སློ་ཐུར་གནས་སྐབས་ཤེས་ཡོན།

Education in Emergency
ADAPTED CURRICULUM
&
PRIORTIZED CURRICULUM

KEY STAGE 4: CLASS IX - X

Ministry of Education
Royal Education Council
Bhutan Council for School Examination and Assessment

Education in Emergency

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May 2020

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FOREWORD

The detection of the first COVID-19 case on 5th March 2020 resulted in closure of schools and institutes in the proximal zone of Paro, Thimphu and Punakha. Subsequently, in compliance to the executive order of the Government, all schools and educational institutes in the country were closed from March 18, 2020 until the further notice.

The prolonged closure of schools is a great concern because it affects students' education and achievement of the expected learning outcomes for all key stages. It also poses unprecedented risk to safety, wellbeing and the developmental growth of students. Other secondary effects include increased anxiety and restlessness when they are removed from the routine and structured activities. Students are deprived of the nutrition supplements, which may cause nutritional imbalance, and there is also likelihood of children indulging in socially undesirable activities, teenage pregnancy and early marriage. Consequently, it has the potential to reverse the gains made in access to education and learning at risk because of the prolonged closure of schools.

Understanding the priority to facilitate the continuity of learnings, the Ministry of Education in collaboration with REC, BCSEA and relevant agencies have initiated a number of programmes and activities to roll out Education in Emergency (EiE). They include adaptation and prioritization of school curricula in making educational facilities and services accessible for all students. Diverse means of curriculum delivery are explored and deployed – broadcast media (TV & Radio), introduction of Google classrooms, use of social media to establish teacher-student-parent linkage for children's learning and engagement, and use of print in Self Instructional Materials (SIM) for curriculum delivery.

In-spite of the initiatives, owing to evolving COVID 19 pandemic in the regional and global scenario and the priority of the Government to help students progress to higher grade, guidelines on Assessment and Examinations for EiE curriculum is imperative. Assessment and examinations are crucial in ensuring the continuity of learning and preparing students to progress to higher grades through alternative forms of assessment and examinations.

Through this communique, Ministry of Education wishes to inform teachers, parents and students of the educational adjustment and modification in curricula, assessment and examinations, and instructions in helping students continue their education.

(Karma Tshering)
Officiating Secretary
Ministry of Education

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SCHOOL CURRICULUM FOR EDUCATION IN EMERGENCY

RATIONALE

The pandemic spread of COVID19 virus is ravaging every corner of the world indiscriminately with huge losses of lives. Understanding has been developed that senior citizens and people with low immunity system are vulnerable and pose the risk of contracting the effects. The World Health Organization (WHO) advices a few simple ways of dealing with the pandemic, which include social distancing, hand washing and use of hand sanitizer. Based on the risk of contracting the novel COVID virus and the impending danger to lives of youths, by the decree of executive order of the Government, all schools remain closed until further notice. However, the current scenario of rate and pace of spread of the virus does not appear that it can be contained any time sooner.

The prolonged closure of schools is continuing to impact students' education and achieving the expected learning outcomes for all key stages. Inevitably, this affects the progression of students to the next higher grade. Though the easiest way is to compel students to repeat in the same grade in the following year, the strategy is costly for the nation in all fronts, including financial expenses and learners' developmental progression, and may create generation gap in career opportunities.

According to INEE (2004), Education in emergencies, and during chronic crises and early reconstruction efforts, can be both life-saving and life-sustaining. It can save lives by protecting against exploitation and harm and by disseminating key survival messages on issues such as landmine safety or HIV/AIDS prevention. It sustains life by offering structure, stability and hope for the future during a time of crisis, particularly for children and adolescents. Education in emergencies also helps to heal the pain of bad experiences, build skills, and support conflict resolution and peace building. The emphasis is achieving the minimum standards of learning for Education in Emergencies to attain the minimum level of educational access and provision in emergencies.

In order to facilitate students to continue learning and progress to higher grade despite being locked down, initially the "Adapted Curriculum" was embarked as short-term emergency contingency intervention. However, the unabated emergency has inspired to initiate the development of another alternative curriculum in the form of "Prioritized Curriculum". Therefore, in the Second Phase EiE, depending on the unfolding scenario of COVID 19 pandemic, both "Adapted Curriculum" and "Prioritized Curriculum" are implemented in order to facilitate students to cope and progress to higher studies. Its design, development and delivery are informed by the wider educational principles and ideologies of developmental appropriateness, national values, coherence and the generic nature of the spiral curriculum.

This guideline is to inform all stakeholders on the "Prioritized Curriculum" of the Second Phase Education Emergency to facilitate students to continue learning and progress to higher grade with adequate competencies and understanding to cope with the higher learning.

INTRODUCTION

Following the COVID-19 pandemic, continuity of education and learnings has been severely affected as a result of nationwide closure of schools. Given that timely contingency planning is crucial to minimize disruption to our education systems, the Ministry in collaboration with REC, BCSEA and relevant agencies have initiated a number of programmes and activities to roll out Education in Emergency (EiE). This broadly includes the adaptation of school curriculum for EiE, introduction of Google classrooms, use of social media to establish teacher-student-parent linkage for children's learning and engagement, use of print and broadcast media (TV & Radio) for curriculum delivery. This also includes adaptation and modification of school curriculum for children with disabilities, Rigshung students and ECCD children, and NFE learners.

The lessons using the broadcast media has been rolled out across the nation through Bhutan Broadcasting Service (BBS) TV since March 27, 2020. These lessons broadcasted is being continuously reviewed and improved based on observation and feedback from various stakeholders.

EDUCATION IN EMERGENCY CURRICULLUM

Countries around the world adopt different means and forms of making education accessible for all, of which adapted curriculum is commonly used. In our context, depending on the unfolding scenario of COVID 19 pandemic, both "Adapted Curriculum" and "Prioritized Curriculum" are implemented in order to facilitate students to cope and progress to higher studies.

In order to support these children in continuing their education, the Ministry in collaboration with REC has initiated the development and printing of Self Instructional Materials (SIM) from March 25, 2020. As of date, the printing and distribution of first package of SIM print materials for all key stages are completed and distributed to Dzongkhags/Thromdes from April 25, to begin the lessons from May 2, 2020. Additional support particularly for key stage I (PP-class III) will be provided through radio lessons. In the first package, 29 lessons (BBS Radio-19, Kuzoo FM-10) have been recorded, and will be aired on May 02, 2020 as well. Recording for all the SIM packages and the second phase of SIM lesson recording started from April 22, 2020.

Objectives

The two forms of school curricula for Education in Emergency are developed to fulfil the following objectives:

1. Emphasise the learning of the essential concepts fundamental in the development of academic and social competencies.
2. Provide access and avail educational services remotely for students to learn and develop understanding of fundamental concepts and ideas on subjects and competencies to cope with higher learning with mainstream and social media.

3. Engage students productively at home and minimize people-people contact to prevent the spread of virus.
4. Create greater clarity of what teachers should teach and students should learn.
5. Encourage teachers to embrace effective instructional practices by reducing the pressure on covering the vast teaching contents.
6. Ensure the psychosocial wellbeing of students in emergency.

ADAPTED CURRICULUM

In the emergency, it is not feasible to deliver the regular annual curricular contents. The adapted curriculum is based on literacy and numeracy at key stage I and II, and theme-based curriculum for key stage III, IV and V. The most essential learning concepts aligned with the learning outcomes or objectives are selected for all classes. For theme-based curriculum, some learning areas such as Science and Social Sciences have been combined together considering the common themes of the subject. The Adapted Curriculum delivered under various key stages are as under (Table 1):

Table 1. Learning areas in Adapted Curriculum

Key Stage	Class	Learning Areas	Subjects
I	PP-III	Literacy & Numeracy	Dzongkha, English, Mathematics
II	IV-VI	Literacy & Numeracy	Dzongkha, English, Mathematics
III	VII-VIII	Theme Based	Dzongkha, English, Mathematics, General Science, Social Sciences
IV	IX-X	Theme Based	Dzongkha, English, Mathematics, Functional Science, Social Sciences
V	XI-XII	Theme Based	**Compulsory to all:** English, Dzongkha. **Science**: Mathematics, Science- Physics, Chemistry, Biology, Environmental Science, and ICT **Commerce**: Accountancy, Commerce, B. Mathematics **Arts**: History, Geography, Economics, Media Studies, Rigzhung

The theme-based learning areas are detailed in the Adapted Curriculum syllabus.

