		૨	કલાક	હશે. વાર્તા પણ એમાનું એક સાહિત્ય સ્વરૂપ છે. પૂર્વ હોય કે પશ્ચિમ વાર્તા સાંભળવી અને વાંચવી એ એક સિક્કાની બે બાજું છે કારણ કે તમે જ્યારે વાર્તા મોટેથી અથવા મનમાં પણ વાંચો છો ત્યારે તમે તેને સાંભળો પણ છો જિંદગીનાં લેખાં જોખાં આપણને ઘણુંબધું શીખવાડી જાય છે અને અહીં આ પાઠમાં રફતાર છકડાની હોય કે ગિલાની બંને એક સમાન જ છે. તેની ખૂબ જ ચોટદાર, અસરકારક અને રસપ્રદ છતાં કરુણ વાત આ વાર્તામાં કરવામાં આવી છે.	૨૪ ગુણ
		મોડ્યુલ-૩	૨૦ કલાક	સાહિત્યની અતિશય લાંબી કોઇ વાર્તા તમે વાંચી હશે તમે ક્યારેક એકાંકી, કવિતા વિશે પણ ભણ્યાં હશો એવી જ રીતે સાહિત્યની સૌથી ટૂંકી અને હૃદય પર સીધો જ પ્રભાવ પાડે તેવી લઘુકથા આપણે જાણીશું.	
		મોડ્યુલ-૪	૨૦ કલાક	ભારતમાં આજે બેટી બચાવો અભિયાન પૂરા ઉત્સાહથી ચાલી રહ્યું છે. આવું કરવાની જરૂર શા માટે પડી? તે તમે જાણો છો? દીકરી કઇ રીતે સમગ્ર પ્રજાનું સંવર્ધન કરે છે પોષણ કરે છે, સંસ્કારે છે તે જાણીતું છે તેવી ઉપયોગી માહિતી મેળવીશું.	
		મોડ્યુલ-૫/૬	૩૫ કલાક	આ ભાગમાં આપણે કોઇ પણ સામગ્રીનો સાર લખવો એ એક ઉપયોગી છે, જેનું આપણા જીવનમાં ખૂબ મહત્ત્વ છે ભાષાની મુખ્ય કામગીરી કઇ છે? અથવા પ્રાથમિક રીતે ભાષાનો વપરાશ કે ઉપયોગ આપણે શા માટે કરીએ છીએ? આપણી પાસે કોઇ માહિતી, વિગતો, વિચારો, સંવેદનો, સંદેશો વગેરે છે અને તે સામી વ્યક્તિ સુધી પહોંચાડવો છે. તે આપણે સમય-સંજોગો વગેરે આધારે નક્કી કરીએ છીએ, તેમજ લેખન કૌશલ્ય વિશેની માહિતી મેળવીશું.	૧૦ ગુણ

2	પાઠયપુસ્તક ૨	મોડ્યુલ-૭	૬૫ કલાક	કરોડો માનવ પ્રાણીઓ જન્મ્યાં, જીવ્યા અને પંચામહાભૂતોમાં ભળી ગયાં એ સંદર્ભમાં અને અનંતકાળની અપેક્ષાએ એકોતેર વર્ષનું જીવન એક ક્ષુલ્લક રજકરણથી વધુ કશું નથીવળી જે સમાજની નજર સિધ્ધિ ઉપર જ હોય, કામગીરી ઉપર ન હોય તે સમાજમાં આવા જીવનનું મૂલ્ય આંકનારા કેટલા હારજીતના ફેંસલાની પરવા કર્યા વિના ખેલદિલથી ઉત્તમ રીતે, પૂરા કૌશલ્યથી દિલ ોઇને તન્મયતાથી રમનારાં ખેલાડીઓને માનચાંદો ઓછા મળે એવું પણ બની શકે પણ એમને માટે એ એવું સરસ રમ્યાં એનો સંતોષ જ માનચાંદ બની રહે. એવી એક વ્યક્તિના જીવનનો અભ્યાસ કરવાથી ઘણી પ્રેરણા અને માર્ગદર્શન મળી શકે. વ્યક્તિના ઘડતરમાં, બાર તેર વરસનો શરુઆતનો સમય પાયાનો અને અતિ મહત્વનો ગણાય. 'બા' નામે આ પુસ્તકમાં ઓળખાયેલી વ્યક્તિના જીવનમાં પણ મા બાપના લગ્નજીવનને અને ખાસ તો પિતાના વ્યક્તિત્વે કેવી ભૂમિકા ભજવી તે તમે આ પહેલા ખંડમાં જાણી શકશો	૩૨ ગુણ
		મોડ્યુલ-૮ લેખન કૌશલ્ય	૩૫ કલાક	આ ભાગમાં આપણે લેખન કૌશલ્ય વિશેની માહિતી મેળવીશું જેમાં પ્રવાસ લેખન, વિચાર પ્રધાન નિબંધ, માહિતી પ્રધાન નિબંધ, ટેક્નોલોજીકલ વિષયક નિબંધ જેવા વિષયોની વિગતવાર માહિતી મેળવીશું.	૧૪ ગુણ
		વ્યાકરણ વિભાગ	૩૦ કલાક	આ ભાગમાં વ્યાકરણનું જ્ઞાન મેળવીશું જેમ કે સમાસ, રૂઢિપ્રયોગ, વિભક્તિ, કર્તરી અને કર્મણી પ્રયોગ, પ્રશ્નાર્થ વાક્યો વિશેની માહિતી મેળવીશું.	૧૦ ગુણ
૩	સંપૂર્ણ અભ્યાસક્રમ માટેનો સમયગાળો		૨૬૦ કલાક	કુલ ગુણ	૧૦૦ ગુણ

Sanskrit

Code No. 309

भूमिका:

संस्कृतं नाम विश्वस्य प्राचीनतमा भाषा। एषा भाषा अधिकांशभारतीयभाषाणां यूरोपीयभाषाणां च जननीरूपेण अथवा सम्पोषिकारूपेण विराजते। एषा ननु मूलस्रोतः एव भारतीयसंस्कृतेः, धर्मस्य, दर्शनस्य, अध्यात्मज्ञानस्य, इतिहासस्य, पुराणानाम्, भूगोलस्य, राजनीतेः अपि च विज्ञानस्य। संस्कृतभाषा नवीनशब्दानां निर्माणार्थम् अपूर्वां क्षमतां धारयति यस्याः उपयोगः अन्याभिः भारतीयभाषाभिः अपि क्रियते। राष्ट्रीयभावनात्मकैक्याय अन्ताराष्ट्रियभ्रातृत्वभावनायाः सुदृढीकरणाय अस्याः महत्त्वपूर्णं योगदानमस्ति। संस्कृतवाङ्मये मानवीयमूल्यानां संरक्षणार्थं संवर्धनार्थ सम्यग्विकासारर्थं च अत्र अमूल्यसामग्री विद्यते।

'वसुधैव कुटुम्बकम्' 'यत्र विश्वं भवत्येकनीडम्' इत्यादीनि आदर्शवाक्यानि आदिकालतः अद्यपर्यन्तम् विश्वस्य सम्मुखे विश्वव्यापिनः ऐक्यस्य कीर्तिमानं स्थापयन्ति। इयं भाषा एव वैश्वीकरणस्य संकल्पनां सर्वप्रथमं प्रस्तौति। संस्कृत भाषाभागीरथी प्राचीनकालतः अद्यावधि सततरूपेण प्रवहमाना वर्तते। वर्तमाने कालेऽपि बहुभिः जनैः दैनिकजीवने अस्याः भाषायाः प्रयोगः क्रियते। छात्राः संस्कृतभाषायां निहितज्ञानेन विज्ञानेन च परिचिताः भूत्वा आत्मगौरवस्य अनुभवं कुर्युः इति कारणतः उच्चतरविद्यालयीयपाठ्यक्रमे संस्कृतभाषायाः अध्ययनार्थम् अवसरः कल्प्यते।

औचित्यम् :

उच्चतरमाध्यमिकस्तरे संस्कृतभाषां पठित्वा छात्राः विश्वविद्यालयस्तरे प्रवर्तमानेषु पाठ्यक्रमेषु अध्ययनार्थम् अवसरं प्राप्तुं समर्थाः भविष्यन्ति, भारतीयस्य आध्यात्मिकसाहित्यस्य पारायणे, वैज्ञानिकचिन्तने शक्ताः भविष्यन्ति। संस्कृतवाङ्मये निहितविशिष्टज्ञानसम्पदा परिचिताः भूत्वा गौरवम् अनुभविष्यन्ति। एषः पाठ्यक्रमः नैतिकादर्शानां स्थापनायाम् अपि च सम्पूर्णव्यक्तित्वविकासार्थं च साहाय्यकः भविष्यति इति आशास्यते। संस्कृताध्ययनं निस्संशयं व्यवसायप्राप्तौ अपि सहायकं भवत्येव। विशेषतः अधोलिखिताः अवसराः अपि उपलब्धाः भवन्ति-

- विधिशास्त्रे, दर्शनशास्त्रे, पुरातत्त्वशास्त्रे अपि च समानान्तरवैज्ञानिकशास्त्रेषु अध्ययनसौविध्यम्;
- जर्मनरशियनफ्रेंचादिवैदेशिकभाषासु प्रचलितपाठ्यक्रमेषु प्रवेशः;
- संस्कृतभाषायाःअध्ययनेन दूरदर्शन/आकाशवाण्यादि-सञ्चारमाध्यमेषु समाचार-सम्पादकपदे, समाचारवाचकपदे नियुक्त्यर्थं चयने वरीयता;
- संस्कृतवाङ्.मयविषयकप्रश्नानां समाधाने सौकर्यदक्षता च।

उद्देश्यम्- अस्मिन् स्तरे संस्कृतभाषायाः शिक्षणस्य निम्नलिखितानि उद्देश्यानि सन्ति-

सामान्य-उद्देश्यानि

- संस्कृतभाषायाः संस्कृतवाङ्मयस्य च विषये रुचिवर्धनम्:;
- संस्कृतसाहित्यस्य विविधविधानां परिचयः;
- संस्कृतभाषाकौशलेषु दक्षताविकासः;
- राष्ट्रियस्तरे सामाजिक-सांस्कृतिक-वैज्ञानिकाध्यात्मिकसंचेतनाविकासः;
- आचारशुद्धिमाध्यमेन छात्राणां चारित्रिकविकासः।

विशिष्ट-उद्देश्यानि

श्रवणं भाषणञ्च

- छात्राः दैनन्दिनव्यवहारे शिष्टाचारपालने संस्कृतस्य प्रयोगं कुर्युः;
- सरलसंस्कृते प्रश्नं प्रष्टुं समर्थाः भवेयुः
- सरलसंस्कृतप्रश्नानां मौखिकरूपेण उत्तरदाने समर्थाः भवेयुः;
- वर्णानां शुद्धम् उच्चारणं कर्तुं समर्थाः भवेयुः;
- सरलसंस्कृतवाक्येषु भावप्रकाशने शक्ताः भवेयुः।

