Seeding) and League (Staircase and Cyclic) ·</p> <p>Sports injuries: Classification (Soft Tissue Injuries: (Abrasion, Contusion, Laceration, Incision, Sprain and Strain) Bone and Joint Injuries: (Dislocation, Fractures: Stress Fracture, Green Stick, Communated, Transverse Oblique and Impacted) Causes, Prevention and treatment Physiological factor determining component of Physical Fitness Effect of exercise on Cardio Respiratory System Effect of exercise on Muscular System First Aid – Aims and Objectives</p> | <p>To make them comfortable in understanding the concepts</p> <p>To help them in developing idea about sports injuries</p> <p>To analyses the types of bones and joints injuries.</p> | <p>To develop skills of Specific sports programs.</p> <p>To arrange all first aid steps in flow chart which help in making the learning process faster</p> | <p>Motor Fitness Test- Administration of two items and maintain its Record File (50 M Standing Start, Sit and Reach)</p> <p style="text-align: center;">ART INTEGRATED ACTIVITY</p> <p style="text-align: center;">Visit online on hospital websites for different case studies related to Sports injuries. Make a digital photo frame depicting Sports injuries</p> |
| May and July | Unit-2, Sports and Nutrition Unit-9, Psychology and Sports | <p>Balanced Diet and Nutrition :-Macro and Micro Nutrients · Nutritive and Non-Nutritive components of Diet · Eating for Weight Control-A healthy weight, The Pitfalls of Dieting, Food Intolerance and Food Myths</p> <p>Personality; its definition and types – Trait and Types (Sheldon and Jung Classification) and Big Five Theory</p> <p>Motivation, its type and techniques</p> | <p>To make them aware about macro and micro nutrients</p> <p>To get knowledge about the various strategies for adherence to exercise.</p> | <p>Visualization of different nutrients in balanced diet with diagrams</p> <p>Interactive discussion about common physiological human disorders.</p> | <p>List of the games :- Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket, Bocce and Unified Basketball, [CWSN {children with Special Needs}</p> <p>Diagram of Field and Equipments, rules, terminology and skill and maintain it in the record file.</p> |

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| | | Meaning, Concept and Types of Aggressions in Sports | | | |
| August and September | Unit-3, Yoga and Life Style Unit-6, Test and Measurement in Sports | Asanas and Preventive Measures · Procedure, Benefits and Contra Indications for Vajra asana, Hasta asana, Trikon asana. Motor Fitness Test – 50 M Standing Start, 600 M Run/Walk, Sit and Reach, Partial Curl Up, Push Ups (Boys), Modified Push Ups (Girls), Standing Broad Jump, Agility – 4 × 10 M Shuttle Run Measurement of Cardio Vascular Fitness – Harvard Step Test/Rockport Test - Computation of Fitness Index | To visualize and understand Lifestyle related diseases. Learning by Doing Method | Lecture cum demonstration Rikli and Jones - Senior Citizen Fitness Test 1. Chair Stand Test for lower body strength 2. Arm Curl Test for upper body strength 3. Chair Sit and Reach Test for lower body flexibility 4. Back Scratch Test for upper body flexibility 5. Eight Foot Up and Go Test for agility 6. Six Minute Walk Test for Aerobic Endurance | Procedure for Asana, Benefits, Contraindication for any two Asanas for Each Life Style diseases and maintain it in the record file ART INTEGRATED ACTIVITY SING SKELETON BONES SONG https://youtu.be/WdCRrcfan44 Record and Share. |
| October and November | Unit-4, Physical Education and Sports for CWSN (Children with Special Needs- Divyang) Unit-10, Training in Sports | Concept of Disability and Disorder Types of Disability, its causes and nature (cognitive disability, intellectual disability, physical disability) Types of Disorder, its cause and nature (ADHD, SPD, ASD, ODD, OCD) Disability Etiquettes Strategies to make Physical Activities assessable for children with special need. Motor development and factors affecting it Exercise Guidelines at different stages of growth and Development | To make understanding about various disabilities To visualize and understand Disability Etiquettes. | Display of types of disabilities with the help of flow charts . Brain Storming sessions with hands on activities | Procedure for Administrating :- General Motor Fitness – Barrow three item general motor ability (Standing Broad Jump, Zig Zag Run, Medicine Ball Put – For Boys: 03 Kg and For Girls: 01 Kg) for ten students and maintain it in record file. |
| December | | | | | |

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| | | <p>Speed – Definition, types and methods to develop Speed – Acceleration Run and Pace Run</p> <p>Flexibility – Definition, types and methods to improve flexibility</p> <p>Strength – Definition, types and methods of improving Strength – Isometric, Isotonic and Isokinetic</p> <p>Endurance - Definition, types and methods to develop Endurance – Continuous Training, Interval Training and Fartlek Training</p> <p>Coordinative Abilities – Definition and types</p> | <p>To comprehend the new terms</p> <p>To understand the steps of exercise guidelines</p> <p>To study different coordinative abilities.</p> | <p>Interactive discussion on exercise guidelines.</p> | <p>Push Ups (Boys), Modified Push Ups (Girls). · Procedure for Asana, Benefits, Contraindication for any two Asana for Each Life Style diseases and maintain it in</p> <p>· Motor Fitness Test, Administration of two items and maintain in the record file(600 M Run/Walk Partial Curl Up,</p> |
| January | <p>Unit-8 Bio-Mechanics and Sports</p> <p>Unit-5, Children and women in Sports</p> | <p>Types of movements (Flexion, Extension, Abduction and Adduction)</p> <p>Newton’s Law of Motion and its application in sports</p> <p>Meaning and Importance of Biomechanics in Sports</p> <p>Common Postural Deformities - Knock Knee; Flat Foot; Round Shoulders; Lordosis, Kyphosis, Bow Legs and Scoliosis and their corrective measures</p> <p>Sports participation of women in India</p> | <p>To develop understanding of types of movements.</p> <p>To interpret the importance of postural deformities</p> <p>To analyse various eating disorders</p> | <p>Discussion about Newtons laws.</p> <p>Case Studies, Hands on Activities</p> <p>Pair and Share with Peer teaching methods</p> | <p>List of the games :- Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket, Bocce and Unified Basketball, [CWSN {children with Special Needs}</p> <p>ART INTEGRATED ACTIVITY</p> <p>Diagram or Pictures of Field and Equipments, rules, terminology and skill and Players , Paste and maintain it in a file.</p> |
| January and February | | <p>Revision</p> <p>Pre Board Examination</p> | | | |