PRIORITIZED CURRICULUM

In the events of emergency of any form, access to learning is generally facilitated through an adapted curriculum, wherein the regular curriculum is modified with emphasis on development of

fundamental concepts and skills in general education, life skills and psycho-social wellbeing. The choice of the curriculum is also guided by the national priority to identify and select the most essential learning concepts and outcomes fundamental for students' continuity of learning and development. In this process, the R.E.A.L Model of prioritization of learning standards (Many, Tom W. & Horrell, Ted., 2014) or outcomes is widely used around the world. Its intention provides insight in the process of curriculum prioritization in our current emergency setting.

The REAL model consists of the following four key areas:

Readiness: The 'R' stands for Readiness. This standard provides students with essential knowledge and skills necessary for success in the next class, course or grade level.

Endurance: The 'E' represents Endurance. This standard provides students with knowledge and skills that are useful beyond a single test or unit of study.

Assessed: The 'A' represents Assessed. This standard will be assessed on upcoming state and national examinations.

Leverage: The 'L' corresponds to Leverage. This standard will provide students with the knowledge and skills that will be of value in multiple disciplines.

Based on the REAL model, a set of curriculum prioritization criteria was established in selecting the learning contents for our schools in Education in Emergency.

Criteria for Curriculum Prioritization

The Prioritized Curriculum in our context shall be used for all classes PP to XII depending on the evolving situations; if all schools remain closed or if schools open in phases based on the risk level zones, it shall target classes X and XII, while other classes implement adapted curriculum. If all schools open by June, all classes shall use it. The prioritized curriculum for both the scenario is illustrated in Table 2, and the adjusted assessment and examinations shall be administered for promotion.

By drawing lessons from the national priority and the wider world, the Prioritized Curriculum in EiE is informed by the following criteria:

  i.   Emphasize on fundamental key concepts with limited scope on elaborative areas.
 ii.   Select common themes through which a few topics or chapters under one or two lessons.
iii.   Focus on the development of competencies on the selected themes rather than emphasizing on the academic knowledge and examples.
 iv.   Create scope for students to take responsibility for their learning by engaging them to explore for specifics and examples of the concepts.
  v.   Engage students to explore further on the concepts through interactive learning activities.

The focus of the prioritized curriculum is on the development of competencies on the selected themes rather than emphasizing on the academic knowledge and examples. The arrangement of

learning topics is informed by the principle of spiral curriculum, progression and coherence of conceptual understanding. However, due to limitation of instructional days for the 2020 academic year, the prioritized curriculum covers about 65% of the regular syllabus of the academic year. It is based on the premise that out of the annual 850 instructional hours, there is a remaining instructional hours of only 500 hours. This also includes the time needed for psychosocial wellbeing and practice of health procedures essential for students' safety. The prioritized curriculum shall be implemented from June 2020, regardless of schools being reopened or closed.

Considering the limited time available to cover the 2020 academic syllabus, the prioritized curriculum shall emphasize on the development of understanding and competencies of fundamental concepts and ideas in all the subjects in each grade.

Table 2. Prioritized Curriculum

Key stage	Class	Subjects
I	PP - 3	Dzongkha, English, Mathematics, HPE & Values, ICT, Arts Education
II	4 - 6	Dzongkha, English, Mathematics, Science, Social Studies, HPE & Values, ICT, Arts Education
III	7 - 8	Dzongkha, English, Mathematics, General Science, Geography, History, ICT
IV	9-10	Dzongkha, English, Mathematics, Biology, Physics, Chemistry, Environmental Science, Agriculture for Food Security, TVET, Geography, History and Civics, ICT, Economics.
V	11	English, Dzongkha compulsory for all
		Science: Mathematics, Physics, Chemistry, Biology, Environmental Science, and ICT
		Commerce: Accountancy, Commerce, B. Mathematics, TVET, AgFS
		Arts: History, Geography, Economics, Media Studies, *Rigzhung*

DELIVERY OF THE CURRICULUM

The Strategic Plan for Curriculum and Assessment for EiE Phase 2 in Table 3 illustrates the mode of delivery of the Prioritized Curriculum.

Table 3. Strategic Plan for Curriculum and Assessment for EiE

Scenario & Situation			Curriculum	Mode	Assessment
Scenario I	Situation 1	If all schools open at the same time	Class PP – 9 & 11 Prioritized Curriculum	Regular class with safety and precautionary measures	Regular on prioritized curriculum (CFA, Tests, year-end examinations)
			Class 10 & 12 Prioritized Curriculum	Regular class with safety and precautionary measures	

Situation 2	If schools open in a phased manner	Class PP – 9 & 11 Adapted Curriculum	**Open**: Regular class with safety and precautionary measures **Closed**: (A) Cl PP-3: BBS, Social media (WeChat / WhatsApp/ Telegram), Radio, SIM (B) Cl 4 -9 & 11: BBS, SIM, Google classroom	Class PP – 9 & 11: Conventional test / short assignment / Objective type question pattern
		Class 10 & 12 Prioritized Curriculum	Regular class with safety and precautionary measures	Board Examinations with Safety and preventive measures (25 days) on prioritized curriculum
Scenario II	All schools closed	Class PP – 9 & 11 Adapted Curriculum	A) PP-3: BBS, Social media (WeChat / WhatsApp / Telegram), Radio, SIM (B) Cl 4 -9 & 11: BBS, SIM, Google classroom	Class PP – 9 & 11: Conventional test / short assignment / Objective type question pattern
		Class 10 & 12 Prioritized Curriculum	Regular class in quarantine mode.	Board Examinations with Safety and preventive measures (25 days) on prioritized curriculum
NOTE:	For effective curriculum delivery as well as to provide support for psycho-social wellbeing: • Follow Ministry of Health's protocol and preventive measures. • Follow WASH advisory. • No mid-term examinations. • No trail examinations. • No co-curricular and extra-curricular activities.			

	• Mid-term break to be used as instructional days. • Use Saturdays to adjust instructional days. • Strengthen psychosocial support including help-centres.

There are students who are dealt with 'pull out' and 'push in' strategies alongside the adaptation and modification in curriculum delivery. Therefore, lessons for Wangsel and Muenseling institutes shall also follow the prioritized curriculum, but delivered by using tools and techniques appropriate for their students. The Takste *Rigzhung* School shall also use tools and techniques appropriate for their students, which may include Google classroom, YouTube, WeChat and other means.

MONITORING & EVALUTIONS

The implementation of curriculum in the Education in Emergency is unprecedented and poses diverse challenges and opportunities as well. Some of the perceived challenges may include the following:

i. Equity and equality to access educational programs for students is immensely affected by geographical location, affordability and connectivity.
ii. Educational background of parents and guidance is making students responsible for their learning.
iii. Professional capacity and integrity of teachers in keeping track of students' learning through remote learning mode may affect students' performance.
iv. The quality and accuracy of lessons influence the quality of students' engagement and the learning.

Therefore, the following mechanism may be implemented in earnest.

i. Provide gadget or alternative means to students who cannot afford and those who are in remote places.
ii. Make provision in making data affordable for students.
iii. Stakeholders like REC, MoE and BCSEA continuously monitor the quality, relevancy and efficacy of resources and activities in EiE, and update accordingly.
iv. Constitute two levels of EiE curriculum delivery and implementation and monitoring:

Central Level – MoE, REC, BCSEA:
a. Design, develop and disseminate the plans and activities on EiE and EiE curriculum in collaboration with relevant stakeholders.
b. Facilitate the accessibility of EiE through the provision of necessary gadget and accessories for students and teachers.
c. Educate teachers and parents on EiE curriculum and its delivery.
d. Encourage parents to participate in their children's learning – guidance and monitoring.

Local Level - *Dzongkhags & Thromdhes*:
    a. Constitute a small professional forum to oversee and design support mechanism to ensure that all students have access to EiE resources and services.
    b. Monitor the professional capacity and integrity of teachers in implementation of EiE curriculum and emergency contingency plans and programs.
    c. Identify teacher's needs and provide PD on the specific areas.
    d. Periodically share the report on the status of EiE curriculum implementation, success and challenges. Accordingly, relevant stakeholders provide interventions.
    e. Take ownership of EiE in their respective *Dzongkhags* and *Thromdhes*.

The information contained in this guidebook is not prescriptive. The Prioritized Curriculum syllabus has been developed collaboratively by stakeholders, Ministry of Education, Royal Education Council, Bhutan Council for School Examinations and Assessment and have evolved out of emergency. The guidebook provides guidance on how Ministry of Education, Royal Education Council, Bhutan Council for School Examinations and Assessment may respond and establish education programmes in emergency settings.