पठनम्

- प्रदत्तगद्यांशस्य, पद्यांशस्य नाट्यांशस्य च मौनवाचनं, सस्वरवाचनम् अथ च भावपूर्णवाचनम्;
- पठितांशाद् अतिरिक्तं पाठं, सरलसंस्कृतं (गद्यांशं पद्यांशं वां) पठित्वा तस्य भावावबोधनम्,
- सरलश्लोकानाम् अन्वयक्षमता;
- क्रमरहितवाक्यानि पठित्वा मौखिकरूपेण क्रमनिर्धारणम्।

लेखनम्

- युक्तिपूर्वकं वाक्यानां संयोजनम्;
- घटनाक्रमानुसारं लघुनिबन्धलेखनम् संवादलेखनम्;
- प्रदत्तपरिस्थित्यनुसारं पत्रलेखनम्;
- अभिनन्दन-निमंत्रण-वर्धापनपत्राणां लेखनम्, प्राचार्यं प्रति च प्रार्थनापत्रलेखनम्;
- प्रदत्तसंवादे रिक्तस्थानपूर्तिः;
- सरलसंस्कृते कथनमाधृत्य प्रश्ननिर्माणम्।

अनुप्रयुक्तव्याकरणम्

- देवनागरीलिपिज्ञानम्, संयुक्तव्यञ्जनलेखनम्, स्वरव्यंजनसंयोजनम्, शब्दानां वर्णविन्यासः;
- प्रातिपदिकानां सविभक्तिकप्रयोगेण वाक्यनिर्माणम्
- वर्णसंयोजनम्, वर्णविश्लेषणम्
- कर्त्तृपदेन सह समुचितक्रियाप्रयोगः
- विशेष्यानुसारं विशेषणप्रयोगः
- कृदन्त-तद्धितान्तपदैः वाक्यनिर्माणम्
- प्रदत्त-अव्ययानां शुद्धप्रयोगः
- समस्तपदानां विग्रहः
- सन्धियुक्तपदानां सन्धिविच्छेदः
- उपपद-विभक्तिप्रयोगः

अध्धयनस्य प्रयोजनम् : संस्कृतभाषां पठित्वा छात्राः विश्वविद्यालयस्तरे प्रवर्तमानेषु पाठ्यक्रमेषु अध्ययनार्थम् अवसरं प्राप्तुं समर्थाः भविष्यन्ति, भारतीयस्य आध्यात्मिकसाहित्यस्य पारायणे, वैज्ञानिकचिन्तने शक्ताः भविष्यन्ति।

पूर्वापेक्षा: अस्मिन् पाठ्यक्रमे प्रवेशात् पूर्वं छात्रः सरलसंस्कृतवाक्यानां श्रवणे भाषणे च कृताभ्यासः अस्ति। संस्कृतसाहित्यात् सङ्कलितं सरलगद्यांशं पद्यांशं च पठित्वा अवबोधने समर्थः, सरल-संस्कृतवाक्यानां रचनार्थं च सज्जः अस्ति। आकाशवाणीतः दूरदर्शनतः च प्रायशः प्रसारिताः संस्कृतकार्यक्रमाः विशेषतः संस्कृतवार्ताः (समाचारः) चापि तेन श्रुताः अवबोधिता इत्यपि अपेक्ष्यते। विविधसन्दर्भेषु संस्कृतश्लोकाः (सुभाषितानि) च तेन श्रुताः पठिताः च, तेषाम् अर्थावबोधने अपि स सक्षमः इति आशास्यते।

निर्देशभाषा: संस्कृतम्

कालावधि: 01 वर्षम्

भारांशम्: सैद्धान्तिक: - शतप्रतिशतम् , प्रायोगिकम्: - शून्यम्

अध्ययनयोजना

एषः पाठ्यक्रमः द्विधा विभक्तः-केन्द्रिकपाठ्यक्रमः वैकल्पिकपाठ्यक्रमश्च। केन्द्रिक-पाठ्यक्रमः सर्वैः छात्रैः समानरूपेण पठनीयः। वैकल्पिकखण्डे विकल्पद्वयं भविष्यति। तत्र कस्यचित् एकस्य विकल्पस्य अध्ययनम् अपेक्षितं वर्तते।

क केन्द्रिक-पाठ्यक्रमः - श्रवणम्, भाषणम्, पठनम्, लेखनम्, अनुप्रयुक्त व्याकरणम्

ख वैकल्पिक पाठ्यक्रमः - (क) संस्कृत संस्कृतिश्च (ख) प्रयोजनमूलक संस्कृतम्

संस्कृतस्य पाठ्यक्रमेण सह निम्नलिखितसामग्री सम्मिलिता भवेत्।

1. 3 मुद्रितानि पुस्तकानि।

2. श्रव्यसामग्री {ध्वनिमुद्रिका (कैसेट) सान्द्रमुद्रिका - (सी.डी. रोम) रूपेण} आकाशवाणीज्ञानवाणी च कार्यक्रम प्रसारण उच्चारणश्रवणयोः प्रबलनाय उपयोगिनी सामग्री भवेत्।

3. 30 सम्पर्ककक्षाः।

मूल्यांकनयोजना

1. श्रवणभाषणकौशलपरीक्षणं सम्पर्ककक्षासु आयोजितानां गतिविधीनां माध्यमेन भविष्यति।

2. अन्तिमपरीक्षायाम् एकं प्रश्नपत्रं शताङ्कानां भविष्यति। अस्मिन् प्रश्नपत्रे 85 अङ्कानाम् केन्द्रिकपाठ्यक्रमपरीक्षणं भविष्यति। 15 अङ्कानां वैकल्पिकपाठ्यक्रमे विकल्पद्वयं भविष्यति। छात्रैः केवलम् एकस्य एव अंशस्य प्रश्नानां समाधानं करणीयम्।

3. सम्पर्ककक्षासु त्रीणि शिक्षक-अंकितमूल्याङ्कनपत्राणि भविष्यन्ति। तेषु एकं परियोजनारूपेण छात्रैः अनिर्वायतया सम्पादनीयम्। परियोजनायाः अपि च श्रवणभाषणकौशलयोः मूल्याङ्कनं मौखिकपरीक्षामाध्यमेन अध्ययनकेन्द्रेषु सम्पर्ककक्षासु एव श्रेणीगत (ग्रेडिंग) प्रणाल्या भविष्यति। उपार्जिताश्रेणी अङ्कतालिकायां प्रदर्शयिष्यते।

उत्तीर्णता मानदण्ड: 33%

पाठ्यसामग्री :

मुख्यबिन्दव:

क्र. सं.	मुख्यबिन्दव:	कालावधि	औचित्यम्/विवरणम् (सैद्धांतिकम्)	औचित्यम्/विवरणम् (प्रायोगिकम्)	भारांश (अंकाः)
1.	**क. केन्द्रिक-पाठ्यक्रमः** **प्रथमः खण्डः - श्रवणम्-भाषणम् (श्रेणीबद्धमूल्यांकनम्)** 'भाष्' धातोः निष्पन्नः एष शब्दः 'भाषा' इति। यावद् भाषायाम् न भाष्यते तावद् भाषायाः सम्यग् ज्ञानं न भविष्यति। भाषायाः सर्वप्रथमं कौशलं श्रवणम्। यावद् भाषा न श्रूयते तावद् भाषणक्षमता अपि न लभ्यते। अतः सम्पर्ककक्षासु आचार्येण सह अपि च परस्परम् छात्रैः संस्कृतभाषायां	210 होरा	केंद्रिकपाठ्यक्रमे संस्कृतभाषायाम् अभिरुचिवर्धनाय भाषाध्ययनकौशलनां विकासाय, संस्कृत-साहित्यस्य विविधताया परिचयार्थं च सामग्री भविष्यति। अस्मिन् पाठ्यक्रमे चत्वारः खण्डाः सन्ति।		85

	सामान्यवार्तालापः अपेक्ष्यते। आकाशवाण्याः दूरदर्शनात् प्रसारितकार्यक्रमान् श्रुत्वा दृष्ट्वा च छात्राः सम्यग्रूपेण तान् अवगच्छेयुः इति कारणादपि संस्कृतभाषायां श्रवण-भाषण-अभ्यासः अपेक्षितः। **द्वितीयः खण्डः** **पठनम्** **(अङ्काः 20)** पठनेन वयं ज्ञानस्य उपार्जनं कुर्मः। पठनेन भावानां परिशुद्धिः जायते चिन्तनमननक्षमता सर्जनात्मकशक्तिश्चापि वर्धते। तदनु आचरणेन अस्माकं संस्काराः दृढीभवन्ति। अस्माभिः रामादिवद् वर्तितव्यं न तु रावणादिवत्-इति विवेकः उत्पद्यते। संस्कृतवाङ्मयस्य परिचयेन आत्मगौरवानुभूतिः जायते। पठनेन जिज्ञासा वर्धते पुनः अधिकाधिका पठनप्रवृतिः च जायते। • **गद्यपाठाः** **(अङ्काः 20** अस्मिन् पाठ्यक्रमे नव-गद्यपाठाः भविष्यन्ति। अपठित-अवबोधनाय अतिरिक्तसामग्री • **पद्यपाठाः** **(अङ्काः 10)** अस्मिन् पाठ्यक्रमे अष्टपाठाः अपेक्षिताः। • **नाट्यांशाः** **(अङ्काः 10)** अस्मिन् पाठ्यक्रमे - चत्वारः पाठाः योजिताः। • **अपठितम्** **(अङ्काः 10)** • गद्यावबोधनम् - **(अङ्काः -5)**				

	• पद्यावबोधनम् - (अङ्काः -5) निर्धारितां पाठ्यसामग्रीं पठित्वा पठनावबोधनकौशले एतावती दक्षता प्रजायेत यत् शिक्षार्थी कामपि अपठितां सामग्रीं (गद्यांशं पद्यांशं वा) पठित्वा तस्याः भावबोधने सक्षमः स्यात्। तस्याभ्यासः विविधैः पाठैः सह एव क्रियते, परं मूल्यांकने न तेषां प्रयोगः विधेयः। तत्र तु स्तरानुसारं अपठितांशम् एव दीयते। **तृतीयः खण्डः** **लेखनम् (अङ्काः 20)** लेखनम् अभिव्यञ्जनात्मकं कौशलम्। अस्य माध्यमेन अस्माकं भावानां विचाराणां च अभिव्यक्तिः भवेत्। लेखनेन एव शब्दानां साधुप्रयोगसामर्थ्यं संवर्धते। विविधविधासु लेखनेन सर्जनात्मकशक्तिविकासः अपि भवेत्। दैनन्दिनव्यवहारे यथापेक्षितं सन्देशप्रेषणार्थं सूचनाप्रदानार्थं च लेखनमावश्यकम्। छात्रः सरलविषयेषु स्वविचारान् युक्तियुक्तक्रमेण प्रस्तोतुं शक्ष्यति। विरामचिह्नानां सम्यक् प्रयोगं कर्तुं शक्ष्यति। • पत्रलेखनम् (अङ्काः 05) • लघुनिबन्धलेखनम् (अङ्काः 10) • संवादलेखनम् (अङ्काः 05) **चतुर्थः खण्डः - अनुप्रयुक्तं व्याकरणम् (अङ्काः 15)** व्याकरणं भाषाम् अन्वेति। व्याकरणस्य सिद्धान्तानाम् स्वतंत्रशास्त्ररूपेण				