Book: Physical Education (NCERT)

PRACTICAL WORK

- Physical Fitness Test -6 Marks
- Proficiency in Games and sports (Skill of any one game of choice from the given list*) - 7 Marks
- Yogic Practices - 7 Marks
- Record File - 5 Marks
- Viva Voce (Health/Games and sports/Yoga) - 5 Marks

Reference Books

PHYSICAL EDUCATION – By APC Publications

SUBJECT : LEGAL STUDIES

Marking scheme (Unit wise)

| S NO. | UNITS | MARKS |
|--------------|---|--------------|
| 1. | Judiciary | 10 |
| 2. | Topics in law | 20 |
| 3. | Arbitration, Tribunal adjudication and alternative dispute resolution | 10 |
| 4. | Human rights in India | 10 |
| 5. | Legal profession in India | 10 |
| 6. | Legal Services | 10 |
| 7. | International Context | 10 |
| 8. | Project (Based on Syllabus) | 20 |
| | TOTAL | 100 |

| MONTH | UNIT/ TOPIC | SUB TOPICS | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY | PROJECT BASED INTERNAL ASSESSMENT |
|---------|----------------------|---|--|---|---|
| Mar-Apr | Unit 1- Judiciary | <p>Structure & hierarchy of courts and legal offices in India,</p> <p>Constitution- Roles and Impartiality,</p> <p>Appointment, trainings, retirement and removal of judges,</p> <p>Courts and judicial review.</p> | <ul style="list-style-type: none"> • Students will be able to – • Gain knowledge of the court structure, their powers and roles • Interpret situational questions based on the qualification, removal of judges, Public Interest Litigation • Understand the importance of independence and impartiality of judiciary for sound justice delivery system. | <ul style="list-style-type: none"> • Research conducted by learners on the methods and techniques used by courts of countries following common law and civil law. • Hussainara Khatoon v. state of Bihar taught to understand the concept of PIL. • Assignment booklet questions discussed • Collage work on famous case studies. | <p>A student is required to select any 5 decided cases related to the curriculum.</p> <p>Research on the case studies must include the following points-</p> <ul style="list-style-type: none"> • Name of the case • Parties to the case • Nature of the case- Civil, Criminal or Constitutional. • Facts of the case and issues involved • Decision of the case. • Focus should be on the decision of the case wherein the ratio decidendi and Obiter Dicta can be clearly identified and marked • The difference between the two parts must also be highlighted. <p>The project file will be assessed in the following format-</p> <p>Presentation and preparation of file- 5 marks</p> <p>Research work- 5 marks</p> <p>Application of the understanding of legal concept- 5 marks</p> <p>Viva- 5 marks</p> |

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|---------|--|--|---|---|--|
| Apr-May | Unit 2- Topics of law | <p>Law of property</p> <p>Law of contract</p> <p>Law of torts</p> <p>Introduction to Criminal laws in India</p> <p>Administrative Law</p> | <ul style="list-style-type: none"> • Students are able to- • Understand the provisions of laws and its application in hypothetical case studies. • Concepts such as Confession, admission, relevancy of facts, stages of crime are understood by creating examples and applying the correct legal principle. • Concepts of Tort law like Intentional and Unintentional torts are understood. Importance of Contract law for governing legal transactions and the ways of Transfer under TPA, 1882 are studied in a detailed manner. | <ul style="list-style-type: none"> • Case solving method used to make the learners to read, interpret and analyse cases and apply the legal principles to find the right solution. • Cases which are landmark in Indian history are discussed and given for research purpose. • Assignment booklet questions discussed • Making PPT presentation on Latin terms used in law | |
| July | Unit 3- Arbitration, Tribunal adjudication and Alternative dispute resolution | <p>Adversarial and Inquisitorial System</p> <p>Introduction to Alternative Dispute Resolution System</p> <p>Types of ADR- Arbitration and administrative tribunals, Mediation and Conciliation</p> <p>Lok Adalats</p> <p>Ombudsman</p> <p>Lokpal and Lokayukta</p> | <ul style="list-style-type: none"> • Students are able to- • Understand the situations given and are able to interpret and apply the right principle. • Study alternative methods for amicable dispute resolution preferred by the parties • Understand the importance of Article 39A of Indian constitution and Legal Services Authorities act, 1987 | <ul style="list-style-type: none"> • Emphasis is done on problem solving method- by giving situational based questions on different topics and making the students to solve by interpreting it. • Assignment booklet questions discussed. • To make a video presentation on famous judges of India and giving a brief description of their work | |