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Education in Emergency

ADAPTED CURRICULUM
KEY STAGE 4: Classes IX – X

1. **DZONGKHA**

གནས་རིམ། Key stage	སྦྱང་སྦྱོན་འབད་དགོ་པའི་དོན་ཚན་གཙོ་ཅན། Learning area	སློབ་སྦྱོང་ཐབས་ལམ། Strategy	ལས་རིམ་གྱི་འོས་འབབ། scope
གནས་རིམ་དང་པ། བློ་གསར་གསུམ་པ་ ཚུན།	ཡི་གུའི་སྒྲ་སྐད། གསལ་བྱེད་སུམ་ཅུ། དབྱངས་ བཞི། མགོ་ཅན་འདོགས་ཅན། གྱངས་ཁ་,༡༠༠ ཚུན་ ཡང་ཡིག་དང་ ཡང་ཡིག་ཡིག་གཟུགས་ནང་བཞི་ནི། ཉེ་འབྲེལ་མིང་ཚིག་འབྲི་ལྷག། སྦྱོར་སྒྲིག་ཚིག་སྐུད། རང་དང་ཚ་རོགས། བཟའ་ཚང་དང་སློབ་གྲྭ། གཡུས་ དང་མཐའ་འཁོར་ཚུ་གི་སྐོར་ལས། བཤད་པ་བྱུང་ཀྱུ་ རེ་རྒྱབ་ནི། དཔེ་དེབ་ལྷག་ཐངས།	རྒྱུད་བསྐུལགས་ཐོག་ལས། སློབ་སྦྱོན་འབད་ནི། ཕམ་ཤེས་ཡོན་ཡོད་མི་ཚུ་ལུ། ཁྱིམ་ནང་སྐྱབ་ཉིའི། མགོ་ཚས་བཟོ་ ཡོད་མི་ཚུ་བགྲམ་ནི་དང་། སློབ་ཚན་དང་འཁྲིལ་བའི། སློབ་སྦྱོང་ལས་དོན་ཚུ་བགྲམ་སྟེ། རང་ སོའི་ཨ་ལོ་ཚུ་ལུ། རྒྱབ་སྐྱོར་འབད་བཅུག་ནི། སློབ་དཔོན་ཚུ་གིས། ཡོངས་འབྲེལ་ཐོག་ལས། ཁྱིམ་ལུ་རེ་བྱིན་ཏེ་ རིག་ཐོག་དང་ག་ཐོག་དབྱེ་ཞིབ་འབད་ནི། སློབ་གྲྭའི་ མཐོང་ཐོས་མགོ་ཚས་ཚུ་ཐབ་ལེན་འབད་དེ་ ཉིན་ཐོག་ ལས་ ཉེ་འབྲེལ་མིང་ཚིག་ལྷབ་བཅུག་ནི། WeChat, Facebook, YouTube, google ཚུ་གི་ ཐོག་ལུ་ ཡི་གུའི་བཀལ་ཐངས། རྫོང་སྐྱ་ལ་སོགས་པའི་ མཐོང་ ཐོས་མགོ་ཚས་ བྱུང་ཀྱུ་རེ་བཟོ་སྟེ་བགྲམ་ནི། ལྷག་དེབ་ལྷག་ཐངས་ཀྱི་དཔེ་སྟོན་མཐོང་ཐོས་ཐོག་ལས་བཟོ་སྟེ་ བགྲམ་ནི། ཁྱིམ་ནང་ ཡིག་བཟོའི་སྐྱོངདེབ་ཀ་ལས་དཅུན་ཡོད་མི་ཚུ་ ལག་ ལེན་འཐབ་སྟེ་ ཡིག་བཟོ་ལྷབ་བཅུག་ནི། dzongkha for kidsགི་མཐོང་ཐོས་མགོ་ཚས་ཚུ་ ཕབ་ལེན་འབད་དེ་ལྷབ་བཅུག་ ནི།	དབྱངས་གསལ་གྱི་ ཡིག་བཟོའི་ བཀལ་ཐངས་དང་ རྫོད་སྒྲའི་སློབ་སྦྱོན། ཡང་ཡིག་དང་ ཡིག་གཟུགས་ཀྱི་ བཀལ་ཐངས་དང་ རྫོད་སྒྲའི་སློབ་སྦྱོན། མིང་གཞི་ལུ་ སློན་རྗེས་ཀྱི་འཇུག་ཚུལ་ གྱི་སྦྱོར་སྦྱོན། ཉེ་འབྲེལ་མིང་ཚིག་ལྷབ་སྦྱང་གི་སློབ་ སྦྱོན། ལྷག་དེབ་ལྷག་ཐངས་ཚུ་གི་སྐོར་ སློབ་ སྦྱོན་ཚུ་ འབད་དགོཔ་འདུག

གནས་རིམ།	སྦྱང་སྟོན་འབད་དགོ་པའི་དོན་ཚན་གཙོ་ཅན།	སློབ་སྟོན་ཐབས་ལམ།	ལས་རིམ་གྱི་འཆར་འབབ་
གནས་རིམ་གཉིས་པ། བཞི་པ་ལས་དྲུག་པ།	འབྲི་རྩོམ་ལས་ འགྲེལ་བཤད་དང་ ལོ་རྒྱུས་འབྲི་ རྩོམ་ཆ་ཚེ་གཞི་བཞག་ཐོག་ལས་ འབྲི་ལྷག་ཉིན་སྦྱང་ གྱི་སྦྱང་བ། སྐད་རྩོམ་ནང་ལས་ ཞབས་ཁྲ་གཞི་བཞག་གི་ འབྲི་ལྷག་ཉིན་སྦྱང་གི་སྦྱང་བ། སྒྱུང་དང་གཏམ་རྒྱུད་ལས་ དགོས་སྒྲུང་དང་འཆར་ སྒྱུང་གཞི་བཞག་གི་ འབྲི་ལྷག་ཉིན་སྦྱང་གི་སྦྱང་བ། ཡིག་སྦྱོར་ལས་ ལོག་ཡིག་མཐུག་ཡིག་ ཚག་ཤད། མིང་ཚབ། ལ་དོན་གྱི་ཕྲད། མིང་ཚབ། མིང་གི་ཁྱད། ཚིག་འབྱུང་ཁུངས། མིང་མཐའ། བྱ་ཚིག་གི་ཚིག ཕྲགས། འབྲེལ་སྒྲ། སྐྱབ་ཚིག དགག་ཚིག བྱ་ བའི་ཁྱད་ཚིག ཚིག་མཚམས། བཏོད་མཚམས། དོན་མཚམས་གཏད་ཐབས་ཚུ་གི་ལྷག་སྒྲང་འབད་དེ བྱ་ཉིའི་རིག་རྩལ་ལྷག་བཅུག་ནི། ཡིག་འགྲུལ་ལས་ ཞུ་ཡིག་དང་ གཏང་ཡིག་གཞི་ བཞག་གི་འབྲི་ལྷག་སྦྱང་བ།	རྒྱུད་བསྐུལ་གནས་ལས་སྦོ་སྦོན། པར་ལུ་ ཨ་ལོའི་རྒྱབ་སྐྱོར་གྱི་ལས་སྦོན་བྱིན་ནི། སློབ་སྦྱོང་ལས་དོན་ པར་ཆུ་ལུ་བཀལ་ནི། ཁྲིམས་ནང་ལྷག་ཉིའི་ མཁོ་ཆས་རོས་འཛིན་འབད་དེ ལྷག་བཅུག་ནི། སློབ་དཔོན་ཆུ་ གིས་ ཡོངས་འབྲེལ་ཐོག་ལས་ ཁྲིམས་ལྷུ་རེ་ཕྲིན་ནི། དེ་བའི་ལན་ འཐོབ་ཐབས་ལུ་ ལྷག་དེ་ལྷག་བཅུག་ནི། ཡིག་བཟོའི་སྦྱང་བ། WeChat, Facebook, YouTube, google ཚུ་གི་ ཐོག་ལུ་ མཐོང་ཐོས་མཁོ་ཆས་ཆུ་བཟོ་སྟེ་བཀལ་ནི། དཔེར་ན། འབྲི་རྩོམ་འབྲི་ཐངས། སྒྱུང་འབྲི་ཐངས་དང་ལྷག་ཐངས། ཞུ་ཡིག་ འབྲི་ཐངས། ཡི་གུའི་སྦྱོར་བ་ཤེས་ཐབས་ཀྱི་ མཐོང་ཐོས་མཁོ་ ཆས་ཆུ་བཟོ་སྟེ་བཀལ་ཐོག་ལས་ ལྷག་བཅུག་ནི་བཟུམ། ཡོངས་འབྲེལ་ཐོག་ལས་ དགའ་ཐོག་དང་ཡིག་ཐོག་གི་འབྲི་ལན་ འབད་དེ དྲི་བ་ཞིབ་འབད་ནི།	ཚོམ་རིག་མ་འདྲཝ་གསུམ་གྱི་སྐྱོར་ལས་ དོ་སྟོད་དང་ཁྱད་རྣམ་དཔེ་ཚ་གི་སྐྱོར་ སློབ་སྦྱོན་འབད་ནི། ཡིག་སྦྱོར་གྱི་དོན་ཚན་ཚུ་གི་སྐྱོར་ལས་ གོ་དོན་གསལ་བཤད་ཀྱི་སློབ་སྦྱོན། ཡིག་འགྲུལ་གྱི་དོན་ཚན་གཉིས་ཀྱི་སྐྱོར་ ལས་ འབྲི་ཐངས་ཀྱི་ སློབ་སྦྱོན་ཚུ་ འབད་དགོ་ནི་ཨིན་མས།
གནས་རིམ།	སྦྱབ་སྦྱོན་འབད་དགོ་པའི་དོན་ཚན་གཙོ་ཅན།	སློབ་སྦྱོན་ཐབས་ལམ།	ལས་རིམ་འཆར་འབབ།