	शिक्षणम् अत्र उद्दिष्टं नास्ति। पाठ्यसामग्रीम् अधिकृत्य ये ये व्याकरणनियमाः सिद्धान्ताः वा अपेक्षिताः तेषां विवेचनं तत्र पाठे एव क्रियते। एवं हि शिक्षार्थिनः सरलतया भाषायां व्याकरणनियमानां, सिद्धान्तानां च व्यावहारिकप्रयोगं कर्तुम् अपि जानन्ति। • **सन्धिः** -पाठे प्रयुक्तानाम् सन्धियुक्Ÿापदानां सन्धिच्छेदो वा, सन्धिकरणम् • **शब्दरूपाणि** - पाठे प्रयुक्तानाम् अपि च तत्सदृशशब्दानां रूपपरिचयः • **सर्वनामानि** - सर्व, यत्, तत्, किम्, इदम्, अदस्, (सर्वेषु लिङ्गेषु) अस्मद्, युष्मद् भवत् • **संख्यावाचकाः** शब्दाः 1 -100 (एकतः शतं पर्यन्तम्) • **संख्यावाचक** - शब्दानां रूपाणि • **धातुरूपाणि** • **वाच्यम्-वाच्यपरिवर्तनम्** • **उपसर्गाः**-प्रादयः उपसर्गाः (पाठ्यपुस्तके प्रयुक्ताः) • **प्रत्ययाः** - अधोलिखितप्रत्ययययुक्तशब्दानां भाषायां प्रयोगः i. **स्त्रीप्रत्ययाः** - टाप् (आ), ङीप्/ङीष् (ई)				

	ii. **कृत्प्रत्ययाः** - शतृ, शानच्, क्त, क्तवतु, क्त्वा, ल्यप्, तुमुन्, तव्यत्, अनीयर्, यत्, तृच्, ण्वुल्। iii. **तद्धितप्रत्ययाः** - तरप्, तमप्, इयसुन्, इन्, मतुप्, ठक् (इक्), त्व, तल्। • **विभक्तयः** - कारकविभक्तयः - प्रथमातः सप्तमीपर्यन्तम् • **उपपदविभक्तयः** - निर्धारितपाठेषु प्रयुक्तानाम् उपपदविभक्तीनां प्रयोगः • **समासाः** - पाठेषु यथासन्दर्भं समस्तपदानाम् अभिज्ञानं विग्रहकरणञ्च। • **अव्ययानि** - पाठ्यपुस्तके निर्धारितपाठेषु प्रयुक्तानाम् अव्ययपदानां अन्यवाक्येषु प्रयोगः।				
2	**ख. वैकल्पिकपाठ्यक्रमः (अङ्काः 15)** **(i) संस्कृतं संस्कृतिश्च** भारतीयसंस्कृतेः मूलाधारः संस्कृतमस्ति। प्रायः सर्वाः भारतीयभाषाः यादृशीषु भिन्नासु लिपिषु लिख्यन्ते तासां मूलं संस्कृतलेखनस्य ब्राह्मीलिपिः एव वर्तते। आधुनिकलिपीनां वर्णाकृतयः स्वरव्य´्जनानुक्रमः संस्कृतवर्णमालानुप्राणिताः सन्ति। भारतीयभाषाणां साहित्येषु अपि एवमेव संस्कृतसाहित्यप्रभावः दृश्यते। भारतीये संगीते, नृत्ये, नाट्ये चित्रकलायां शिल्पकलायां,	**30 होरा**	भारतीया संस्कृतिः मूलतः संस्कृताश्रिता। अस्माकं जीवनपद्धतिः, परम्पराः, जीवनदर्शनम्, आचारविचाराः, साहित्यम् च संस्कृतवाङ्मयेन प्रभावितं दृश्यते। संस्कृतभाषायां विलक्षणा शब्दनिर्माणशक्तिः। न केवलम् आधुनिकभारतीयभाषासु अपितु		15

	मूर्तिकलायाम् अपि संस्कृतभाषायाः वाङ्मयस्य च प्रभावः स्पष्टरूपेण परिलक्ष्यते। अत एव मनीषिणः संस्कृतं भारतीयसंस्कृतेः आधार इति वदन्ति। इमाम् उदातपरम्पराम् अवबोधयितुं संस्कृतभाषाज्ञानं परमावश्यकम्। • **प्रस्तावना** • **संस्कृतं तथा अन्याः भारतीयाः भाषाः** • **भारतीयज्ञानविज्ञानपरम्परा** **(ii) प्रयोजनमूलकं संस्कृतम्** अभिक्रमिकस्वाध्यायपद्धत्यनुसारम् अस्य पाठ्यक्रमस्य प्रस्तुतिः भविष्यति। मुक्तशिक्षास्वाध्याय शैलीमाध्यमेन प्रस्तुतिः करिष्यते। प्रूफरीडिंग चिह्नानां परिचयः प्रायोगिककार्यरूपेण कारयिष्यते।		वैदेशिकभाषासु अपि संस्कृतस्य प्रभावः संलक्ष्यते। अद्यतनीये भारते अनेकाः पत्रपत्रिकाः बहूनि पुस्तकानि च संस्कृतभाषायां प्रकाश्यन्ते। कस्यचिदपि लेखस्य प्रकाशनात् पूर्वं मुद्रणविषयक-अशुद्धीनां निराकरणं भाषासम्पादनं च नितान्तम् आवश्यकम्। अत एव प्रकाशनविभागेषु अशुद्धिसंशोधकस्य पदं भवति। शिक्षार्थिनः तस्य कौशलं जानन्तु तदर्थं सज्जाः च भवन्तु इति अपेक्षा।		
		240 होरा			100 अंकाः

Punjabi
Code No. 310

ਸਿਲੇਬਸ : ਪੰਜਾਬੀ ਸੀਨੀਅਰ ਸੈਕੰਡਰੀ ਪੱਧਰ (310)

ਜਾਣ-ਪਛਾਣ :- ਪਿਆਰੇ ਸਿੱਖਿਆਰਥੀਓ ਪੰਜਾਬੀ ਦੇ ਸੀਨੀਅਰ ਸੈਕੰਡਰੀ ਪਾਠ-ਕ੍ਰਮ ਵਿੱਚ ਤੁਹਾਡਾ ਸੁਆਗਤ ਹੈ। ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਇਕ ਆਪਣੀ ਅਮੀਰ ਤੇ ਸਭਿਆਚਾਰਕ ਵਿਰਾਸਤ ਵਾਲੀ ਪਛਾਣ ਰਖਦੀ ਹੈ। ਇਸ ਪਾਠ-ਕ੍ਰਮ 'ਚ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਤੇ ਵਿਆਕਰਨ ਦੀ ਮੁਢਲੀ ਜਾਣਕਾਰੀ ਤੋਂ ਇਲਾਵਾ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੀਆਂ ਵੱਖ-ਵੱਖ ਵੰਨਗੀਆਂ ਨੂੰ ਸ਼ਾਮਿਲ ਕੀਤਾ ਗਿਆ ਹੈ। ਤੁਸੀਂ ਸੈਕੰਡਰੀ ਪੱਧਰ ਤੇ ਵੀ ਸੋਧੀ ਹੋਈ ਨਵੀਂ ਪਾਠ ਪੁਸਤਕ ਪੜ੍ਹ ਚੁੱਕੇ ਹੋ। ਉਸ ਵਿਚ ਅਸੀਂ ਨੌਂ ਮਾਡਿਊਲ ਅਤੇ ਅਠਾਈ ਪਾਠਾਂ ਰਾਹੀਂ ਤੁਹਾਨੂੰ ਵੱਖ-ਵੱਖ ਵੰਨਗੀਆਂ ਨਾਲ਼ ਰੂਬਰੂ ਕਰਾਇਆ ਸੀ। ਤੁਹਾਡੀ ਰੁਚੀ ਨੂੰ ਧਿਆਨ ਵਿੱਚ ਰੱਖਦਿਆਂ ਉਸ ਪੁਸਤਕ ਨੂੰ ਅਸੀਂ ਚਿੱਤਰਾਂ ਨਾਲ ਰੰਗੀਨ ਅਤੇ ਦਿਲ-ਖਿੱਚਵੀਂ ਬਣਾਇਆ ਸੀ। ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਅਹਿਮੀਅਤ ਨੂੰ ਧਿਆਨ ਵਿੱਚ ਰੱਖਦਿਆਂ ਸੀਨੀਅਰ ਸੈਕੰਡਰੀ ਪੱਧਰ ਤੇ ਵੀ ਪੰਜਾਬੀ ਵਿਸ਼ੇ ਦੀ ਪੜ੍ਹਾਈ ਸ਼ੁਰੂ ਕਰਵਾਈ ਜਾ ਰਹੀ ਹੈ। ਐੱਨ.ਆਈ.ਓ.ਐੱਸ. ਸੀਨੀਅਰ ਸੈਕੰਡਰੀ ਦਾ ਪਾਠਕ੍ਰਮ ਤੁਹਾਡੇ ਲਈ ਲੈ ਕੇ ਆਇਆ ਹੈ। ਇਹ ਪਾਠਕ੍ਰਮ ਮਾਡਿਊਨ ਦੇ ਰੂਪ ਵਿੱਚ ਤਿਆਰ ਕੀਤਾ ਗਿਆ ਹੈ ਤੇ ਵੱਖ-ਵੱਖ ਮਾਡਿਊਲਾਂ ਵਿੱਚ ਪੂਰਾ ਪਾਠਕ੍ਰਮ ਵੰਡਿਆ ਹੋਇਆ ਹੈ। ਹਰੇਕ ਮਾਡਿਊਲ, ਕਈ ਪਾਠਾਂ ਦਾ ਸਮੂਹ ਹੈ। ਹਰ ਮਾਡਿਊਲ ਆਪਣੇ ਆਪ ਵਿੱਚ ਸੰਪੂਰਨ ਹੈ ਤੇ ਤੁਸੀਂ ਆਪਣੀ ਪਸੰਦ ਅਨੁਸਾਰ ਕਿਸੇ ਵੀ ਮਾਡਿਊਲ ਨੂੰ ਪਹਿਲਾਂ ਪੜ੍ਹ ਸਕਦੇ ਹੋ।