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|----------|-----------------------------------|--|--|---|--|
| July-Aug | Unit 4- Human rights in India | <p>Introduction- International Context</p> <p>Constitutional framework and related laws in India</p> <p>Complaint Mechanisms of Quasi-Judicial bodies.</p> | <ul style="list-style-type: none"> • Students will be able to- • Gain knowledge of fundamental rights, DPSPs that are framed in conformity with the provisions of UDHR. • To study briefly the aim and objective of ICCPR, CEDAW, UDHR, Convention on the rights of Child and so on. | <ul style="list-style-type: none"> • Problem solving method is used in order to make the students understand and interpret the hypothetical questions based on various constitutional articles • Illustrations similar to landmark cases are created for better understanding. • Assignment booklet questions are discussed. | |
| Aug-Sept | Unit 5- Legal profession in India | <p>Introduction History of Legal Profession in India</p> <p>Classification of Lawyers- Roles and Functions</p> <p>Advocates Act 1961,</p> <p>Bar Council of India,</p> <p>Lawyers and Professional ethics</p> <p>Advertising by lawyers,</p> <p>Opportunities for law graduates</p> <p>Legal education in India,</p> <p>Liberalization of profession,</p> <p>Women and the legal profession in India.</p> <p>Legal Profession in other jurisdictions</p> | <ul style="list-style-type: none"> • Developments which took place in the roles of legal practitioners from pre independent to post-independent era are understood by them. • Students learn the provisions of Advocates act 1961, powers and functions of Bar Council of India • Criteria and qualifications to become an advocate in India and abroad are also studied. | <ul style="list-style-type: none"> • Legal education of various countries is taught through diagrammatic presentations. • Situational questions are given that makes the learners to read, interpret and apply the correct principle to find a solution. • Questions from previous year question papers are discussed. • Create a Law book titled "Learning the Law" explaining the topics related to present day to day scenario or topics related with statutes/acts or case studies. For Eg- Stages of Crime, Writs u/a 32 and 226, Triple Talaq, Mohiri Bibee v. Dharmodas Ghosh, Opportunities for students after pursuing law and so on | |

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| <p>Sept-Oct</p> | <p>Unit 6- Legal services</p> | <p>Introduction Brief History of legal services</p> <p>Legal background- Free Legal Aid under International Law, The Indian Legal system, Free legal aid under Criminal law</p> <p>Legal aid by the state,</p> <p>Legal aid under Indian constitution,</p> <p>NALSA regulation 2010</p> <p>Criteria for giving free legal services Hierarchy of legal Aid service authorities- the central Authority, the state authority, the district authority and Taluk Legal Service Committees</p> <p>Lok Adalats</p> <p>Legal aid in context of social justice and human rights.</p> <p>Funding</p> | <p>Students will be able to-</p> <ul style="list-style-type: none"> • Understand the provisions of legal services authorities Act, 1987 • Importance of legal aid to an indigent person, criteria of giving legal aid are studied • NALSA regulation 2010 and provision in Criminal Procedural Code for free legal aid are also studied by learners | <ul style="list-style-type: none"> • Interpret and solve hypothetical factual questions in the form of true and false, fill ups and objective type questions. • Important questions pertaining to this chapter are discussed from previous year board and sample papers. • Make a PPT presentation on the topic Arbitration in Sports Dispute Resolution in India. Students have to research on the use of Arbitration and Mediation Clauses used for resolving issues in the matters of sports. | |
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| Oct | Unit 7- International context | <p>Introduction to International law- History and types</p> <p>Sources of International law- Treaties, customs and ICJ Decisions</p> <p>International Institutions International Human rights Customary International law International law and municipal law International law and India Dispute Resolution-ICJ, ICC and other mechanisms.</p> | <ul style="list-style-type: none"> • Students will be able to know the difference between municipal law and international law. • Working of ICJ and ICC are also studied by the students to get knowledge about the dispute resolution mechanism prevalent in international domain to resolve international disputes. | <ul style="list-style-type: none"> • Conduct research by students on different organisations such as IMF, ILO, WHO and UNESCO to witness their immense contribution in the field of HRs • To make the students research on bilateral and multilateral treaties signed by India and other nations in order to make them understand the modes of giving consent to treaty provisions. | |
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INTEGRATION OF LEGAL STUDIES WITH A SUBJECT-

WITH ARTS-

- 1. Case Recreations-** Students may recreate a landmark case decided by Apex Court showing its facts and judgment. Since they have to act it out which not only help them to showcase their acting skills but are also required to film it which would be done by using videography, editing and other techniques.
- 2. Documentaries-** Short documentaries will be shown to students based on landmark cases. They are required to mimic it or create their own event similar to the facts shown in the documented video in order to make their own video presentations based upon which questions shall be put up to other group of students. It will be more like a team play where one team will prepare documentary and the other will answer questions.

ACTIVITIES INVOLVING MULTIPLE INTELLIGENCIES-

- Moot Court
- Group Discussions
- Debates
- Extempore

TEXT BOOK

REFERENCE BOOKS

- Legal Studies Class XII, CBSE Publication
- The Constitution of India Bare Act, Transfer of Property Act, 1882, Law of Torts by R K Bangia, Contract Law By Avtar Singh, Arbitration and Conciliation Act 1996, Advocates Act, 1961, Legal Services Authorities Act, 1987.

SUBJECT : PAINTING

| MONTH | TOPIC | SUB TOPICS | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY/ART INTEGRATION/INTER DISCIPLINARY APPROACH | ACTIVITY/PR ACTICAL/ PROJECT |
|-------|---|---|---|---|---|
| MARCH | Chapter 1 INTRODUCTION TO INDIAN MINIATURE SCHOOLS | 1.Pala group 2.Paintings of Jain School 3.Central Indian Paintings | To encourage students for free expression and creativity | Implementing "Art" as a pedagogical tool in classroom | Basics of line drawing using shading pencils |
| APRIL | Chapter 2 RAJASTHANI SCHOOL OF MINIATURE PAINTING | 1.Origin and development 2.Mewar Maru Ragigni 3.Bundi Raja Anirudha Singh Hara 4.Jodhpur Chaugan Players 5.Kishangarh Radha (Bani-Thani) 6.Bikaner Krishna on Swing 7.Jaipur Bharat meets Rama at Chitrakutra 8. Method of Painting 9.Paper | Expressing through technique, aesthetics, creativity and imagination | Refining aesthetic sensibilities based on earlier experiences | Free hand line and shape drawin using shading pencils |
| MAY | Chapter 3 PAHARI SCHOOL OF MINIATURE PAINTING | 1.Origin and development 2.BASHOLI Krishna with Gopies 3.GULER 4.GARHWAL 5.CHAMBA 6.KANGRA Nand, Yashoda and Krishna with kingsmen going to Vrindavana | To develop a perspective of artistic and creative expression with different tools, techniques and mediums in 2D and 3D visual art forms | Show videos on object drawing | Object drawing using colour pencil and shading pencil |