གནས་རིམ་གསུམ་ པ། བཏུན་པ་ལས་ བཅུད་པ།	འབྲི་རྩོམ་ ཉན་ལས་ འགྲེལ་བཤད། ལོ་རྒྱུས། རྒྱུད་ སྐུལ། འཆར་སྣང་འབྲི་རྩོམ་ཆུ་གི་ཕོག་ལས་ འབྲི་ སྦྱག་ཉེན་སྐྱབ་ཀྱི་སྦྱང་བ།	རྒྱུད་བསྐྱགས་སློབ་སྟོན།	ཚོམ་རིག་མ་འདྲཝ་གསུམ་གྱི་སྐོར་ལས་ རོ་སྟོད་དང་ཕྱུད་རྣམ་དཔེ་ཆུ་གི་མཐོང་ ཐོས་མཚོ་ཆས་བཟོ་སྟེ་སྟོན་ནི།
	སྣན་རྩོམ་ཉན་ལས་ ཞབས་ཁྲ་དང་ བློ་ཟེ། ཚངམོ། དཔེ་གཏམ། ཁ་བཤད། གསལ་བཤད་གཞི་བཞག་ གི་ འབྲི་ལྷག་སྦྱང་བ།	ཕམ་ལུ་ ཨ་ལོའི་ རྒྱབ་སྐྱོར་གྱི་ལས་སློན་བྱིན་ནི། སློབ་སྟོང་ལས་དོན་ ཕམ་ཆུ་ལུ་བཀལ་ནི།		རོ་སྟོད་དང་ཕྱུད་རྣམ་དཔེ་ཆུ་གི་མཐོང་ ཐོས་མཚོ་ཆས་བཟོ་སྟེ་སྟོན་ནི།
	སྲུང་དང་གཏམ་རྒྱུད་ལས་ དངོས་སྲུང་དང་ འཆར སྲུང་གི་ ཚོམ་རིག་གཞི་བཞག་ཕོག་ལས་ འབྲི་ལྷག་ ཉན་སྐྱབ་ཀྱི་སྦྱང་བ།	ཁྲིམ་ནན་ལྷག་ནིའི་ མཚོ་ཆས་ཌོས་འཛིན་འབད་དེ་ལྷག་བཅུག་ནི། སློབ་དཔོན་ཆུ་གིས་ ཡོངས་འབྲེལ་ཕོག་ལས་ ཁྲིམ་ལུ་རེ་བྱིན་ནི། ཌི་བའི་ལན་འཐོབ་ཐབས་ལུ་ ལྷག་དེ་ལྷག་བཅུག་ནི།		ཡིག་སྒྱུར་གྱི་དོན་ཚན་ཆུ་གི་སྐོར་ལས་ གོ་དོན་གསལ་བཤད་ཀྱི་སློབ་སྟོན།
	ཡིག་སྒྱུར་དོན་ཚན་ཆུ་ལས་ སྟོན་རྗེས་ཡང་འདྲུག་གི་ རོས་འཛིན་དང་ བཏ་བཤད་ཀྱི་རིགས། ཚེག མཚམས། བཙོད་མཚམས། དོན་མཚམས། འབྲེལ་ སྒྲ། མིང་གི་ཁྱད་ཆོག དང་སྒྲ། ད་སྒྲ། བྱེད་སྒྲ། ལྷག་བཅས། འབྲེལ་ཆོག མིང་དང་བྱ་ཆོག་ལུ་ཞེས་ སྒྱུར་བ། བྱ་ཆོག་ཐུས་གསུམ་ཡིག་སྟེབ། བཙོད་པའི་ དབྱེ་བ། རེ་སྐྲ་ནི་སྐྲ། རྒྱུན་སྲུད། བསྡུ་ཡིག སྒྲི་སྐྲ། གནཟག་དངཔ་དང་གཉིས་པའི་རོས་འཛིན། མིང་ ཚེག་བཙོད་པའི་རྣམ་གཞག་གི་དོན་ཚན་ཆུ་ གཞི་ བཞག་ཕོག་ལས་ བྱ་ནིའི་སྦྱང་བ།	ཡིག་བཟོའི་སྐྱོང་། WeChat, Facebook, YouTube ཆུ་གི་ཕོག་ལུ་ མཐོང་ཐོས་མཚོ་ཆས་ཆུ་ བཟོ་སྟེ་བཀྲམ་ནི། དཔེར་ན། འབྲི་རྩོམ་འབྲི་ཐབས། སྲུང་འབྲི་ཐབས་དང་ལྷག ཐབས། ཞུ་ཡིག་འབྲི་ཐབས། ཡི་གུའི་སྐྱོར་བ་ཤེས་ཐབས་ཀྱི མཐོང་ཐོས་མཚོ་ཆས་ཆུ་ བཟོ་སྟེ་བཀྲམ་ཕོག་ལས་ ལྷབ་བཅུག ནི་བཟུམ།		ཡིག་འགྱུལ་གྱི་དོན་ཚན་གཉིས་ཀྱི་སྐོར་ ལས་ འབྲི་ཐབས་ཀྱི་སློབ་སྟོན་ཆུ་འབད་ དགོ་ནི་ཨིན་མས།
	ཡིག་འགྱུལ་དོན་ཚན་ཆུ་ལས་ ཞུ་ཡིག་དང་ གཏང་ ཡིག་བྲི་ནིའི་སྦྱང་བ།	ཡོངས་འབྲེལ་ཕོག་ལས་ དགག་ཕོག་དང་ཡིག་ཕོག་གི་འབྲི་ལན་ འབད་དེ་ དྲི་ཞིབ་འབད་ནི།		