ਤਰਕ :-

ਇਸ ਪਾਠਕ੍ਰਮ ਦੀ ਵਿਸ਼ੇਸ਼ਤਾ ਹੈ ਕਿ ਇਨ੍ਹਾਂ ਮਾਡਿਊਲਾਂ ਵਿਚੋਂ ਇਕ ਮਾਡਿਊਲ Tutor Market Assignment (T.M.A.) ਅਧਿਆਪਕ ਨਿਸ਼ਾਨਬੱਧ ਕੰਮ ਅਤੇ ਬਾਕੀ Term End Examination (T.E.E.) Public Exam. ਲਈ ਹਨ। ਪਰ ਹਰ ਸਿੱਖਿਆਰਣੀ ਲਈ ਸਾਰੇ ਮਾਡਿਊਲ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹਨ। ਤਤਕਰੇ ਵਿੱਚ ਦੱਸੇ ਵਿਸ਼ੇ ਅਨੁਸਾਰ Term End Examination (T.E.E.) Public Exam. ਲਈ ਪਾਠ ਲਾਜ਼ਮੀ ਹਨ। ਤੇ 8 ਅਤੇ 9 ਵਿਕਲਪੀ ਮਾਡਿਊਲ (Optional Module) ਹਨ। ਸਿੱਖਿਆਰਥੀਓ ਤੁਹਾਡੇ ਲਈ ਇਨ੍ਹਾਂ ਵਿਚੋਂ ਕਿਸੇ ਇਕ (8 ਅਤੇ 9 ਵਿਚੋਂ) ਮਾਡਿਊਲ ਦੇ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹਲ। ਅਜਿਹਾ ਇਸ ਲਈ ਕੀਤਾ ਗਿਆ ਹੈ ਕਿ ਤੁਹਾਡਾ TEE ਵਿੱਚ ਭਾਰ ਘਟ ਸਕੇ, ਤੇ ਤੁਸੀਂ TMA ਅਤੇ TEE ਨੂੰ ਵੱਖਰੇ-ਵੱਖਰੇ ਪੜ੍ਹ ਕੇ ਗਿਆਨ ਹਾਸਿਲ ਕਰ ਸਕੋ। ਇਹ ਐੱਨ.ਆਈ.ਓ.ਐੱਸ. ਦਾ ਨਿਵੇਕਲਾ ਉਪਰਾਲਾ ਹੈ। ਜੋ ਤੁਹਾਨੂੰ ਕਿਸੇ ਹੋਰ ਬੋਰਡ ਵਿੱਚ ਵੇਖਣ ਨੂੰ ਨਹੀਂ ਮਿਲੇਗਾ।

ਮੈਨੂੰ ਵਿਸ਼ਵਾਸ ਹੈ ਕਿ ਇਹ ਸੰਪੂਰਨ ਪਾਠਕ੍ਰਮ ਤੁਹਾਡੀ ਯੂਨੀਵਰਸਿਟੀ ਪੱਧਰ ਤੇ ਵੀ ਪੰਜਾਬੀ ਪੜ੍ਹਨ ਦੀ ਰੁਚੀ ਪੈਦਾ ਕਰੇਗਾ ਤੇ ਆਪਣੇ ਵਿਰਸੇ ਨੂੰ ਸਮਝਣ ਵਿੱਚ ਸਹਾਇਕ ਹੋਵੇਗਾ। ਆਪਣੇ ਵਿਸ਼ੇ ਨੂੰ ਸਮਝਣ ਵਿੱਚ ਆ ਰਹੀ ਕਿਸੇ ਵੀ ਸਮੱਸਿਆ ਬਾਰੇ ਤੁਸੀਂ ਸਾਨੂੰ ਬੇਝਿਜਕ ਲਿਖ ਸਕਦੇ ਹੋ। ਸਾਨੂੰ ਤੁਹਾਡੀ ਮਦਦ ਕਰਕੇ ਬਹੁਤ ਖ਼ੁਸ਼ੀ ਹੋਵੇਗੀ।

4. ਉਦੇਸ਼ :-

(i) ਮੁੱਢਲੀ ਪੱਧਰ ਤੇ ਪ੍ਰਾਪਤ ਕੀਤੀ ਭਾਸ਼ਾ ਯੋਗਤਾ (ਸੁਣਨਾ, ਬੋਲਣਾ, ਪੜ੍ਹਨਾ, ਲਿਖਣਾ) ਦਾ ਵਿਕਾਸ ਕਰ ਸਕਣ ਅਤੇ ਸਿਰਜਣਾਤਮਕ ਅਤੇ ਆਲੋਚਨਾਤਮਕ ਦ੍ਰਿਸ਼ਟੀਕੋਣ ਦੀ ਸੂਝ-ਬੂਝ ਹਾਸਲ ਕਰਨ।

(ii) ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਗਿਆਨ ਨੂੰ ਸਮਝਣ ਅਤੇ ਸਾਹਿਤ ਦੇ ਰੂਪਾਂ ਪ੍ਰਤੀ ਉਸਾਰੂ ਅਤੇ ਸੰਵੇਦਨਸ਼ੀਲ ਰਵੱਈਏ ਦਾ ਵਿਕਾਸ ਕਰਨਾ।

(iii) ਰੋਜ਼ਾਨਾ ਜ਼ਿੰਦਗੀ ਵਿੱਚ ਭਾਸ਼ਾ ਰਾਹੀਂ ਆਪਣੇ ਵਿਚਾਰ ਪੇਸ਼ ਕਰਨ ਦੇ ਸਮੱਰਣ ਬਣਾਉਣਾ ਤੇ ਉਨ੍ਹਾਂ ਦੀ ਬਹੁਮੁਖੀ ਪ੍ਰਤਿਭਾ ਦਾ ਵਿਕਾਸ ਕਰਨਾ।

(iv) ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਮਿਆਰੀਕਰਨ ਨੂੰ ਕਾਇਮ ਰੱਖਣ ਲਈ ਅਤੇ ਇਸ ਨੂੰ ਵਿਆਕਰਨ ਪ੍ਰਤੀ ਸੁਚੇਤ ਰੱਖਣ ਲਈ, ਇਸ ਪਾਠਕ੍ਰਮ ਵਿੱਚ ਵਿਹਾਰਕ ਵਿਆਕਰਨ ਵੱਲ ਵਧੇਰੇ ਧਿਆਨ ਦਿੱਤਾ ਜਾ ਰਿਹਾ ਹੈ।

5. ਸੰਭਾਵਨਾ ਅਤੇ ਨੌਕਰੀ ਦੇ ਅਵਸਰ

ਸੂਝ-ਬੂਝ ਸੰਬੰਧੀ :- ਸੀਨੀਅਰ ਸੈਕੰਡਰੀ ਪੱਧਰ ਵਿੱਚ ਦਾਖ਼ਲ ਹੋਣ ਵਾਲੇ ਵਿਦਿਆਰਥੀ ਕਿਸੇ ਹੱਦ ਤੱਕ ਆਪਣੇ ਵਿਚਾਰਾਂ ਅਤੇ ਉਹਨਾਂ ਨੂੰ ਭਾਸ਼ਾ ਰਾਹੀਂ ਪੇਸ਼ ਕਰਨ ਦਾ ਆਧਾਰ ਬਣਾ ਚੁੱਕੇ ਹਨ। ਉਹ ਆਧਾਰ ਉਹਨਾਂ ਨੂੰ ਆਪਣੇ ਵਿਚਾਰਾਂ ਨੂੰ ਵਿਸਤਾਰ ਦੇਣ ਵਿੱਚ ਲੋੜੀਂਦੀ ਮਦਦ ਕਰਦਾ ਹੈ। ਉਹ ਭਾਸ਼ਾ ਦੇ ਸੁਹਜ-ਸੁਆਦ ਨੂੰ ਮਾਨਣ ਜੋਗੇ ਹੋ ਰਹੇ ਹਨ ਅਤੇ ਅਖ਼ਬਾਰਾਂ, ਟੈਲੀਵਿਜ਼ਨ, ਇੰਟਰਨੈੱਟ ਅਤੇ ਮੀਡੀਆ ਦੇ ਸਾਧਨਾਂ ਰਾਹੀਂ ਚੇਤੰਨ ਵੀ ਹਨ। ਇਨ੍ਹਾਂ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਅਧਿਐਨ ਕਰਵਾਉਣ ਦਾ ਵਿਸ਼ੇਸ਼ ਮਨੋਰਥ ਹੈ। ਵਿਦਿਆਰਥੀ ਇਸ ਭਾਸ਼ਾ ਦੇ ਸਾਹਿਤ, ਸੱਭਿਆਚਾਰ ਨਾਲ ਜੁੜ ਸਕਣ ਅਤੇ ਆਪਣੀ ਭਾਸ਼ਾ ਤੇ ਮਾਣ ਮਹਿਸੂਸ ਕਰ ਸਕਣ। ਇਸ ਨਾਲ ਉਹ ਅਗਲੇ ਪੱਧਰ ਤੇ ਆਪਣੀ ਰੁਚੀ ਅਤੇ ਲੋੜ ਅਨੁਸਾਰ ਪੰਜਾਬੀ ਦੀ ਪੜ੍ਹਾਈ ਕਰ ਸਕਣਗੇ ਤੇ ਨਿੱਤ ਤੇ ਜੀਵਨ ਵਿੱਚ ਪੱਤਰ-ਵਿਹਾਰ ਕਰਨ ਜਾਂ ਹੋਰ ਸੰਚਾਰ ਦੇ ਸਾਧਨਾਂ ਨੂੰ ਅਪਣਾਉਣ ਵਿੱਚ ਸਫ਼ਲ ਹੋ ਸਕਣਗੇ।

6. ਸੈਕੰਡਰੀ – ਪਾਸ

ਯੋਗਤਾ ਲਈ ਸ਼ਰਤਾਂ :-

7. ਹਦਾਇਤਾਂ (ਪੜ੍ਹਾਉਣ) ਦਾ ਮਾਧਿਅਮ – ਪੰਜਾਬੀ

8. ਪੜ੍ਹਾਈ ਦਾ ਸਮਾਂ – 295 ਘੰਟੇ

9. ਅੰਕ – 100

10. ਪੜ੍ਹਾਈ ਦੀ ਯੋਜਨਾ	ਲਿਖਤੀ ਸਮਾਂ ਘੰਟੇ	ਅਧਿਆਪਕ ਨਿਸ਼ਾਨਬੱਧ ਕੰਮ
11. ਮੁਲਾਂਕਣ ਦੀ ਯੋਜਨਾ	ਲਿਖਤੀ ਪੇਪਰ	ਅੰਕ : 100