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| JULY | Chapter 4 MUGHAL SCHOOL OF MINIATURE PAINTING | 1.Introduction 2.Krishna lifting the mount Govardhan 3.Falcon on the Bird-Rest 4.Kabir and Raidas 5.The Marriage Procession of Dara Shikoh 6.Birth of Salim | Understanding the basic characteristics of different techniques, mediums and its practical applications | Create awareness about the art education as a pedagogical tool to deeper learning | Still Life using shading pencil |
| AUGUST | Chapter 5 DECCAN SCHOOL OF MINIATURE PAINTING | 1.Introduction 2.Ragini Pathamsika 3.Chand Bibi Playing Polo 4.Hazrat Nizzamudin Auliya and Amir Khusro | Implement the basics knowledge and apply them in object drawing, learn to handle different mediums | | Still Life using shading pencil |
| SEPTEMBER | Chapter 6 INTRODUCTION TO BENGAL SCHOOL OF PAINTING | 1.Introduction 2.Origin 3.Development 4.Characteristics 5.Artist's Involved | To make students express freely through their drawings, ideas, creativity and emotions | To make students conscious about the good and beautiful in environment, including classroom, school, home and community through an integrated learning approach which they enjoy | Market scene composition drawing with water color |
| | Chapter 7 STUDY OF PAINTING OF THE BENGAL SCHOOL | 1.Journey's End- Rabindranath Tagore 2.Rasa Leela- Kshitindranath Majamdar 3.Radhika- Abdur Rahman Chughtai 4.Meghdoot- Ram Gopal Vijayvargiya | Learning and Understanding the different artists work and their unique style and approach | | Railway scene composition drawing with shading pencils |
| | Chapter 8 INDIAN NATIONAL FLAG | Inrtoduction 1.Flag of 1906 2.Flag of 1921 3.Flag of 1947 | Using the knowledge gained from the above topics and soft skills to put together and compose the scene by handling different mediums together | Different artists work can be shown as an experimental learning for Pedagogical teaching | |

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| | Chapter 9 CONTRIBUTION BY THE INDIAN ARTISTS TOWARDS NATIONAL FREEDOM MOVEMENT | 1.Introduction 2.Modern review 3.Bharat Mata by Three- Artists 4.Sati 5.Declaration of Peace in Punjab | To make students express their artistic skills through the integrated approach | | |
| OCTOBER | Chapter 10 INTRODUCTION TO MODERN TRENDS IN INDIAN ART (Painting) | Introduction 1.M.F.Hussain- Mother Teresa 2.Raja Ravi Verma- Rama Vanquishing the pride of the ocean 3.Amrita Sher-Gil- Haldi Grinders 4.Jamini Roy- Mother and Child | Learning and Understanding the different artists work and their unique style and approach | Generate individual style and borrow ideas from artist's work in order to communicate ideas | Landscape with water color on dry sheet |
| | Chapter 11 MODERN TRENDS IN INDIAN ART (Graphics) | Introduction 1.Whirlpool 2.Children 3.Devi 4.Man, Women and Tree 5.Of Walls | To develop an insight towards sensibility and aesthetic and applying the theory knowledge in the practical application | | Landscape with water color on wet sheet |
| | Chapter 12 MODERN TRENDS IN INDIAN ART (Sculptures) | Introduction 1.Santh al Family 2.Trilumph of Labour 3.Ganesha 4.Cries Unheard 5.Chatumukhi | | | |

TEXT BOOK: FULL MARKS

SUBJECT : COMPUTER SCIENCE

Distribution of Marks

| Unit No | Unit Name | Marks |
|--------------|--|-------|
| 1. | Programming and Computational Thinking | 40 |
| 2. | Computer Networks | 10 |
| 3. | Data Management | 20 |
| 4. | Practicals | 30 |
| TOTAL | | 100 |

| Month | Topic | Sub Topic | Learning Outcomes | Innovative Pedagogy/ Art Integration/ Interdisciplinary Approach | Practical |
|--------------|-------------------------|---|--|---|---|
| March | Review of Python Basics | About Python Language Variables and Data Types Operators and Operands Input and Output Flow of Execution Strings, Lists, Tuples and Dictionary | Basics of Python Language Datatypes and Programming Constructs | Python Coding in Lab. Assignment booklet for practice. | Python programs using strings, lists tuples and dictionaries. |
| | Functions | Introduction to Functions Types of Functions (Built- In, Modules, User Defined) How function returns a value Parameters and Arguments in Functions Passing Lists to Functions Scope of variables Using main() as a Function Recursion | | Classroom discussion on modularity approach of programming, namespace in python, user defined / built in functions. | User defined functions. Functions using recursion. |
| April | Using Python Libraries | Module in Python Importing Python Modules | Learn how to create and use Python libraries. | Discussion on the usage of various modules in python. | Creating modules and packages.in python. |

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|---------------|---------------------------|--|---|---|---|
| | Date File Handling | Namespaces in Python Name Resolution Module and Member Aliasing Package/Library Standard Python Libraries Introduction File System Why use Files? Data File Operations Opening and Closing files Reading from a file, Writing to file Appending to file, Binary file operations Relative and Absolute Paths, Standard file streams Binary File: Basic operations on a binary file: Open (filename – absolute or relative path, mode) / Close a binary file, Pickle Module – methods load and dump; Read, Write/Create, Search, Append and Update operations in a binary file. | Learn file handling. | Assignment booklet for practice. | Using built in modules and packages. Python programs based on text and binary files. Programs to add and display data from a python file. |
| May | CSV Files | CSV File: Import csv module, functions – Open / Close a csv file, Read from a csv file and Write into a csv file using csv.reader() and csv.writerow(). | Reading and writing CSV files. | Programs based on CSV files. Prepare a poster on Cyber Bullying | Python programs to push, pop and traversal in a stack. |
| July | Data Structures in Python | Introduction to data structures. Implementation of stack using list Implementation of queue using list | Learn basic data structures: lists, stacks, and queues. | Real life examples of stacks and queues. Group Presentation on Ideal/Safe settings of the popular social media apps. | Programs to append, serve and display data from a queue. |
| August | Computer Networks | Overview of computer networks Adv. of computer networks Structure of a network | Get a basic understanding of | | - |