གནས་རིམ།	སྐུལ་སྟོན་འབད་དགོ་པའི་དོན་ཚན་གཙོ་ཆན།	སྦྱང་སྦྱོང་ཐབས་ལམ།	ལས་རིམ་འཆར་འབབ།
གནས་རིམ་བཞི་པ། དགུ་པ་དང་བཅུ་པ།	འབྲི་ཚོམ་ཚུ་ལས་ འབྲེལ་བཤད་དང་ ལོ་རྒྱུས། རྒྱུད་སྐུལ། འཆར་སྣང་འབྲི་ཚོམ་ཚུ་གི་ཐོག་ལས་ འབྲི་ལྷག་ཉེན་སླབ་ཀྱི་སྦྱང་བ།	རྒྱབ་བསྐྱངས་སྦྱང་སྦྱོང་། ཤེས་ཡོན་ཅན་གྱི་ཐབས་ཚུ་ལུ་ སྦྱོན་ཚན་དང་འབྲེལ་བའི་ སྦྱང་སྦྱོང་ལས་དོན་ཚུ་ ཐམ་ཚུ་ལུ་བཤད་བྱིན་ཏེ་ རྒྱབ་སྐྱོར་འབད་	ཚོམ་རིག་ལ་འདྲུལ་གསུམ་གྱི་སྐོར་ལས་ རོ་སྦྱོང་དང་ཁྱད་རྣམ་དཔེ་ཚུ་གི་སྐོར་ སྦྱབ་སྦྱོན་འབད་ནི། ཡིག་སྦྱོར་གྱི་དོན་ཚན་ཚུ་གི་སྐོར་ལས་ གོ་དོན་གསལ་བཤད་ཀྱི་སྦྱབ་སྦྱོན། ཡིག་འགྲུལ་གྱི་དོན་ཚན་གཅིག་ཀྱི་སྐོར་ ལས་ འབྲི་ཐངས་ཀྱི་སྦྱབ་སྦྱོན་ཚུ་འབད་ དགོ་ནི་ཨིན་མས།
	སྐྱེན་ཚོམ་ལས་ ཞབས་ཁྲ་དང་ སྒྲོ་ཟེ། བསྐུལ་ཇ། རྩང་མོ། དཔྱེ་གཏམ། ཁ་བཤད། གསལ་བཤད་གཞི། བཞག་གི་ འབྲི་ལྷག་ཉེན་སླབ་ཀྱི་སྦྱང་བ།	བཅུག་ནི། སྦྱབ་དཔོན་ཚུ་གིས་ ཡོངས་འབྲེལ་ཐོག་ལས་ ཁྱིམ་ལུ་རེ་བྱིན་ནི།	
	སྙུད། དངོས་སྙུད། འཆར་སྙུང་གི་ ཚོམ་རིག་གཞི་ བཞག་ཐོག་ལས་ འབྲི་ལྷག་ཉེན་སླབ་ཀྱི་སྦྱང་བ།	རྒྱལ་སྤྱི་དཔེ་དེབ་ གནམ་ ཡོངས་འབྲེལ་ཐོག་ལས་ འཚོལ་	
	རྒྱལ་སྤྱས་ལག་ལེན་གྱི་དོན་ཚན་ཐོག་ལས་ རྒྱལ་ སྤྱས་རྣམས་ཀྱི་ལག་ལེན་སོ་བཏུན་ལུ་ གཞི་བཞག་ ཐོག་ལས་ ནང་པའི་ཆོས་ཀྱི་བརྗེ་མཐོང་དང་ ཆོས་ སྐད་ཀྱི་མིང་ཚིག་ཡིག་སྡེབ་ སྐུལ་སྐྱང་འབད་ནི།	ཆགས་བཤོས་མཁོ་ཆས་བཟོ་ སྟེ་ སྟོན་ནི། ཁྱིམ་ནང་ལྷག་ཉིའི་ དོན་ཚན་མཁོ་ཆས་ རོས་ འཛིན་འབད་ཏེ་ ལྷག་བཅུག་ནི།	
	ཡིག་སྦྱོར་གྱི་དོན་ཚན་ཚུ་ལས་ ཆིག་མཚམས། བཅོད་མཚམས། དོན་མཚམས། འབྲེལ་ཚིག། དགག ཚིག། འབྲེལ་ཚིག། བཅོད་པའི་དབྱེ་བ། སྐད་ཡིག་རོ་སྒྱོད། བྱེད་མེད་ལས་ཚིག་དང་སྟོན་ཚིག། ཉེ་སྒྲ། ན་དང་ ཅན་གྱི་སྒྲ། རྣམ་དབྱེ་བརྒྱད། འབྲི་ཚིག། སྐད་ཡིག གི་དགོས་པ་དང་ཕན་ཐོགས། བདག་སྒྲ། ཅི་དང་ཡི་	དི་བ་བཀོད་དེ་ དེའི་ལན་འཐོབ་ཐབས་ལུ་ ལྷག་དེབ་ལྷག་ བཅུག་ནི། ཡིག་བཟོའི་སྦྱོང་བ། WeChat, Facebook, YouTube ཚུ་གི་ཐོག་ལུ་ མཐོང་ཐོས་མཁོ་ཆས་ཚུ་བཟོ་སྟེ་བཀྲམ་ནི། དཔེར་ན། འབྲི་ཚོམ་འབྲི་ཐངས། སྟུང་འབྲི་ཐངས་དང་ལྷག ཐངས། ཞུ་ཡིག་འབྲི་ཐངས། ཡི་གུའི་སྦྱོར་བ་ཤེས་ཐབས་ཀྱི	

	གི་ཚིག་ཕད། མིང་ཚིག་བརྗོད་པའི་རྣམ་གཞག་གི་དོན་ཚན་གཞི་བཤག་ཐོག་ལས་ བྲི་ཞིའི་སྦྱང་བ།	མཐོང་ཐོས་མཁོ་ཆས་ཚུ་ བཟོ་སྟེ་བཀྲམ་ཐོག་ལས་ ལྷབ་བཅུག་ནི་བཟུམ།	
	ཡིག་འགྱུལ་ཚུ་ལས་ ཞུ་ཡིག གཏང་ཡིག བཀའ་རྒྱ། ཁྱབ་བསྒྲགས། སྐྱིན་ཞུ། སྐྱིན་གསོལ། ཟིན་བྲིས། ལས་རིམ། གྲོས་གཞི། གྲོས་ཆོད། ཞུ་ཡིག་བཤེར་ཡིག དགའ་བརྗོད། འབའ་གན་རྒྱུ་ཚུ་ གཞི་བཤག་ཐོག་ལས་ འབྲི་ལྷག་ཉེན་སྐྱར་གྱི་སྦྱང་བ།	ཡོངས་འབྲེལ་ཐོག་ལས་ དགག་ཐོག་དང་ཡིག་ཐོག་གི་འདི་ལན་འབད་དེ་ དབྱེ་ཞིབ་འབད་ནི།	
གནས་རིམ།	ལྷབ་སྟོན་འབད་དགོ་པའི་དོན་ཚན་གཙོ་ཅན།	སྦྱོང་སྦྱོན་ཐབས་ལམ།	�འོས་འབབ།
གནས་རིམ་ལྔ་པ། ,, པ་དང་༡༢ པ།	འབྲི་ཚོམ་ཚུ་ལས་ ཚོད་སྐྱེད་དང་ རྒྱུས་བཤད་ འབྲི་ཚོམ་གཞི་བཤག་གི་ འབྲི་ལྷག་ཉེན་སྐྱར་གྱི་སྦྱང་བ།	**རྒྱབ་བསྐྱགས་སྦྱོ་སྦྱོན།** རྒྱལ་སྲུས་ལག་ལེན་གྱི་ སྦྱོབ་སྦྱོན་ མཐོང་ཐོས་མཁོ་ཆས་བཟོ་སྟེ་ སྦྱོན་ནི།	ཚོམ་རིག་མ་འདྲ་གསུམ་གྱི་སྐོར་ལས་ རོ་སྟོད་དང་ཁྱད་རྣམ་པ་ཚུ་གི་སྐོར་ སྦྱོབ་སྦྱོན།
སྐྱེན་ཚོམ་ཚུ་ལས་ ཞབས་ཁྲ། གློ་ཟེ། ཅུང་མོ། དཔེ་གཏམ། ཁ་བཤད། གསལ་བཤད་ལ་སོགས་པའི་ ཚོམ་རིག་གཞི་བཤག་ཐོག་ལས་ འབྲི་ལྷག་ཉེན་སྐྱར་གྱི་སྦྱང་བ།	ཁྱིམ་ནང་ལྷག་ཉེའི་ དོན་ཚན་མཁོ་ཆས་རོས་འཛིན་འབད་དེ་ ལྷག་བཅུག་ནི།	ཡིག་སྦྱོར་གྱི་དོན་ཚན་ཚུ་གི་སྐོར་ལས་ གོ་དོན་གསལ་བཀད་ཀྱི་སྦྱོབ་སྦྱོན།
སྒྲུ། དངོས་སྒྲུང་ འཆར་སྒྲུང་གཞི་བཤག་ཐོག་ ལས་ འབྲི་ལྷག་ཉེན་སྐྱར་གྱི་སྦྱང་བ།	རྒྱལ་རྗེན་དཔེ་དེབ་ གནང་ཡོངས་འབྲེལ་ཐོག་ལས་ འཐོབ་ ཚུགས་པ་བཟོ་ནི། སྦྱོབ་དཔོན་ཚུ་གིས་ ཡོངས་འབྲེལ་ཐོག་ལས་ ཁྱིམ་ལུ་རེ་བྱིན་ནི།	ཡིག་འགྱུལ་གྱི་ དོན་ཚན་གཉིས་ཀྱི་ སྐོར་ལས་ འབྲི་ཐངས་ཀྱི་ སྦྱོབ་སྦྱོན་ཚུ་ འབད་དགོ་ནི་ཨིན་མས།
བཤེས་སྦྱོངས་ཐོག་ལས་ ནང་པའི་ཆོས་ཀྱི་བརྗེ་ མཐོང་དང་ ཆོས་སྐད་ཀྱི་མིང་ཚིག་ཡིག་སྦེ་ལྷབ་ སྦྱང་འབད་ནི།	དི་བ་བཀོད་དེ་ དེའི་ལན་འཐོབ་ཐབས་ལུ་ ལྷག་དེབ་ལྷག་བཅུག་ ནི།	
ཡིག་སྦྱོར་གྱི་དོན་ཚན་ཚུ་ལས་ བྱ་ཚིག་དུས་གསུམ་ གྱི་ཡིག་སྦེ། རྣམ་དབྱེ་བརྒྱད་ཀྱི་དབྱེ་བ། སྐད་ཡིག	ཡིག་བཟོའི་སྦྱང་བ། WeChat, Facebook, YouTube ཚུ་གི་ཐོག་ལུ་ མཐོང་ཐོས་མཁོ་ཆས་ཚུ་བཟོ་སྟེ་བཀྲམ་ནི། དཔེར་	