12. ਪਾਸ ਮਾਪਦੰਡ : 33%

11 (ੳ) ਮੁੱਲਾਂਕਣ ਦੀ ਯੋਜਨਾ

ਨਮੂਨੇ ਦਾ ਪ੍ਰਸ਼ਨ ਪੱਤਰ (ਸੀਨੀਅਰ ਸੈਕੰਡਰੀ ਪੱਧਰ) ਤੁਹਾਡੀ ਜਾਣਕਾਰੀ ਲਈ ਦੱਸਦੇ ਹਾਂ ਕਿ ਪੰਜਾਬੀ ਵਿਸ਼ੇ ਦਾ ਸੋਧਿਆ ਹੋਇਆ ਸਿਲੇਬਸ 2013-2014 ਤੋਂ ਅਮਲ ਵਿੱਚ ਆਇਆ ਹੈ ਤੇ ਇਸ ਲਈ ਨਵੀਂ ਪਾਠ ਪੁਸਤਕ ਤਿਆਰ ਕੀਤੀ ਗਈ ਹੈ। ਨਵੇਂ ਸਿਲੇਬਸ ਦੇ ਮੁਤਾਬਕ ਪਰੀਖਿਆ ਢਾਂਚੇ ਅਤੇ ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਵਿਚ ਕੁਝ ਤਬਦੀਲੀਆਂ ਵੀ ਆਈਆਂ ਹਨ। ਤੁਹਾਡੇ ਲਈ ਨਮੂਨੇ ਦਾ ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਅੰਕ-ਵੰਡ ਨਾਲ ਦਿੱਤਾ ਜਾ ਰਿਹਾ ਹੈ। ਇਸ ਦੀ ਮਦਦ ਨਾਲ ਤੁਸੀਂ ਪਰੀਖਿਆ ਲਈ ਤਿਆਰ ਕਰ ਸਕੋਗੇ। ਇਥੇ ਦਿੱਤੇ ਜਾ ਰਹੇ ਨਮੂਨੇ ਦੇ ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਵਾਂਗ ਹੀ ਪਰੀਖਿਆ ਪੱਤਰ ਦਾ ਰੂਪ ਹੋਵੇਗਾ। ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਗਿਣਤੀ ਅਤੇ ਅੰਕਾਂ ਵਿਚ ਵੀ ਕੋਈ ਫੇਰ ਬਦਲ ਨਹੀਂ ਹੋਵੇਗੀ। ਇਸ ਨਮੂਨੇ ਦੇ ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਨਾਲ ਹੀ ਉਸ ਦੀ ਜਾਂਚ ਲਈ ਨਿਰਧਾਰਿਤ ਅੰਕ-ਵੰਡ ਦਾ ਨਮੂਨਾ ਵੀ ਦਿੱਤਾ ਜਾ ਰਿਹਾ ਹੈ। ਇਸ ਨਾਲ ਤੁਹਾਨੂੰ ਸੰਪੂਰਨ ਉੱਤਰ ਲਿਖਣ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵੀ ਹਾਸਲ ਹੋਵੇਗੀ।

ਉਮੀਦ ਹੈ ਤੁਸੀਂ ਆਪਣੇ ਪਾਠ-ਕ੍ਰਮ ਨੂੰ ਸੁਚੱਜੇ ਢੰਗ ਨਾਲ ਸੰਪੂਰਨ ਕਰਨ ਲਈ ਨਮੂਨੇ ਦੇ ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਤੇ ਉੱਤਰ ਮਾਲਾ ਨੂੰ ਅਮਲ ਵਿਚ ਲਿਆਓਗੇ। ਕਿਸੇ ਤਰ੍ਹਾਂ ਦੀ ਸਮੱਸਿਆ ਦੇ ਹੱਲ ਲਈ ਬੇ ਝਿਜਕ ਐੱਨ.ਆਈ.ਓ.ਐੱਸ. ਨਾਲ ਪੱਤਰ ਵਿਹਾਰ ਕਰ ਸਕਦੇ ਹੋ।

11 (ਅ) ਨਮੂਨੇ ਦਾ ਪ੍ਰਸ਼ਨ ਪੱਤਰ + 2

ਵਿਸ਼ਾ : ਪੰਜਾਬੀ ਜਮਾਤ : ਸੀਨੀਅਰ ਸੈਕੰਡਰੀ

ਕੁਲ ਅੰਕ : 100 ਸਮਾਂ : 3 ਘੰਟੇ

1. ਵਸਤੂਪੂਰਕ ਅੰਕ ਵੰਡ	ਅੰਕ	ਪ੍ਰਤੀਸ਼ਤ
ਗਿਆਨ ਤੇ ਵਿਚਾਰ	33	33
ਸੂਝ-ਬੂਝ ਸੰਬੰਧੀ	50	50
ਲਿਖਤੀ-ਕੌਸ਼ਲ	17	17
	100	

2. ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਨਮੂਨੇ ਦੇ ਆਧਾਰ ਤੇ ਅੰਕ-ਵੰਡ

ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਪ੍ਰਕਾਰ	ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਗਿਣਤੀ	ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਅੰਕ	ਕੁਲ ਅੰਕ	ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨ ਲਈ ਅੰਦਾਜ਼ਨ ਦਿਤਾ ਜਾਣ ਵਾਲਾ ਸਮਾਂ
ਬਹੁਤ ਛੋਟੇ ਪ੍ਰਸ਼ਨ (ਇਕ ਵਾਕ)	8	1	8	16 ਮਿੰਟ
ਛੋਟੇ ਪ੍ਰਸ਼ਨ 30-40 ਸ਼ਬਦ	10	1	10	24
ਲੰਮੇ ਪ੍ਰਸ਼ਨ 100-125 ਸ਼ਬਦ	3	5	15	24
ਬਹੁਤ ਲੰਮੇ ਪ੍ਰਸ਼ਨ 150-175 ਸ਼ਬਦ	2	8	6	20
(i) 200 ਸ਼ਬਦ ਲੇਖ	1	10	10	15
(ii) ਅਖ਼ਬਾਰ ਨੂੰ ਪੱਤਰ	1	6	6	12
(iii) 100-125 ਸ਼ਬਦ (ਜਾਂ)	3	5	15	30
	52		100	165+15=

* 15 ਮਿੰਟ ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਪੜ੍ਹਨ ਲਈ

3. ਵਿਸ਼ੇਗਤ ਅੰਕ ਵੰਡ

ਮਾਡਿਊਲ (ਇਕਾਈ)	ਅੰਕ
1. ਵਿਆਕਰਨ	20
2. ਕਵਿਤਾ	15
3. ਵਾਰਤਕ	10
4. ਕਹਾਣੀ	10
5. ਪੰਜਾਬੀ ਲੋਕ ਧਾਰਾ	10

6. ਇਕਾਂਗੀ	10
7. ਮੀਡੀਆ	10
8. ਅਨੁਵਾਦ (ਜਾਂ) ਪੰਜਾਬੀ ਸਿਨੇਮਾ	15
9. ਪੰਜਾਬੀ ਸਿਨੇਮਾ	15
	100

ਕੋਰਸ ਦੀ ਸਮੱਗਰੀ

ਵਿਸ਼ਾ ਅਤੇ ਉਪ-ਵਿਸ਼ੇ

ਨੰਬਰ ਮਾਡਿਊਲ	ਵਿਸ਼ਾ	ਅੰਤਰਾਲ ਘੰਟਿਆਂ ਵਿੱਚ	ਲਿਖਤੀ ਸਿਖਣ ਦੇ ਪਰਿਣਾਮ ਦੀ ਕੁੰਜੀ	ਪ੍ਰਯੋਗ ਸਿੱਖਣ ਦੀ ਕੁੰਜੀ ਦੇ ਪਰਿਣਾਮ	ਅੰਕ
1.	ਭਾਸ਼ਾ ਵਿਗਿਆਨ	60 ਘੰਟੇ	(ੳ) ਭਾਸ਼ਾ ਵਿਗਿਆਨ (ਅ) ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਤੇ ਵਿਹਾਰਕ ਰੂਪ ਇਸ ਪਾਠ ਨੂੰ ਪੜ੍ਹ ਕੇ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਤੇ ਉਪ ਭਾਸ਼ਾ ਬਾਰੇ ਜਾਣ ਸਕੋਗੇ * ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਤੇ ਉਪਭਾਸ਼ਾਵਾਂ * ਸ਼ਬਦ ਰਚਨਾ ਬਾਰੇ * ਸਮਾਨਾਰਥਕ ਸ਼ਬਦ * ਵਿਪਰੀਤਾਰਥਕ ਸ਼ਬਦ/ਵਿਰੋਧੀ ਸ਼ਬਦ * ਬਹੁਆਰਥਕ ਸ਼ਬਦ * ਵਾਕ ਰਚਨਾ ਤੇ ਵਾਕ ਦੀਆਂ ਕਿਸਮਾਂ (ਅ) * ਮੁਹਾਵਰੇ * ਪੱਤਰ ਰਚਨਾ ਦੀਆਂ ਕਿਸਮਾਂ, ਪੱਤਰ ਰਚਨਾ * ਲੇਖ * ਲੇਖ ਦੀਆਂ ਕਿਸਮਾਂ * ਚੰਗਾ ਲੇਖ ਲਿਖਣ ਦੇ ਨੁਕਤੇ		20

2.	ਕਵਿਤਾ	40 ਘੰਟੇ	ਸਲੋਕ (ਬਾਬਾ ਸ਼ੇਖ਼ ਫ਼ਰੀਦ), ਸਲੋਕ (ਭਗਤ ਰਵਿਦਾਸ) ਮਉ ਮਣੁ ਹਮਤੀ ਘਿਉ ਗੁੜ ਖਾਵੈ (ਗੁਰੂ ਨਾਨਕ ਦੇਵ), ਮਿਰਜ਼ਾ ਸਾਹਿਬਾਂ (ਪੀਲੂ), ਜਵਾਨ ਪੰਜਾਬ ਦੇ (ਪ੍ਰੋ. ਪੂਰਨ ਸਿੰਘ) ਵਾਰਿਸ ਸ਼ਾਹ (ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ), ਪੰਜਾਬ (ਫ਼ੀਰੋਜ਼ਦੀਨ ਸ਼ਰਫ਼), ਔਰਤ ਦੀ ਹੱਕ ਤਲਫ਼ੀ (ਡਾ. ਜਗਤਾਰ)		15
3.	ਕਹਾਣੀ	25 ਘੰਟੇ	ਕੂਆ, ਪੇਮੀ ਦੇ ਨਿਆਣੇ, ਕੁਲਫ਼ੀ, ਕਰਾਮਾਤ		10
4.	ਵਾਰਤਕ	25 ਘੰਟੇ	ਵੇਈਂ ਪ੍ਰਵੇਸ਼, ਮੇਰੇ ਦਾਦੀ ਜੀ, ਅੰਥਰੂ, ਤੇਜ਼ ਰਫ਼ਤਾਰ ਨਿਊਜ਼ਾਰਕ, ਅਖ਼ਬਾਰ ਦੀ ਦੁਨੀਆਂ, ਨੈਤਿਕ ਸਿੱਖਿਆ ਸਿਧਾਂਤ		10
5.	ਪੰਜਾਬੀ ਲੋਕ ਧਾਰਾ	20 ਘੰਟੇ	ਪੰਜਾਬੀ ਲੋਕ ਧਾਰਾ		10
6.	ਇਕਾਂਗੀ	20 ਘੰਟੇ	ਭਾਈ ਘਨ੍ਹੀਆ ਜੀ		10

7.	ਮੀਡੀਆ	25 ਘੰਟੇ	ਮੀਡੀਆ		10
8.	ਅਨੁਵਾਦ	40 ਘੰਟੇ	ਅਨੁਵਾਦ ਕਲਾ ਅਤੇ ਵਿਗਿਆਪਨ, ਦੁਭਾਸ਼ੀਆ ਅਤੇ ਅਨੁਵਾਦਕ, ਮੌਖਿਕ ਅਤੇ ਯਾਂਤਰਿਕ ਅਨੁਵਾਦ		15
9.	ਪੰਜਾਬੀ ਸਿਨੇਮਾ	40 ਘੰਟੇ	ਸਮਕਾਲੀ ਪੰਜਾਬੀ ਸਿਨੇਮਾ ਪੰਜਾਬੀ ਪਾਪੂਲਰ ਗੀਤਾਂ ਵਿੱਚ ਦਿਸਦਾ ਪੰਜਾਬ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਰੰਗਮੰਚ		15
				ਕੁਲ ਜੋੜ	100

Mathematics

Code No. 311

Introduction

Mathematics is an indispensable subject area in the school education because of its wide application in our day today activities as well as in different fields of education. Access to quality education in mathematics is very important for every individual. Mathematics is considered to be a system of logic. It is the subject of systematic study of quantitative phenomena around us. It is based on certain logical connotation of numbers and integral part of human civilization. Mathematics is a creative activity and is one of the most useful, fascinating and stimulating divisions of human knowledge. It is a process of managing and communicating information and has the power to predict and provide solutions to practical problems as well as enabling the individual to create new imaginative worlds to explore. We use Mathematics in everyday life, in science, in industry, in business and in our free time. Mathematics education is concerned with the acquisition, understanding and application of skills. Mathematical literacy is of central importance in providing the learner with the necessary skills to live a full life as a child and later as an adult. Society needs people who can think and communicate quantitatively and who can recognize situations where Mathematics can be applied to solve problems.