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| | | Interface of Python with an SQL database - Connecting SQL with Python - Creating Database connectivity Applications - Performing Insert, Update, Delete queries - Display data by using fetchone(), fetchall(), rowcount | | | |
| November | PREBOARD I | | | | |
| December | PREBOARD II | | | | |
| January | CBSE Practical Examination. | | | | |

TEXT BOOK : Computer Science with Python by Preeti Arora (Publisher : Sultan Chand)

REFERENCE BOOK : Question Bank and Sample paper by Rachna Sagar
Computer Science with Python by Sumita Arora (Publisher : Dhanpat Rai)

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SUBJECT : INFORMATICS PRACTICES

| Unit No. | Unit Name | Marks |
|--------------|---|------------|
| 1 | Data Handling using Pandas and Data Visualization | 30 |
| 2 | Database Query using SQL | 25 |
| 3 | Introduction to Computer Networks | 07 |
| 4 | Societal Impacts | 08 |
| 5 | Practical | 30 |
| TOTAL | | 100 |

| Month | Topic | Sub Topic | Learning Outcomes | Innovative Pedagogy/ Art Integration/ Interdisciplinary Approach | Practical |
|-------|---------------------------------------|---|--|--|---|
| April | Data Handling using Pandas - I | <ul style="list-style-type: none"> Introduction to Python libraries- Pandas, Matplotlib. Data structures in Pandas - Series and data frames. Series: Creation of series from ndarray, dictionary, scalar value; mathematical operations; series attributes, head and tail functions; selection, indexing and slicing. Data Frames: creation of data frames from dictionary of series, list of dictionaries, text/CSV files, display, iteration. Operations on rows and columns: add (insert /append) , select, delete (drop column and row), rename, Head and Tail functions, indexing using labels, Boolean | Create Series, Data frames and apply various operations. | Practical using python IDLE Assignment on the topic. | Creating Pandas series and Data Frames, commands / attributes to work on series / data frames |

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| | | indexing; joining, merging and concatenation of data frames. Importing/Exporting Data between CSV files and Data Frames. | | | |
| May | Data handling using Pandas – II | <ul style="list-style-type: none"> Descriptive Statistics: max, min, count, sum, mean, median, mode, quartile, Standard deviation, variance. Data Frame operations: Aggregation, group by, Sorting, Deleting and Renaming Index, Pivoting. Handling missing values – dropping and filling. Importing/Exporting Data between MySQL database and Pandas. | Perform aggregation operations, calculate descriptive statistics. | Practical using python IDLE Assignment on the topic. | Python programs based on data frames. Creating pivot tables. Using statistics functions on data frames. |
| July | Data Visualization | <ul style="list-style-type: none"> Purpose of plotting, drawing and saving of plots using Matplotlib (line plot, bar graph, histogram, pie chart, frequency polygon, box plot and scatter plot). Customizing plots: color, style (dashed, dotted), width; adding label, title, and legend in plots. | Visualize data using relevant graphs. | Practical using python IDLE Assignment on the topic. Create database for a Cricket team. Show their performance yearly using bar graph | Python programs to plot graphs. |
| August | Database Query using SQL | <ul style="list-style-type: none"> Math functions: POWER (), ROUND (), MOD (). Text functions: UCASE ()/UPPER (), LCASE ()/LOWER (), MID ()/SUBSTRING ()/SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM (). Date Functions: NOW (), DATE (), MONTH (), | Design SQL queries using aggregate functions. Import/Export data between SQL database and Pandas. | Practical using python IDLE Assignment on the topic. | SQL commands based on SQL functions – Row functions / Column functions. Queries to join two or more tables. SQL Algebra. |

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| | | <p>MONTHNAME (), YEAR (), DAY (), DAYNAME (). Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*).</p> <ul style="list-style-type: none"> • Querying and manipulating data using Group by, Having, Order by. Operations on Relations - Union, Intersection, Minus, Cartesian Product, JOIN (Cartesian Join, Equi Join, Natural Join). | | | |
| September | HALF YEARLY EXAMINATION | | | | |
| October | Introduction to Computer Networks | <ul style="list-style-type: none"> • Introduction to networks, Types of network: LAN, MAN, WAN. Network Devices: modem, hub, switch, repeater, router, gateway Network Topologies: Star, Bus, Tree, Mesh. | Learn networking, types of networks, network devices. | Assignment on networking and terms used in networking | Create a quiz on networking, networking types and network devices. |
| November | Introduction to Computer Networks | <ul style="list-style-type: none"> • Introduction to Internet, URL, WWW and its applications- Web, email, Chat, VoIP. Website: Introduction, difference between a website and webpage, static vs dynamic web page, web server and hosting of a website. Web Browsers: Introduction, commonly used browsers, browser settings, add-ons and plug-ins, cookies | Learn terminology related to networking and the internet. | Assignment on the topic. | Create a presentation on various internet terminology and case based questions for setting up networking. |
| December | Societal Impacts | <ul style="list-style-type: none"> • Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open source software (FOSS), cybercrime and cyber laws, | Identify internet security issues and configure browser settings. | Assignment on the topic | Create a video on Cyber laws and cybercrimes. |