	གི་འབྱུང་ཁུངས། སྣར་བསྒྲ། ཚེས་སྐྱེད་དང་རྫོང་བའི་ རྫོད་སྐྱ་དང་ཡིག་སྙེ་ཁྱུད་པར། རྫོད་སྐྱ་ཕྱོགས་ མཚུངས་ཡིག་སྙེ་ཁྱུད་པར། བདག་གཞན་དུས་ གསུམ། བྱ་བྱེད་ལས་གསུམ། ཡི་གུ་ཕོ་མོའི་དབྱེ་ བཤད། སྐད་ཡིག་གི་ཁྱད་རྣམ་དང་སྒྲུབ་ཚུལ། མཚུངས་གསལ། བྱེ་ཚིག མིང་ཚིག་བརྫོད་པའི་རྣམ་ གཞག ཚེས་སྐྱེད་དང་རྫོང་བའི་ཕུད་རྣམ་དབྱེ་ཚུ་གི་ ཕོག་ལས། བྱེ་ཉིའི་རིག་རྩལ་འཕེལ་ཐབས་ཀྱི་སྒྲུང་བ།	ན། འབྲི་རྩོམ་འབྲི་ཐངས། སྤང་འབྲི་ཐངས་དང་ལྷག་ཐངས། ལུ་ ཡིག་འབྲི་ཐངས། ཤེས་ཡོན་ཅན་གྱི་ ཕམ་ཚུ་ལུ་ སྟོན་ཚན་དང་འབྲེལ་བའི་ སྦྱོར་ སྦྱོང་ལས་དོན་ཚུ་ ཕམ་ཚུ་ལུ་བཤད་བྱིན་ཏེ་ རྒྱབ་སྐྱོར་འབད་ བཅུག་ནི། ཡོངས་འབྲེལ་ཕོག་ལས་ རྣག་ཕོག་དང་ཡིག་ཕོག་གི་འདྲི་ལན་ འབད་དེ་ དབྱེ་ཞིབ་འབད་ནི།	
	ཡིག་འགྲུལ་གྱི་དོན་ཚན་ཚུ་ལས་ ཞུ་ཡིག གཅུང་ ཡིག འཕྲིན་ཡིག སྐྱན་ཞུ། སྐྱན་གསོལ། གྲོས་ གཱི། གྲོས་ཚོད། ཞུ་ཡིག བཤེར་ཡིག ངག་ བརྫོད། འབབ་གན་རྒྱུ་ཚུ་ བྱེ་ཉིའི་སྒྲུང་བ།		
སྦྱབ་སྦྱོང་འབད་ ཐངས་དང་ དབྱེ་ ཞིབ་ཐབས་ལམ།	བློ་གསར་ལས་ ༡༢པ་ཚུན་གྱི་སློབ་ཕྱུག་ཚུ་གིས་ རྫོང་ཁ་འདི་ རང་གི་ཕྱིམ་ནང་ རྒྱུང་མཐོང་དང་ ཡོངས་འབྲེལ་ འགྲུལ་འཕྲིན་ གློག་རིག་མཁོ་ཆས་ཚུ་གི་ཕོག་ ལས་དང་ རང་གིས་འབད་ སློབ་བསྐྱེད་དེ་ལྷབ་དགོས་དང་། རང་གི་ཕམ་དང་སྤུན་ཆ་ཚུ་ལས་ རྒྱབ་སྐྱོར་ལེན་ཏེ་ སྦྱབ་དགོས་ཨིན། དེ་སྦེ་ལྷབ་སྦྱོང་འབད་ཚར་བའི་ཤུལ་ལུ་ དབྱེ་ཞིབ་འབད་ཐངས་དེ་ཡང་ རང་ཉིད་དབྱེ་ཞིབ་དང་། ནང་རོག་དབྱེ་ཞིབ་ཀྱི་ཐབས་ལམ་ཚུ་ སྦོན་ཏེ་ ཤེས་མ་ཤེས་དབྱེ་ ཞིབ་འབད་ཉིའི་ ཐབས་ཤེས་ཚུ་སྦོན་ནི་དང་། མཐའ་མཇུག་གི་ཚེས་རྒྱགས་དེ་ཡང་ ལས་འགུལ་དང་ འདྲི་ལན་ ཡང་ན་ ཡོངས་འབྲེལ་google ཚུ་གི་ཕོག་ ལས་ དུས་ཕོག་ལུ་ ཚེས་རྒྱགས་ལེན་ཉིའི་ ཐབས་ལམ་མ་འདྲཝ་ཚུ་གི་ཕོག་ལས་ དབྱེ་ཞིབ་འབད་ནི་ཨིན།		

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Key Stages	Learning Areas	Strategies	Remarks/Scope
Key Stage I (PP- III)	Literacy Skills – Phonemic awareness - Alphabet sounds - Blending and segmenting	**Use SSP package** supplied during CFA Workshop to adapt, develop materials teach sounds. These can also be shared on social media platforms like WeChat	Phonemic awareness is the foundational literacy skill.
	Read Aloud	Conduct Read-Aloud sessions using the Readers. Video tape of Read-Alouds using the Readers for respective classes and share	Build vocabulary and develop reading skill.
	-Writing	-Use the Workbooks to develop assignments on writing. Example – 1) Picture matching 2) Picture to word matching. 3) Fill in the blanks 4) Sentence completion, 5) Simple picture description.	These activities can also be used as extended activities or follow-up on the Read-aloud sessions.
	Letter formation, esp. for PP.	Share letter formation guide and share with the parents (Use SSP package for practice and progression – start with s,a,t,p,i,n)	Parents should let children practice and share the children's work with the teachers.
	Personal letter writing (class III)	Explain, with a demo, the format and features of a personal letter – ask students to practice.	Parents should guide
Key stage II (IV – VI)	Writing -Book reviews -Summaries -Folk-tales	Identify appropriate topics from the text and ask students to read and carry out writing tasks.	
	Creative writing (realistic fiction)	Give as many topics as possible and ask children to choose and write on one topic every fortnight. Teachers should share the features of realistic fiction.	Encourage children to first share paragraphs, instead of the whole written work. This way, it will be easier to monitor and guide. Wherever possible, parents should help children.

	Reading	Select the most appropriate texts (Short stories, essays and poems) Explain the features of the respective genres and demonstrate the skills needed to comprehend the different texts. Ask students to read a certain number of stories, essays and poems from the textbook periodically. Teachers develop appropriate set of prompts/cues to check the understanding.	Let children video/audio-tape their readings of stories, essays and poems and share with the teacher and friends for comments and feedback.
	Listening and Speaking	Share the Resources (Audio/video) on Listening provided by REC and design questions to build/assess listening skills.	
Key stage III (VII – VIII)	Writing -reports -summaries -fantasy -narrative essay	Explain the features of each genre of writing. Compile and share as many topics as possible on each genre. Ask students to use the features of the respective genre and write. They should submit at least one complete written work every month for comments and feedback	Focus on narrative writing. In the beginning ask children to submit paragraphs instead of the whole essay. This way, it will be easier for the teacher to monitor and guide.
	Reading	Select the most appropriate texts (Short stories, essays and poems) Explain the features of the respective genres and demonstrate the skills needed to comprehend the different texts. Ask students to read a certain number of stories, essays and poems from the textbook periodically. Teachers develop appropriate set of prompts/cues to check the understanding. Teachers should adjust their prompts and questions according to the level of understanding. Students should also keep a record of other books and texts they read in the form of reviews.	The 'certain' number of texts to be read is to be decided by individual teachers depending on to the extent that students are able to achieve the objectives stated in the Reading & Literature strand.
	Grammar	-Refer the objectives and develop lessons accordingly.	Develop exercise and activities for the students to complete and submit for feedback
		Use the audio-visual grammar lesson provided by REC, or other available resources and assign practice questions.	
	Listening and Speaking	Use the listening & speaking resources package provided by REC and design questions or activities for students to listen to the audio/video.	Design and share a set of questions to check the listening skill. Alternately, appropriate