Rationale

Mathematics is an important discipline of learning at the Senior Secondary stage. It helps the learner in acquiring decision making ability through its applications to real life both in familiar and unfamiliar situations. It predominantly contributes to the development of precision, rational reasoning and analytical thinking. The Senior Secondary stage is most crucial where learners for the first time move towards diversification. At this stage, the learners start thinking, taking important decisions concerning their future career by choosing suitable courses. It is the stage, from where learners would either go for higher academic education in Mathematics or for Professional courses or it may be the end of their academic career. One of the basic aims of learning Mathematics at Senior Secondary level is to be developed problem solving skills and quantificational experiences around the learners. The idea is to allow the learner to realize how and why Mathematics is all around us. In view of these facts, it is important to make Mathematics Education at this level broad based and meaningful. The revised curriculum in Mathematics has been designed to meet the needs of diverse learners.

Objectives

After completing this course, learner will be able to:

- describe basic concepts, facts, principles, terms, symbols and processes of Mathematics;
- convert the word problems in to the mathematical forms and solve them;
- explain different ways of processing the given data and help for arriving at conclusions;
- express the skills of quantification of experiences and make linkage with day-today life;
- solve wide variety of mathematical problems in daily life and reflect in different context of learning; and

- relate mathematical knowledge and skills to solve variety of problems and develop positive attitude towards Mathematics and its application.

Scope and job opportunity

This field has a large number of opportunities for employment in different profession, some of these are: Engineering, Architecture, Statisticians, Banking, Econometrics and other professions involves Measurement and Calculation.

Eligibility conditions

Age: 15 years

Qualification: 10th Pass

Medium of instruction: Hindi, English, Urdu, Bengali, Gujarati and Odia medium.

Duration of the course: 1 Year

Weightage

Theory: 100 Marks

Tutor Marked Assignment (TMA): 20% Marks of the Theory

Scheme of studies: Theory (300 hours) and TMA (Self paced)

Scheme of evaluation: The learner will be assessed through Continuous and Comprehensive Evaluation (CCE) in the form of Tutor Marked Assignment (TMA) as well as Public Examination. The following table shows the details:

Mode of evaluation	Syllabus/Contents	Duration	Weightage
Tutor Marked Assignment (TMA)	All Contents under SLM Part-1.	Self Paced	20%
Public/Final Examination	All Contents under SLM Part-2.	3 Hours	80%

Pass criteria: 33% Marks

Course content

S. No.	Module/Topics	Duration (in hours)	Module Approach/Description	Weightage (marks)
Part-1: [For Tutor Marked Assignment]				
1.	**Module-I** **Sets, Relations and Functions**	30	Sets and functions are the most fundamental concepts which together constitute the foundation of Mathematics. These two	Assessed through TMA

	1. Sets 2. Relations and Functions-I 3. Trigonometric Functions-I 4. Trigonometric Functions-II 5. Relation between Sides and Angles of A triangle		fundamental concepts are used in different branches of Mathematics. This module will motivate you to understand different concepts and definitions of sets, relations and functions defined on sets of real numbers. It is of great importance for learners to be able to relate the functions to trigonometric ratios. This module will help to learner in grasping many properties about relations and functions. Further this knowledge will help to understand trigonometric functions, trigonometric identities and values of trigonometric functions for different angles to solve trigonometric equations, use of Sine and Cosine rules to find the angles and sides of a triangle and to understand the graph of trigonometric functions.	
2.	**Module- II** **Sequences and Series** 1. Sequence and Series 2. Some special sequences	15	Sequences have many important applications in several spheres of human activities. In this module you will be able to understand the concept of sequence and terms of sequence. Sequences, following specific patterns are called progressions. A sequence is called arithmetic progression if the difference between any two consecutive terms is constant and called geometric progression if the ratios between any two consecutive terms is constant. It is important to define a rule to represent a sequence which helps in finding any term of sequence. You also need a rule to find the sum of any sequence. You will be able to understand arithmetic and geometric mean and	Assessed through TMA

			relation between these two means. Finally in the end of the module you will understand the concept of series and will be able to find the sum of some special series.	
3.	**Module –III** **Algebra-I** 8. Complex Numbers 9. Quadratic Equations 10. Principle of Mathematical Induction 11. Permutations and Combinations 12. Binomial Theorem	30	Some equations are not solvable in real number system. Thus, there is a need to extend the real number system to a larger number system so that we can have the solutions of such equations. In this module the real number system shall extend to a larger system called complex number system, so that the solutions of quadratic equations are possible. Induction is the process of reasoning from particular to general. The principle of Mathematical Induction helps us in proving some of the tentative conclusions. In daily life you come across many problems of finding the number of ways of arranging or selecting objects. Under this module you also learn some basic techniques of counting which will enable us to answer the number of ways of arranging or selecting objects in a wide variety of situations. Arrangements lead to Permutations and selection leads to Combinations. The Binomial Theorem enables us to expand any power of a binomial expression.	Assessed through TMA
4.	**Module-IV** **Co-ordinate Geometry** 13. Cartesian system of rectangular co-ordinates 14. Straight Lines	30	Coordinate Geometry is that branch of Mathematics which deals with the study of geometry by means of algebra. You will know that a straight line or a curve in a plane can be represented by an algebraic equation. In coordinate geometry,	Assessed through TMA

	15. Circles 16. Conic Sections		you can represent a point in a plane by an ordered pair of real numbers, called coordinates of the point, and a straight line or a curve by an algebraic equation with real coefficients. You can use algebra advantageously to the study of straight lines and geometric curves which reveal their nature and properties. The curves known as conics were named after their historical discovery as the intersection of a plane with a right circular cone. In this module you will learn the intersection of a plane with a double napped right circular cone results in different types of curves. You will also understand the standard equations of parabola, ellipse and hyperbola and circle and will study their simple properties.	
5.	**Module-V** **Statistics and Probability** 17. Measures of Dispersion 18. Random experiments and events. 19. Probability	15	Statistics is one of the fundamental areas of Mathematics that is applied across many disciplines and is useful in analysis in industrial production, market etc. The study of statistics produces statisticians that analyze raw data collected from the field to provide useful insights about a population. The statisticians provide concrete backgrounds of a situation that helps in decision making. The most common measures of variability for quantitative data are the variance; its square root, the standard deviation; the statistical range; inter quartile range; and the absolute deviation. On the other hand, the study of probability helps decision making in government agents and organizations based on	Assessed through TMA

			the theory of chance. Probability has also been extensively used in the determination of high, middle and low quality products in industrial production. The basic idea of statistics and Probability will help in your day today life and in your further higher studies	
Part-2: [For Public Examination]				
6.	**Module-VI** **Algebra-II** 20. Matrices 21. Determinants 22. Inverse of a Matrix and its Applications	30	The study of the field of Linear Algebra will equip you with the requisite background knowledge and understanding which will enable you to understand such topics as simple linear equations and their solutions; vectors and operations on vectors; matrices and operations on matrices. Matrices are used in a large number of disciplines. In this module you shall learn about matrices and shall confine yourself to the study of basic laws of matrix algebra. You shall also understand the concept of elementary row and column operation and invertible matrices. In this module you shall learn about determinants, their expressions, minors and cofactors, their elementary properties, applications of determinants in finding the area of triangle, adjoint and inverse of a square matrix, consistency and inconsistency of system of linear equations and unique solution of linear equations in two or three variables using inverse of a matrix.	17
7.	**Module-VII** **Relations and Functions** 23. Relation and	30	In this module you will learn about reflexive, symmetric, transitive and equivalence relations.	12

	Functions-II 24. Inverse Trigonometric Functions		You will also learn about the composition of functions and their different properties. This module will help you to test the bijectivity of functions and to find the inverse of any function. The binary operations like addition and multiplication constitute the set of real numbers as one of the most familiar algebraic structure. You will be able to find identity element and inverse of an element of a set. You will also study about inverse trigonometric functions, its domain, and range and simplify expressions involving inverse trigonometric functions. The inverse trigonometric functions play a very important role in calculus and are used extensively in science and engineering.	
8.	**Module-VIII** **Calculus** 25. Limits Continuity 26. Differentiation 27. Differentiation of Trigonometric functions 28. Differentiation of exponential and Logarithmic functions 29. Application of Derivatives 30. Integration 31. Definite Integrals 32. Differential equations	60	Calculus is an important part of Mathematics at senior secondary level. This module begins by introducing the concept of limits. The concept of limit leads to understand the concept of continuity of elementary functions. In this module, you will learn about the basic concept of the derivative and integral functions. Derivatives have a wide range of applications in various fields and disciplines. You will learn that how derivative can be used to determine the rate of change of various quantities. you will also understand that integration and differentiation are inverse operations. You will come across two types of problems in integrals i.e. problem of finding a function whose derivative is given and problem of finding the	45

			area bounded by the graph. These two problems lead to the two forms of integrals, indefinite integrals and definite integrals, which together form integral calculus. In the end of the module you will be able to define and solve differential equations i.e. to find the unknown function that satisfy the given differential equation	
9.	**Module-IX** **Vectors and Three Dimensional Geometry** 33. Introduction to 3-D 34. Vectors 35. Plane 36. Straight Line	30	There are many physical situations which cannot be described completely by using just one number. For example, if you know that an aeroplane is travelling at 700 km/h, you may like to know the direction in which it is flying. In this module you will about vectors that are very helpful in describing and analyzing many physical situations around us. Earlier you have studied analytical geometry in two dimensions, now you shall use vector algebra to Three-Dimensional geometry which helps us to solve different physical situations through geometry. In the end of this module you shall study about the direction cosines and direction ratios of a line and also know to find angle between two lines, shortest distance between two lines, the vector and Cartesian equations of a line and a plane, angle between two planes, angle between a line and a plane and distance of a point from a plane.	17
10.	**Module-X** **Linear Programming and Mathematical Reasoning** 37. Linear Programming	30	Linear equations and linear in equations in one and two variables. These equations can be solved algebraically or graphically. On the basis of solutions of linear in	09

	38. Mathematical Reasoning		equations you will be able to solve problems on linear programming. The main objective of study of logic is to construct good or sound arguments, and to recognize bad or unsound arguments. Logic is a science of reasoning. In this module you will learn about study of logic in Mathematics, which is prominently called Boolian logic.	