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|-----------------|---------------------------|--|---|-------------------------|----|
| | | hacking, phishing, cyber bullying, overview of Indian IT Act. | | | |
| January | Societal Impacts | <ul style="list-style-type: none"> E-waste: hazards and management. Awareness about health concerns related to the usage of technology. | Explain the impact of technology on society including gender and disability issues. | Assignment on the topic | -- |
| February | ANNUAL EXAMINATION | | | | |

TEXT BOOK : Informatics Practices with Python by Preeti Arora (Publisher : Sultan Chand)

REFERENCE BOOK : Question Bank and Sample paper by Rachna Sagar, IP with Python NCERT

SUBJECT : ENGINEERING GRAPHICS

1. Weightage of Contents (Unit Wise) :

| UNIT | TOPIC | MARKS |
|-------------|---|--------------|
| I | Isometric Projection of Solids | 25 |
| II | Machine Drawing A. Drawing of machine parts (i) Drawing to full size scale with instruments (ii) Free Hand sketches B. Assembly and Disassembly Drawings 1. Bearings 2. Rod Joints 3. Tie-Rod and Pipe Joints 4. Couplings 5. Solid C.I.Pulley | 45 |
| | Practical | 30 |
| | Total Marks | 70 |

| MONTH | CHAPTER | SUB TOPICS | LEARNING OUTCOMES | ACTIVITY/INNOVATIVE PEDAGOGY /ART INTEGRATION / INTERDISCIPLINARY APPROACH |
|--------------|---------|--|--|--|
| March, April | CH.- 1 | Isometric Projection | Students will be able to analyse and understand how to convert 2D drawing to 3D drawings. This will help in improving their imagination skills. | Prepare 2D drawings of prescribed machine blocks and their models by using clay, wax, soap, thermocol etc. |
| April, May | CH.- 2 | Machine Parts | To identify the function and utilisation of different machine parts. This will also create awareness of the shapes and standard dimensions to be used in machine parts formation. | ➤ Create prescribed machine blocks or simple solids (Prisms, Pyramids and Frustum of triangular, square, pentagonal and hexagonal pyramids) by using CAD software. |
| July | CH.- 3 | Open Bearing, Bushed Bearing | ➤ Students will be able to visualise the assembling and disassembling of various parts involved, ➤ will be able to understand how different parts of machine should be positioned to form the perfectly functional machine. | Using Models for 3-D visualisation |
| August | CH.- 4 | Sleeve & cotter Joint, Gib & Cotter Joint) | | |
| Sept. | CH.- 5 | Tie Rod & Pipe Joint | | |
| Oct. | CH.-6 | Couplings | | |
| Nov. | CH.-7 | Solid C.I.Pulley | | |

Books : Engineering Graphics Vol. II by Jasbir Singh (Full Mark Publication)

SUBJECT : ARTIFICIAL INTELLIGENCE

Total Marks: 100 (Theory 50 + Practical 50)

| | UNITS | NO. OF HOURS (Theory + Practical) | MAX. MARKS (Theory + Practical) |
|-----------------|---|--------------------------------------|------------------------------------|
| PART – A | Employability Skills | | |
| | Unit 1 : Communication Skills-IV | 10 | 10 |
| | Unit 2 : Self-Management Skills-IV | 10 | |
| | Unit 3 : ICT Skills-IV | 10 | |
| | Unit 4 : Entrepreneurial Skills-IV | 15 | |
| | Unit 5 : Green Skills-IV | 05 | |
| | Total | 50 | |
| PART – B | Subject Specific Skills | | |
| | Unit 1: Capstone Project | 10 | 40 |
| | Unit 2: Model Lifecycle | 10 | |
| | Unit 3: Storytelling Through Data | 15 | |
| | Total | 35 | |
| PART – C | Student Capstone Project (PRACTICAL) | | |
| | Student AI project Development & Presentation (Team work): Submission of Project Logbook and Video presentation | 30 | 50 |
| | Total | 30 | 50 |
| | GRAND TOTAL | 115 Hours | 100 |

Total Marks: 100 (Theory 50 + Practical 50)

| MONTH | UNIT/ CHAPTER | SUB TOPIC | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY/ ART INTEGRATION/ INTERDISCIPLINARY APPROACH | ACTIVITY/ PRACTICAL/PROJECTS |
|----------------|---|---|--|--|------------------------------|
| April – August | Unit 1: Introduction (knowledge) | <ul style="list-style-type: none"> • Understanding the problem • Decomposing the problem through DT framework • Analytic Approach • Data Requirements • Data Collection • Modelling approach • How to validate model quality <ul style="list-style-type: none"> ➤ By test-train split ➤ Introduce concept of cross validation • Metrics of model quality by simple Maths and examples from small datasets – scaled up to capstone project (Apply) <ul style="list-style-type: none"> ➤ RMSE- Root Mean Squared Error ➤ MSE – Mean Squared Error ➤ MAPE – Mean Absolute Percent Error | <p>Knowledge – Define AI and ML</p> <p>Comprehension – What are the AI products/applications in society and how are they different from non-AI products/applications?</p> <p>Evaluation – What kind of jobs may appear in the future?</p> | Collection of Datasets | Image Classification |

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|-----|--------|--|--|-------------------------------|---|
| Nov | Unit-3 | <ul style="list-style-type: none"> • The Need for Storytelling <ul style="list-style-type: none"> ○ Information processing and recalling stories ○ Why is storytelling important? ○ Structure that story! • How to create stories? <ul style="list-style-type: none"> ○ Begin with a pen-paper approach ○ Dig deeper to identify the sole purpose of your story ○ Use powerful headings ○ Design a Road-Map ○ Conclude with brevity • Ethics of storytelling • Types of Data and Suitable Charts <ul style="list-style-type: none"> ○ Text [Wordclouds] ○ Mixed [Facet Grids] ○ Numeric [Line Charts/ Bar Charts] ○ Stocks [Candlestick Charts] ○ Geographic [Maps] • Stories During the Steps of Predictive Modeling <ul style="list-style-type: none"> ○ Data Exploration ○ Feature Visualizing ○ Model Creation ○ Model Comparisons • Best Practices of Storytelling • Reference Material /Online Resources: <ul style="list-style-type: none"> ○ Analytics Vidhya (https://www.analyticsvidhya.com/blog/2017/ | | AI Project Cycle Presentation | <p>Activity- LUIS</p> <p>He wants to create a password based smart system for the entry door of his house for any person to enter his house.</p> <p>Write a code which can take password as an input from the user and then check for the correct password which is "SECRET". The user can enter the password only 3 times and the system should print "You cannot enter the house after that".</p> |
|-----|--------|--|--|-------------------------------|---|