			and relevant audios can be downloaded from YouTube.
Key Stage IV (IX – X)	Reading & Literature	Select the most appropriate texts (Short stories, essays and poems) Explain the features of the respective genres and demonstrate the skills needed to comprehend the different texts. Ask students to read a certain number of stories, essays and poems from the textbook periodically. Teachers develop appropriate set of prompts/cues to check the understanding. Teachers should adjust their prompts and questions according to the level of understanding. Ask students to maintain a record of the books/texts read in the form of reviews (Reading portfolio). This is to be used for awarding CA.	Refer the objectives and focus on the genre stated therein. -Use the records to award CA.
		Design a schedule/timetable to assign students to read a certain portion of the novel. Create a platform where students can share their understanding, doubts and critiques on the novel. The teacher should clarify wherever needed.	
	Writing -Descriptive -Expository	Refer the resource package provided by REC and share essay writing guides and sample essays	
		Share the features of each genre of writing. Compile and share as many topics as possible on each genre. Ask students to use the features of the respective genre and write. They should submit at least one complete written work every month for comments and feedback. (Writing Portfolio)	In the beginning ask students to submit just the introductory paragraph so that teachers can guide and comment on the thesis statement. Use the best written work of individual students for awarding the CA mark
	Language and Grammar	Download relevant grammar lessons as per the objectives and share with students.	
		Design grammar activities and questions for students to carry out and complete periodically	
	Listening and Speaking	Use the listening & speaking resources package provided by REC and design questions or activities for students to listen to	

		the audio/video. Design and share a set of questions to check the listening skill. Alternately, appropriate and relevant audios can be downloaded from YouTube.	
		Ask students to audio/video tape their speeches and submit.	Use these to assess their speaking, and award CA accordingly.
		-Ask students to prepare speeches and record their deliver. Let them share their speeches with others and the teacher for feedback and comments.	
Key stage V (XI-XII)	Reading & Literature.	Select the most appropriate texts (Short stories, essays and poems) Explain the features of the respective genres and demonstrate the skills needed to comprehend the different texts. Ask students to read a certain number of stories, essays and poems from the textbook periodically. Teachers develop appropriate set of prompts/cues to check the understanding. Teachers should adjust their prompts and questions according to the level of understanding.	Refer the objectives and focus on the genres stated therein.
		Use the resources on *The Merchant of Venice* provided by the REC during the orientation workshop to develop lessons. Ask students to answer the questions given in the package. -Prepare a schedule for students to read a certain portion weekly/fortnightly. - Create a platform where students can share their understanding, doubts and critiques on the novel. The teacher should clarify wherever needed.	The teacher may design additional questions on the Merchant of Venice and other texts. -Ask students to video/audio tape their renderings of famous dialogues and share with the teacher and friends.
	Writing -reports -summaries -Stories -Persuasive essay -Argumentative essay.	Refer the resource package provided by REC and share essay writing guides and sample essays	
		Explain the features of each genre of writing. Compile and share as many topics as possible on each genre. Ask students to use the features of the respective genre and write. They should submit at least one complete written work every month for comments and feedback	In the beginning ask students to submit just the introductory paragraph of their essay. They should develop their writing further only after getting the 'go-ahead' from the teacher.

	Listening and Speaking	Use the listening & speaking resources package provided by REC and design questions or activities for students to listen to the audio/video. Design and share a set of questions to check the listening skill. Alternately, appropriate and relevant audios can be downloaded from YouTube.	
		Ask students to prepare speeches and record their deliver. Let them share their speeches with others and the teacher for feedback and comments.	
	Language and grammar	-Select appropriate grammar exercises and activities from the book periodically and ask students to complete them and submit for correction and feedback.	
		Video-tape teaching crucial topics and share.	
		Download relevant grammar lessons and share with students.	

3. MATHEMATICS

Key Stage	Theme/Topic	Pedagogy/Strategy/Tools	Remarks/Scope
I (PP-III)	Numbers and Operations	BBS1 & BBS2	• Representing Numbers • Counting and identifying set to five and numeral writing from 1-1000 • Use place value chart • Meaning of subtraction and addition • Division as repeated subtraction • Adding and Subtracting 2-digit numbers using various ways • Using varieties of strategies to add • Calculating change
	Sorting and Patterns	BBS1 & BBS2	• Describing object • Describing repeating number pattern • Creating pattern • Apply patterns to problem based on number, geometry and measurement.
	Measurement	BBS1 & BBS2	• Measuring and Comparing with non-standard and standard units • Introducing and measuring length, volume, and capacity • Days, weeks, months and seasons
	Geometry	BBS1 & BBS2	• Identifying, describing and comparing 3-D shape • Identifying, describing and comparing 2-D shape • Name and explore geometric shapes according to attributes • Polygon, combining polygon
	Data Management and Probability	BBS1 & BBS2	• Collecting and organizing data • Interpreting and Creating bar graph with scale • Using probability language
Key Stage II (IV-VI)	Numbers and Operations	BBS1 & BBS2	• Place Value: whole numbers to 5 and 7 digits • Compare & Order Whole Numbers to 5-digits • Mixed Numbers: modeling, use division meaning to change an improper fraction to a mixed number • Renaming: simple fractions to decimals • Ratio: part to part, part to whole • Integers: negative and positive • Addition & Subtraction: decimals and wholes choosing most appropriate method (pencil, mental, calculator, estimation • Multiplication & Division: decimals and wholes choosing most appropriate method (pencil, mental, calculator, estimation) and as well using various strategies.

			• Multiplication Properties and Facts • Addition & Subtraction: simple fractions with common denominators • Addition & Subtraction: simple fractions - various denominators **Assessment:** Assign through Google Classroom Solve question assigned and submit response
	Sorting and patterning	BBS1 & BBS2	• Open Sentences: patterns in addition, subtraction, multiplication & division • Computation patterns □, ÷: how a change in either factor affects the computation • Whole Numbers & Decimals: relationship in computation • Equivalent Fractions: multiplicative relationship • Equivalent Ratios: change in one term affects the other term • Area/Perimeter: changing rectangle dimensions • SI Measurement: pattern in changing units • Volume Patterns: explore
	Measurement	BBS1 & BBS2	• Estimate and measure in mm, cm, dm, m, km • Volume: estimate & measure • Volume & Capacity: solve simple problems • Volume & Capacity: relationships • Area: estimate & measure (square cm - symbols) • Constant Area - Different Perimeters • Area: irregular shapes - estimate & measure • Area (of a Triangle): relate to area of a parallelogram • Perimeter: polygons • Perimeter & Area: rectangles & squares • Angles: (meaning) amount of turn • Angles: estimate, measure and draw
	Geometry	BBS1 & BBS2	• Orthographic Drawings: make and interpret shapes • Quadrilaterals: sort by properties & make generalizations (concretely) • Cross Sections: 3-D shapes (cones, cylinders, prisms, pyramids) • Quadrilaterals: sort by attributes • Prisms, Pyramids, Cones, Cylinders • Nets: draw for rectangular prisms & cubes • Slides, Flips, turns (half, quarter): predict & confirm results for 2-D shape • Translations & Reflections: generalize & apply • Rotations: 1/4, 1/2, 3/4 turns: predict & investigate • Reflective Symmetry: generalize for properties of various quadrilaterals • Rotational Symmetry properties: squares & rectangles • Planes of Symmetry: 3-D shapes

			• Perpendicular lines / segments • Bisectors: of angle, segments • Congruence: polygons • Similarity: name, describe & represent **Assessment**: Assign through Google Classroom. Solve question assigned and submit response.
	Data Management and Probability	BBS1 & BBS2	• Collect, Organize & Describe Data: real world issues • Evaluate Data: choose appropriate samples • Bar & Double Bar Graphs: construct and interpret • Mean, Median, Mode: concepts • Simple Outcomes: more / less likely • Predict Probability: near 0, near 1, near ½ • Describe Probability • Theoretical Probability: determine • Ex Experiments: predict & record results (concrete materials) **Assessment**: Assign through Google Classroom. Solve question assigned and submit response.
	Data Management and Probability	BBS1 & BBS2	• Collect, Organize & Describe Data: real world issues • Evaluate Data: choose appropriate samples • Bar & Double Bar Graphs: construct and interpret • Mean, Median, Mode: concepts • Simple Outcomes: more / less likely • Predict Probability: near 0, near 1, near ½ • Describe Probability • Theoretical Probability: determine • Ex Experiments: predict & record results (concrete materials)
Key Stage III (VII –VIII)	**Numbers and Operations**	BBS1 and BBS 2	• Positive and negative exponents • Problems related to proportions • Problems related to percent • Problem related to mark up, SI and commission. • Problems related to square root • Multiplying and dividing integers • Adding and subtracting fractions • Multiplying and dividing fractions • Operation with rational numbers
	Geometry and Measurement		• Pythagoras theorem and its application in measurement and geometry • Area of a circle and associated problems