Physics

Code No. 312

Introduction

Physics is a fundamental science because it deals with the basic features of the world, such as, time, space, motion, charge, matter and radiation. Every event that occurs in the natural world has some features that can be viewed in these terms. Study of physics is a means of rationally understanding nature. Physics lies behind all technological advancements, such as computer, internet, launching of rockets and satellites, radio and T.V. communications, lasers, etc. It also finds applications in such simple activities of men as lifting a heavy weight or making a long jump. Physics is, thus, an all pervading science and its study helps us in finding answers to whys and hows of our day to day happenings.

Rationale

Keeping in view the issues highlighted in the National Curriculum Framework (NCF) 2005 for School Education, present Physics curriculum has been so designed that it not only focuses on the basic concepts of Physics but relates them to the daily life activities. The applications of the laws of Physics and their effects on daily life have been reflected in the curriculum. The basic themes of Physics which would be of interest to all, particularly to those who are interested in pursuing Physics as a career in life have been selected to form core content of the curriculum. Besides, the curriculum also includes such emerging areas as electronics, communication, nuclear physics which find immense applications in daily life.

Though mathematics is basic to the understanding of most of the problems of physics, in the present course, stress has been given to avoid rigour of mathematics like integration and differentiation. The focus has been to teach concepts of physics rather than mathematical calculations.

Objectives

After completing this course, the learner will be able to:

- develop understanding of concepts, fundamental laws, principles and processes in the area of physics;
- establish relationship between causes and effects of physical phenomenon;
- explain the contributions of physics towards improving quality of life;
- create interest in physics and foster a spirit of enquiry;
- develop experimental skills like taking observations, manipulation of equipment, and communicative skills such as reporting of observations and experimental results;
- develop problem solving ability e.g. analyzing a situation or data, establishing relationship between cause and effect;

- develop scientific temper of mind by making judgment on verified facts and not opinions, by showing willingness to accept new ideas and discoveries; and
- develop awareness of the dangers inherent in the possible misuse of scientific knowledge.

Scope and job opportunity

This field has a large number of opportunities for employment, some of these are:

- career in engineering and medical
- career in teaching in schools , colleges and universities
- job in research institute and laboratories
- opportunities in aviation industry, defence sector, power generating companies and hospitals.

Eligibility conditions

Age: 15 Years

Qualification: 10th Pass

Medium of instruction: Hindi, English, Urdu, Bengali, Gujarati and Odia.

Duration of the course: 1 Year

Weightage

Theory: 80 Marks

Practical: 20 Marks

Tutor Marked Assignment (TMA): 20% Marks of the theory

Scheme of studies: Theory (240 hours), TMA (self paced)

Scheme of evaluation:

Mode of evaluation	Syllabus/Contents	Duration	Weightage
Tutor Marked Assignment (TMA)	All contents marked as TMA	Self paced	20%
Public/Final examination	All contents marked as PE Practical	3 Hours (Theory) 3 Hours (Practical)	80%

Pass criteria: 33% Marks in each component.

Course content

S. No.	Module/Topics	Duration (in hours)	Module Approach (Theory)	Description of practicals	Weightage (marks)
1.	**Module–I** **Motion, Force and Energy** 1. Physical Worlds and Measurements 2. Motion in a Straight line 3. Laws of motion 4. Motion in a plane 5. Gravitation 6. Work, Energy and Power 7. Motion of a Rigid Body	45	Besides highlighting the importance of universal standard units of measurement, applications of dimensions and vectors in the study of physics have been described in this module. The physics scope, need of measurement, concept of motion and rest, cause of motion and different types of motion has been described with the help of daily life examples. Significance of gravitation, concept of work and energy are highlighted. The basics of the motion of a rigid body and the significance of rotational motion in day to day life have been explained.	To determine the internal diameter and depth of a cylindrical container (like tin can, calorimeter) using a Vernier calipers and find its capacity. Verify the result using a graduated cylinder. To determine the diameter of a given wire using a screw gauge. To determine the radius of curvature of a concave mirror using a spherometer. To find the time period of a simple pendulum for small amplitude and draw the graph of length of the pendulum against square of the time period. Use the graph to find the length of the second's pendulum. To find the weight of a given body using law of parallelogram of vectors.	14

2.	**Module–II** **Mechanics of Solids and Fluids** 8. Elastic Properties of Solids 9. Properties of Fluids	20	The classification of the substances into solids, liquids and gases is done on the basis of intermolecular forces. This module explains the elastic behaviour of the solids and highlights source of elastic behaviour of solids. The mechanical properties of the fluids like buoyancy, surface tension, capillary action etc. have been explained with the help of daily life examples and their applications have been highlighted.	To measure extensions in the length of a helical spring with increasing load. Find the spring constant of the spring extension graph. To find the time required to empty a burette filled with water, to ½ of its volume, to ¼ of its volume, to 1/8 of its volume and so on. Then plot a graph between volume of water in the burette and time and thus study at each stage that the fractional rate of flow is same (analogy to radio-active decay).	06
3.	**Module–III** **Thermal Physics** 10. Kinetic Theory of Gases 11. Thermodynamics 12. Heat Transfer and Solar Energy	25	Thermal energy theory has been described. Behaviour of gases and the gas laws have been described with the help of kinetic theory of gases. The concept of temperature has been explained by thermal equilibrium. Black	To study the Newton's loaf of cooling by plotting a graph between cooling time and temperature, difference between calorimeter and surroundings. To determine the specific heat of a solid using the method of mixtures.	06

			Body Radiation, laws of thermodynamics and their applications in our day to day life have been explained in this module. Working of heat engines and refrigerators has been explained. Different modes of transfer of heat and their applications in different situations have been emphasized. The concept of thermal pollution and the issue of green house effect are also dealt with in this module.		
4.	**Module–IV** **Oscillations and Waves** 13. Simple Harmonic Motion 14. Wave Phenomena	20	Besides explaining the terms associated with periodic motion, the harmonic motion has been described with the help of common examples. A qualitative idea of forced oscillations, resonance and damped oscillations has also been given in	To compare the frequencies of two tuning forks by finding first and second resonance positions in a resonance tube. To establish graphically the relation between the tension and length of a string of a sonometer vibrating in its fundamental model resonating with a	06

			the module.	given tuning fork. Use the graph to determine the mass per unit length of the string. To determine the wavelength of sound produced (i) in air column, (ii) the velocity of sound in air at room temperature using a resonance column and a tuning fork.	
5.	**Module–V** **Electricity and Magnetism** 15. Electric Charge and Electric Field 16. Electric Potential and Capacitors 17. Electric Current 18. Magnetism and Magnetic Effect of Electric Current 19. Electromagnetic Induction and Alternating Current	45	The basic concepts of electrostatics and frictional electricity have been described in the module. The electric field and electric potential due to a point charge have been explained. Different types of capacitors, their combinations and applications have been explained. The electric current and thermal and magnetic effects of current are explained in the module. Significance of magnetic effect of current and	To verify the law of combination (series and parallel) of resistances using ammeter- voltmeter method and coils of known resistances. To compare the e.m.f's of two given primary cells by using a potentiometer. To determine the specific resistance of the material of two given wires using a metre bridge. To determine the internal resistance of a primary cell using a potentiometer. To determine the inductance and resistance of a given coil (inductor) using a suitable series	16

			electromagnetic induction has been emphasized. The generation and transmission of current power and the problems of low voltage and load shedding have been explained.	resistance and an AC voltmeter. To study decay of current in a R.C. circuit while charging the capacitor, using a galvanometer and find the time constant of the circuit. To draw the lines of force due to a bar magnet keep (i) N-pole pointing to north (ii) N-pole pointing to South. Locate the neutral points. To determine the internal resistance of a moving coil galvanometer by half deflection method, and to convert it into a voltmeter of a given range, say (0-3V), and verify it.	
6.	**Module–VI** **Optics and Optical Instruments** 20. Reflection and Refraction of Light 21. Dispersion and Scattering of light 22. Wave Phenomena and Light 23. Optical Instruments	25	After giving a brief introduction of reflection of light, the basic concepts like refraction, total internal reflection, dispersion, scattering, of light have been described in the module. The wave properties of light like interference, diffraction and polarization are	To find the value of v for different values of i in case of a concave mirror and find its focal length (f) by plotting graph between 1/u and 1/v. To find the focal length (f) of a convex lens by plotting graph between 1/u and 1/v. To find the focal length (f) of a convex mirror using a convex lens.	14

			also described in a qualitative manner. Further applications of the properties of light have been described to construct various types of optical instruments. Elementary idea of Raman Effect is also discussed.	Determine the focal length of a concave lens by combining it with a suitable convex lens. To draw a graph between the angle of incidence (i) and angle of deviation (D) for a glass prism and to determine the refractive index of the glass of the prism using this graph. To compare the refractive indices of two transparent liquids using a concave mirror and a single pin. To set up an astronomical telescope and find its magnifying power.	
7.	**Module–VII** **Atoms and Nuclei** 24. Structure of Atom 25. Dual Nature of Radiation and Matter 26. Nuclei and Radioactivity 27. Nuclear Fission and Fusion	25	Different atomic models describing the structure of atom have been described and the limitations of these and their modifications have been systematically presented in the module. Nuclei and radio activity have been explained along with their applications. The		08

			peaceful uses of nuclear energy have been described highlighting the latest trends.		
8.	**Module–VIII** **Semiconductor Devices and Communication** 28. Semiconductors and Semiconducting Devices 29. Applications of Semiconductor Devices 30. Communication Systems	35	Semiconductors find a very significant place in almost all the electronic devices. Besides highlighting the basis of semiconductors, different types of semiconductor devices and their applications have been explained in the module. In the present age of information and communication technology, it is essential for all to know the basic of electronics and communication technology. Working principles of communication systems, the communication techniques and media used in daily life have been explained.	To draw the characteristic curve of a forward biased pn junction diode and to determine the static and dynamic resistance of the diode. To draw the characteristics of an npn transistor in common emitter mode. From the characteristics find out (i) the current gain (â) of the transistor and (ii) the voltage gain Av with a load resistance of 1 k Ω.	**10**

Chemistry

Code No. 313

Introduction

Chemistry is a branch of Physical Sciences that studies the composition, structure, properties and change of matter. Chemistry is sometimes called the Central Science because it bridges other Natural Sciences including Physics, Geology and Biology . Chemistry plays a pivotal role in many areas of science and technology viz. health, medicine, energy and environment, food, agriculture and new materials.