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|------|--|--|--|--|--|
| | | <p>10/a rt-story-telling-data-science/</p> <ul style="list-style-type: none"> ○ Udemy: (https://www.udemy.com/course/storytelling-with- data/) ○ Coursera: (https://www.coursera.org/learn/intro-business- analytics) <p>Coursera: (https://www.coursera.org/learn/communicate- with-impact)</p> | | | |
| Sept | | <p>Student capstone project development</p> <ul style="list-style-type: none"> • Students to form teams and work on developing an AI based project <p>Resources like the AI Project Guide and AI Project Log Book to be used</p> <p>Art Integrated Activity</p> <p>A school has to select students for their upcoming sports meet. The school principal forms a group of three teachers (a selection jury) and entrusts them with the responsibility of selection of students based on the following criteria:</p> <ul style="list-style-type: none"> • Students' Marks (in | | | <p>Sports Integrated Activity Using Image Classifier, identify the different sports accessories.</p> <p>Art Integrated Activity Resources like the AI Project Guide and AI Project Log Book to be used</p> |

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|--|--|---|--|--|--|
| | | <p>Grade X)</p> <ul style="list-style-type: none">• Students' Gender• Students' Age• Students' Emotional stability <p>The school has a history of fair selection procedure and therefore only talented and bonafide students are able to secure a place in the sports team. In order to continue the same standard and selection procedure, the principal decides to share (with the jury) data of about 50 previous students' (who were selected) cases to study. The principal feels this will give the jury an opportunity to practice, which will eventually help them make a fair selection.</p> | | | |
|--|--|---|--|--|--|

SYLLABUS – APPLIED MATHS

Weightage of contents (Unit wise)

| No. | Units | Marks |
|------|-------------------------|-----------|
| I. | Relations and Functions | 08 |
| II. | Algebra | 10 |
| III. | Calculus | 35 |
| IV. | Numbers Quantification | 14 |
| V. | Linear Programming | 05 |
| VI. | Probability | 08 |
| | Total | 80 |
| | Internal Assessment | 20 |

| MONTH | UNIT/ CHAPTER | SUB TOPICS | LEARNING OUTCOMES | INNOVATIVE PEDAGOGY/ART INTEGRATION/INTERDISCIP LINARY APPROACH | ACTIVITY/PRACTICAL/ PROJECT |
|-------|--------------------------|--|---|--|---|
| MARCH | CH 1- Matrices | <ul style="list-style-type: none"> ➤ Concept, notations, order, equality, types of matrices, zero matrix, transpose of a matrix, symmetric and skew-symmetric matrices. ➤ Addition, multiplication and scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication. ➤ Non-commutativity of multiplication of matrices <p>Inverse of a matrix using ERT/ECT</p> | <p>Students would be able to –</p> <ul style="list-style-type: none"> ➤ Identify a matrix of specific order ➤ Form a matrix of certain order ➤ Perform operations like sum, difference, product of matrices | <p>INDUCTIVE METHODOLOGY</p> <p>Moving from specific examples to general results, students will be able to connect the various operations on matrices.</p> | <p>Preparing Matrices of various orders eg. 1×3, 2×4, 3×4 with given mathematical formula</p> |

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| | | | | | |
| | CH-2 Determinants | <ul style="list-style-type: none"> ➤ Determinant of a square matrix (up to 3 x 3 matrices), pr ➤ Application of determinants in finding the areas of a triangle ➤ Adjoint and inverse of a square matrix. ➤ Solving system of linear equations in 2 or 3 variables (having unique solution) using Cramer Rule | <p>Students will be able to-</p> <ul style="list-style-type: none"> ➤ Evaluate a determinant of order 2 and 3 ➤ Find inverse of a matrix using adjoint ➤ Solve a system of linear equations in 2 and 3 variables | <p>Use of the E A D method E – Easy A-Average D- Difficult</p> <p>Problem Solving Method to be used</p> | <p>Evaluation of Area of a Triangle using Determinants</p> <p>Solution of a system of Linear equations in 3 variables using Matrices</p> |
| APRIL | CH-3 Numbers, Quantification, Numerical Applications | <ul style="list-style-type: none"> ➤ Modulo Arithmetic ➤ Congruence modulo ➤ Simple arithmetic functions ➤ Allegation or Mixture • ➤ Numerical problems on boats and streams; partnership; pipes and cistern; races and games, scheduling ➤ Numerical inequalities | <p>Students will be able to-</p> <ul style="list-style-type: none"> ➤ Identify the types of modulo functions ➤ Verify a function to be congruent Modulo | <p>➤ Correlating Real Life situations with abstract mathematics</p> <p>➤ Mapping to be used as a Tool</p> | <p>Verification of a real life situation problem</p> |