Rationale

According to present scheme of school education at Senior Secondary stage, chemistry emerges as a separate discipline. It is this stage where major emphasis is laid on providing suitable conceptual foundation. The present Senior Secondary level Chemistry (313) course at NIOS has now been revised as per the Common Core Curriculum developed by COBSE (Council of Boards of School Education) and NCERT (National Council for Educational Research and Training) making it current and need based.

The present Chemistry course has been developed basically around the themes: Why do chemical reactions occur? What is the quantitative relationship among reacting constituents in a chemical reaction? How far and how fast will a chemical reaction proceed under a given set of conditions? Can we predict whether a chemical reaction will occur or not? What is the relation between the structure of a chemical substance and its functions/properties? In what way is a chemical reaction relevant for getting new types of substances and materials for daily life and chemical industries?

Objectives

After completing this course, the learner will be able to:

- explain the principles, theories and laws of chemistry responsible for various chemical processes/ reactions;
- realise the role of chemistry in production of many elements (metals/non-metals) and compounds useful in industries and daily life;
- identify the chemical nature of inorganic and organic substances around him/her;
- choose various vocational, professional and applied courses of choice based on knowledge of chemistry gained;
- perform chemical calculations to know about the chemical reactions and chemical compounds;
- explain chemical reactions, concepts and phenomenon;
- develop awareness about uses and abuses of chemical substances;
- develop skills of arranging/setting apparatus, handling apparatus and chemicals properly ; and
- analyse and synthesise simple compounds.

Scope and job opportunity

This field has a large number of opportunities for employment, some of these are:

Chemical Sciences (Chemistry) offer access to a wide range of careers. The career options in chemistry are practically endless. Some of the important career opportunities after studying Chemistry at Senior Secondary level are petrochemical and pharmaceutical industries, analytical chemist, clinical biochemist, chemical development engineer, toxicologist, laboratory assistant, research associate/ research assistant, textile industry, biotechnology, biochemistry, plastic and polymer industry, quality controller, teacher, lecturer, professor, scientist, scientific journalist, forensic scientist and so on.

Eligibility conditions

Age: 15 years

Qualification: 10th pass

Medium of instruction: Hindi, English, Urdu, Bengali, Gujarati and Odia

Duration of the course: 1 Year

Weightage

Theory: 80 Marks

Practical: 20 marks

Tutor Marked assignments (TMA): 20% Marks of theory

Scheme of studies: Theory (240 hours), practical (30 hours), TMA (self- paced)

Scheme of evaluation

Mode of evaluation	Syllabus/Contents	Duration	Weightage
Tutor Marked Assignment (TMA)	All contents marked as TMA	Self paced	20%
Public/Final Examination	All contents marked as PE Practical	3 Hours(Theory) 3 Hours (Practical)	80%

Pass criteria: 33% in each component

Course content

S. No.	Module/Topics	Duration (in hours)	Description of Modules	Description of practicals	Weightage (marks)
1.	**Module- I** **Some Basic Concepts of Chemistry** 1. Atoms, Molecules and Chemical Arithmatics	13	This module deals with the scope of chemistry alongwith atomic theory of matter, laws of chemical combination, relationship between mass and number of particles. It also deals with stoichiometry. This module also deals with chemical formulas and chemical equations also.	**Objectives of the present course in practical work are as follows:** 1. To develop and inculcate laboratory skills and techniques. 2. To enable the student to understand the basic chemical concepts. 3. To develop basic competence of analysing and synthesising chemical compounds and mixtures. To meet these objectives three different types of laboratory experiments are provided in the present practical course. 1. Experiment for developing laboratory skills/ techniques 2. Concept based experiments 3. Traditional experiments (for analysing and synthesising chemicals) A. Introduction B. General Safety Measures	**04**

				C. List of Experiments 1. Basic Laboratory Techniques (i) Acquaintance with chemistry laboratory and basic laboratory techniques (cutting, bending and boring of glass tubes, sealing of apparatus, filtration, distillation, crystallisation, preparation calibration, cleaning of glass apparatus and use of burner etc.) (ii) Measurement of volume, length, mass and density. 2. Characterization of Chemical substances (i) Determination of melting point of a solid organic compound of low melting point (below 100°C) by glass capillary tube method (Paraffin oil may be used as bath). 3. Volumetric Analysis (Quantitative analysis) (a) preparation of solution of oxalic acid and ferrous ammouium sulphate	

				of known molarity by weighing (non-evaluative). Use of chemical balance to be demonstrated. (b) A study of acid-base titration (single titration only) (i) To find out the Molarity of given NaOH solution by titrating against standard solution of oxalic acid. Both the solutions to be provided (c) A study of redox titrations (single titration only) (i) To find out the Molarity and strength of given potassium permanganate solution by titrating against M/50 Mohr's salt (Ferrous ammonium sulphate) solution. Both the solutions to be provided. (d) To find out the Molarity and strength of given potassium permanganate solution by titrating against M/10 oxalic acid solution. Both the solutions to be provided.	

2.	**Module- II** **Atomic Structure and Chemical Bonding** 2. Atomic Structure 3. Periodic Table and Periodicity in Properties 4. Chemical Bonding		This module is designed in such a manner so as to bring out the historical approach to the development of the various models of the atoms starting from experimental evidences leading to Rutherford's nuclear model, idea of line spectrum of hydrogen atom, idea of Bohr model, wave particle duality and Heisenberg's uncertainty principles, quantum number etc. This module also gives an idea about periodic table and periodicity in properties. Knowing from structure of atoms combine to form molecules and why do these combinations work.		10

3.	**Module- III** **State of Matter** 5. Gaseous and Liquid States 6. The Solid State 7. Solutions 8. Colloids	28	This module highlights the behavior of different states of matter with reference to the kinetic molecular theory of gases, Wander walls' equation, important properties of liquids such as vapour pressure, surface tension and viscosity and structure of solids with reference to two dimensional lathe and units cells as well as packing efficiencies. It will also give an idea about components of a solution, Raoult's law and abnormal molecular mass, colloidalial, solution, colloids, coagulation, emulsion etc are also being dealt in this module.	4. Preparation of dilute solutions Preparation of dilute solutions of known concentration of sulphuric acid, hydrochloric acid and nitric acid from their stock solution	08
4.	**Module- IV** **Chemical Energies** 9. Chemical	23	This module brings out the changes in energy and	5. Thermochemistry Any one of the following experiments	06

	Thermodynamics 10. Spontaneity of Chemical Reactions		occurring during dissolution processes and chemical reactions in terms of enthalpy along with first law of thermodynamics and Hess's law. This module also deals with spontaneity of chemical reactions to familiarize the concept that a chemical reaction involves energy changes. This module also brings out information about second and third laws of thermodynamics.	(ii) To determine the enthalpy of dissolution of copper sulpahte or potassium nitrate To determine the enthalpy of neutralization of strong acid (HC1) with strong base (NaOH)	
5.	**Module- V** **Chemical Dynamics** 11. Chemical Equilibrium 12. Ionic Equilibrium 13. Electrochemistry 14. Chemical kinetics 15. Adsorption and Catalysis	36	This module highlights the dynamic nature of chemical reactions which involves mixing substances together to get final products. It emphasizes equilibrium in solutions to explain acid or base behaviour. Also concept of	1. Experiment related to pH change (a) Determination of pH of following substances by using a universal indicator solution or pH papers. (i) Salt solution (ii) Acids and bases of different dilutions (iii) Vegetable and fruit juices (b) Study of pH change	12

			oxidation and reduction treated with the electrochemical cells to enable the learner to understand the concept of conversion of chemical energy to electrical energy. This module also brings out the information related to chemical kinetics, adsorption and catalysis.	by common-ion effect in case of weak acids and weak bases by above method (specific examples of CH_3COOH and CH_3COONa; and NH_4OH and NH_4Cl may be taken). 2. Surface Chemistry • Preparation of lyophilic and lyophobic sol. Lyophilic sol - starch Lyophobic sol - aluminium hydroxide, ferric hydroxide. 3. Electrochemistry Variation of cell potential in $Zn/Zn^{2+}\|\| Cu^{2+}/Cu$ with change in concentration of electrolytes ($CuSO_4$ or $ZnSO_4$) at room temperature. 4. Chemical Equilibrium Study of the shift in equilibrium of the reaction between ferric ions and thiocyanate ions by increasing/ decreasing the concentration of these ions. 5. Chemical Kinetics • Study of the effect of concentration on the rate of reaction	

				between sodium thiosulphate and hydrochloric acid. • Study of the effect of temperature on the rate of reaction between sodium thiosulphate and hydrochloric acid.	
6.	**Module- VI** **Chemistry of Elements** 16. Occurrence and Extraction of metals 17. Hydrogen and s-Block elements 18. General Characteristics of the p-Block Elements 19. p-Block elements and their Compounds –I 20. p-Block elements and their Compounds –II 21. d-Block and f-Block Elements 22. Coordination compounds	60	In this module, the periodic table is used as the basis for a study of chemistry of some of the common elements and its compounds. There are a large number of elements are found in nature i.e. the reason, the periodic trends to be followed to classify the elements. This module also deals with the characteristics of s-, p-, d- and f-block elements. You will also learn about the properties of transition elements and coordination compounds.	6. Preparation of Inorganic Compounds (i) Preparation of double salt of ferrous ammonium sulphate or potash alum. (ii) Preparation of potassium ferric oxalate. 7. Qualitative Analysis Elementary qualitative analysis of a salt involving detection of one cationic and one anionic species from the following groups. (Salts insoluble in hydrochloric acid excluded). **Cations:** Pb^{2+}, Cu^{2+}, As^{3+}, $A1^{3+}$, Fe^{3+}, Mn^{2+}, Ni^{2+} , Zn^{2+} , Co^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+ **Anions:** CO_3^{2-},S^{2-}, SO_3^{2-}, SO_4^{2-}, NO_2^-, NO_3^-, $C1^-$, Br^-, I^-, $PO4^{3-}$, $C_2O_4^{2-}$, CH_3COO^-	18

7.	**Module- VII** **Chemistry of Organic Compounds** 23. Nomenclature and General Principles 24. Hydrocarbons 25. Compounds of carbon containing Halogens (Haloalkanes and Haloarenes) 26. Alcohol, Phenols and ethers 27. Aldehydes, Ketones and Carboxylic Acids 28. Compounds of Carbon containing Nitrogen 29. Biomolecules	60	This module deals with the nomenclature, preparation and properties of hydrocarbons and their derivatives containing halogens, oxygen and nitrogen with different functional groups. The properties and uses of carbohydrates, proteins, fats and enzymes are also discussed in this module.	8. Preparation of Organic Compounds Preparation of any one of the following compounds: • Acetanilide • Iodoform. 9. Chromatography (a) Separation of coloured substances by paper chromatography, and comparison of their Rf values for a mixture of red and blue ink or a black ink. OR (b) Separation of coloured substances by paper chromatography, and comparison of their Rf values for juice of a flower or grass. 10. Detection of Elements Detection of nitrogen, sulphur, chlorine, bromine and iodine in an organic compound (combinations of halogens to be avoided). Not more than two of the above elements should be present in the given organic compound.	18