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| | Ch-4 Inferential Statistics | <ul style="list-style-type: none"> • Population and sample • Parameter, statistic and statistical inferences • t-Test (one sample t-test and two independent groups t-test) | <p>Students will be able to:</p> <ul style="list-style-type: none"> ➤ Find real life use of Maths in statistics and population samples | <p>INDUCTIVE METHOD</p> <p>Moving from specific examples to general results, students will be able to connect the various results on Inferential Stats.</p> | |
| MAY | CH-5 Continuity and Differentiability | <ul style="list-style-type: none"> ➤ Continuity and differentiability, derivative of composite functions, chain rule, derivatives of inverse trigonometric functions, derivative of implicit functions. ➤ Concept of exponential and logarithmic functions and their derivative. Logarithmic differentiation, Derivative of function expressed in parametric forms. ➤ Second order derivatives. | <p>Students would be able to:</p> <ul style="list-style-type: none"> ➤ Evaluate simple derivatives ➤ Find continuity and differentiability of a function at a point | <p>INDUCTIVE METHOD</p> <p>Examples from real life situations to be taken up</p> | <p>Continuity of a Function using Graphs and Analytical methods</p> <p>Differentiability of a Function using Graphs and analytical methods</p> |
| | | | | <p>MANDALA PAINTING/ DRAWING</p> <p>The word Mandala means circle and circle Mandalas are the most commonly available form of Mandalas. Students to draw/ paint Mandalas</p> | |

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|------|---|---|--|--|--|
| | | <ul style="list-style-type: none"> ➤ Increasing / decreasing functions, ➤ Tangents & Normals, approximation, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). ➤ Simple problems that illustrate basic principles and understanding of the subject as well. | <p>Students would be able to:</p> <ul style="list-style-type: none"> ➤ Find equations of tangents and normals ➤ Find maximum and minimum values of functions in an interval ➤ Use the concept in practical problems | <p>DEDUCTIVE METHOD Deducing results from an array of earlier results</p> | |
| | CH-6 Applications of Derivatives | | | | |
| | CH-7 Integrals | <ul style="list-style-type: none"> ➤ Integration as inverse process of differentiation. Integration of a variety of function by substitution, by partial fractions and by parts, only simple Integrals of the type to be evaluated. | <p>Students would be able to:</p> <ul style="list-style-type: none"> ➤ Find simple integrals using various methods ➤ Definite integral to be evaluated using basic definition and properties ➤ Find areas bounded by standard curves | <p>USAGE OF CONCEPTS TO BE HIGHLIGHTED THROUGH EXAMPLES</p> | |
| | CH-8 Applications of Integrals | <ul style="list-style-type: none"> ➤ Basic properties of definite Integrals and evaluations of definite Integrals. ➤ Applications in finding the area under simple curves, especially lines, areas of circles/parabolas/ellipses (in standard form only). | | <p>3-Dimensional Models of combination Figures like sphere+cone, Cylinder+cone, Hemishphere+Cone, etc, to be made using Eco Friendly material. To understand the concept of combination, surface areas and volumes</p> | <p>Area under a curve to be taken up using Integrals</p> |
| JULY | CH-8 Applications of Integrals | <ul style="list-style-type: none"> ➤ • Index numbers, uses of index numbers | <p>Students would be able to:</p> | <p>USAGE OF CONCEPTS TO BE HIGHLIGHTED THROUGH EXAMPLES</p> | |

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|-----------|---------------------------------------|---|---|---|---|
| | | <ul style="list-style-type: none"> • Construction of index numbers (simple and weighted) <ul style="list-style-type: none"> • Tests of adequacy of index numbers (unit test and time reversal test) • Time series, Time series analysis for univariant data sets <ul style="list-style-type: none"> • Trend analysis by moving average method • Trend analysis by fitting of linear trend line using least squares | <ul style="list-style-type: none"> ➤ Find simple integrals using various methods ➤ Definite integral to be evaluated using basic definition and properties ➤ Find areas bounded by standard curves | <p>3-Dimensional Models of combination Figures like sphere+cone, Cylinder+cone, Hemishpehere+Cone, etc, to be made using Eco Friendly material. To understand the concept of combination, surface areas and volumes</p> | |
| | | | | | Area under a curve to be taken up using Integrals |
| AUGUST | CH-9 Differential Equations | <ul style="list-style-type: none"> ➤ Definition, order and degree, general and particular solutions of a differential equation. ➤ Solution of differential equations by method of separation of variables, homogeneous differential equations of first order | <p>Students would be able to:</p> <ul style="list-style-type: none"> ➤ Find order and degree of a differential equation ➤ Solve differential equations of various types | APPLICATION OF CALCULUS | |
| | | | | Both Integral and Differential Calculus to be used | |
| | | | | Area under a curve for a given function to be evaluated using colour strips of various types | |
| | | | | VISUALISATION AND METHOD | |
| september | | | | | |

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|---------|--|--|--|--|--|
| | Ch -12 Linear Programming | <ul style="list-style-type: none"> ➤ Introduction, definition of related terminology such as constraints, objective function, optimization, different types of linear programming (L.P.) problems ➤ Graphical method of solution for problems in two variables, feasible and infeasible regions, feasible and infeasible solutions, optimal feasible solution. | <p>Students would be able to:</p> <ul style="list-style-type: none"> ➤ Solve an LPP graphically for optimum solution | <p>Poster/Digital Poster to be prepared for various career options available using Higher Mathematics</p> | To find the optimised solution for an LPP using graphical method |
| OCTOBER | Ch-13 Probability | <p>Multiplication theorem on probability.</p> <ul style="list-style-type: none"> ➤ Conditional probability ➤ Independent events, total probability ➤ Bayes' Theorem ➤ Random variable and its probability | <p>Students would be able to:</p> <ul style="list-style-type: none"> ➤ Find conditional probability for 2 or more events ➤ Check whether 2 events are independent ➤ Use Bayes Theorem appropriately ➤ Find probability distribution for a random variable | <p>AXIOMATIC & EXPERIMENTAL APPROACH</p> <p>Difference between the axiomatic and practical probability to be highlighted</p> <p>Sports Activity- How probability plays an important role in sports</p> | Practical applications of Bayes' Theorem |

Reference Books:- 1. Mathematics Class XII (R.D. Sharma) Volume 1 & Volume 2

2. Mathematics Class XII (R.S. Agarwal)