			• Tangrams and making rectangle/square/right-angled triangle using 3, 4, 5 and 7 shapes • Volume and Surface Area of a Rectangular Prism • Isometric Drawings and Orthographic Drawings • Transformations - Dilatations • and Combining Transformations
	Data Management and Probability	BBS 1 and BBS 2	• Difference between theoretical and experimental probability • Random sampling • Complementary events and simulation • Representing data using circle graphs, box and whisker plots • Scatter plots to express relation between two variables **Assessment**: Assign through Google Classroom. Solve question assigned and submit response.
	Patterns and Algebra		• Solving Linear Equations • Describing relationship • Linear Polynomial **Assessment**: Assign through Google Classroom. Solve question assigned and submit response.
Key Stage IV (IX- X)	**Numbers and Operations**	BBS1 and BBS 2	*Matrices* • Concept of Matrix • Adding, Subtracting Matrices and Multiplying Matrices *Networks* • Concept of networks • Solving network problems *Financial Mathematics* • Making purchasing decisions • Simple and compound interest • Taxation
	Geometry and Measurement		*Symmetry* • 2-D and 3-D Reflectional Symmetry *Constructions* • Perpendiculars and Bisectors • Medians and Altitudes *Efficient design* • 2-D Efficiency and 3-D Efficiency

			Defining Trigonometric Ratios • The Sine, Cosine, and Tangent Ratios • Trigonometric Identities ***Applying Trigonometric Ratios*** • Calculating Side Lengths and Angles • Angles of Elevation and Angles of Depression • Areas of Polygon
	Data Management and Probability	BBS 1 and BBS 2	***Data Involving One Variable*** • Histograms and Stem and Leaf Plots • Histograms and Box and Whisker Plots • Data Distribution ***Data Involving Two Variables*** • Correlation and Lines of Best Fit • Non-Linear Data and Curves of Best Fit ***Probability*** • Dependent and Independent Events • Calculating Probabilities
	Patterns and Algebra		***Linear Functions and Relations*** • Linear Functions • Applications of Linear Functions • Graphs of Linear Inequalities • Solving Systems of Linear Equations using comparison, substitution and elimination strategies ***Graphing Functions*** • Graphs of Quadratic Functions in • Transforming Quadratic Function Graphs ***Solving Non- Linear Equations*** • Solving Quadratic Equations by Factoring
Key Stage V (XI – XII)	**Algebra**	BBS1 and BBS 2	***Binomial Theorem*** • Binomial expansion for positive integral indices; use of Pascal's triangle; and the binomial theorem, • i.e. $(x + y)n = nC0xn + nC1xn\text{-}1y + \ldots + nCnyn$ • Binomial theorem for the expansion of binomial expressions having negative or fractional indices ***Remainder and Factor Theorem*** • Meaning of Rational Integral Function • Remainder Theorem and Factor Theorem ***Quadratic Equations and Functions*** • Solution of Quadratic equations by factorization and use of their

			graphs/sketches, and formula method
			• Nature of roots – real, complex roots, equal roots
			• Sum and Product of roots
			• Forming quadratic equations with given roots and related data
			Determinants of order 2 and 3
			• Minors and Co-factors of a determinant
			• Expansion of a determinant
			• Properties of a determinant and their use in the evaluation of a determinant
			• Product of determinants (without proof);
			• Conditions for consistency of 3 equations in two variables
			• Solution of simultaneous equations in 2 or 3 variables using Cramer's rule
			Matrices of order m x n, where m, n≤3
			• Types of Matrices
			• Operations: Addition/Subtraction (Compatibility); Multiplication by a scalar; Multiplication of two matrices (Compatibility)
			• Adjoint and inverse of a matrix
			• Application of Matrix multiplication
			• Use of matrices to solve simultaneous linear equations in 2 or 3 unknowns
			Assessment:
			• Students can submit pictures of completed tasks through social media platforms such as telegram/whatsapp etc and/or google classroom
			• They can make models and submit/reach to a designated place so that teachers can collect and assess
	Trigonometry		**Angles and Arc lengths**
			• Angles: Convention of signs of angles; Magnitude of an angle;
			• Measures of angles; Circular measures
			• The relation S = rθ, where θ is in radians; Relation between radians and degrees
			• Arc length and area of a sector of a circle
			Trigonometric Functions
			• Trigonometric ratios; Relationship between trigonometric ratios
			• Proving simple trigonometric identities
			• Signs and limits of trigonometric ratios
			• Trigonometric ratios of standard angles and allied angles
			• Periods of trigonometric functions
			• Graphs of simple trigonometric functions (only sketches)
			• Practical problems based on angle of elevation and depression
			• (in 2 - D)

			Properties of Triangles • Sine Rule (including ambiguous case for triangles) and Cosine Rule • Projection formula • Napier's Formula for the area of a triangle (Proof and use) **Compound and Multiple Angles** • Addition and Subtraction formulas: Sin (A $\pm$ B); Cos (A $\pm$ B); Tan (A $\pm$ B); Tan (A + B + C), etc • Double angle, triple angle, half angle and one third angle formula as special cases • Sums and differences as products: e.g $Sin\ C + Sin\ D = 2\ Sin\ \frac{(C+D)}{2} Cos\ \frac{(C-D)}{2}$ • Product to sums or differences: e.g. 2 SinA CosB = Sin (A + B) + Sin (A - B) etc • Conditional identities (involving angles of triangles) **Inverse Trigonometric functions** • Meaning of inverse trigonometric functions ($Sin^{-1}x$, $Cos^{-1}x$, $Tan^{-1}x$, $Cot^{-1}x$, $Cosec^{-1}x$, $Sec^{-1}x$) • Principal values (use of graphs in explanation) • Properties of inverse trigonometric functions (without proof) **Assessment:** They can make models and submit/reach to a designated place so that teachers can collect and assess
Key Stage V (XI – XII) **Calculus**		BBS1 and BBS 2	*Functions* • Concept of real valued functions; Domain and Range; • Classification of functions; Inverse functions; • Sketch of graphs of exponential functions, logarithmic functions, step functions, and simple trigonometric functions like Sinx, Cosx, and Tanx *Limits and Continuity* • Notion and meaning of limits; • Fundamental theorems on limits; • Limits of algebraic and trigonometric functions • Continuity of a function at a point x = a, and continuity of a function in a range *Differentiation* • Meaning and geometrical interpretation of derivatives; • Differentiation from first principle; • Derivative of simple algebraic and trigonometric functions and their formulae; • Derivative of sums, differences, products and quotients of functions;

		BBS1 and BBS 2	• Derivatives of trigonometric, logarithmic, and exponential functions • Derivatives of composite, absolute value, implicit and parametric functions • Interchange of independent and dependent variables • Differentiating function with respect to another function • Logarithmic differentiation • Successive differentiation up to 2nd order • Maxima and Minima and application of maxima and minima to practical problems • Application of derivatives: Equation of tangent and normal; Approximation; Rate measure; • Derivatives of inverse trigonometric functions reducible to simple form by substitution ***Integration*** • Indefinite integral: integration as the inverse of differentiation; • Anti-derivatives of polynomials and functions like $(ax + b)^n$, $\mathrm{Sin}(x)$, $\mathrm{Cos}(x)$, $\mathrm{Sec}2(x)$, $\mathrm{Cosec}2(x)$ • Integration by simple substitution for simple polynomial functions and simple trigonometric functions • Standard method of integration of $1/x$, e^x, Tan x, Cot x, Sec x, Cosec x, $(ax + b)^n$, where $n \in Q$ • Integration using substitution, using partial fractions and by parts • Integrals of the type Sin2x dx, Sin3x dx, Cos2x dx, Cos3x dx, $f'(x)[f(x)]^n$ dx • Definite integral as a limit of sum • Properties of Definite Integrals • Application of definite integrals - area of a curve included between x or y axis, volume of revolution about the x-axis or y-axis or about a line ***Differential Equations*** • Meaning. Order and Degree of differential equation; • Solution of differential equation of 1st order and 1st degree • Variable separable • Homogenous equations and equations reducible to homogenous form; $\frac{dy}{dx} + Py = Q$, where P and Q are functions of x only • Solution of differential equations of second order $\frac{d^2y}{dx^2} = f(x)$ **Assessment:** • Students can submit pictures of completed tasks through social media platforms such as telegram/WhatsApp etc. and/or google classroom

			• They can make models and submit/reach to a designated place so that teachers can collect and assess
Key Stage V (XI – XII)	**Co-ordinate Geometry**	BBS1 and BBS 2	**Points and their coordinates in 2-Dimensions** • Cartesian system of coordinates • Distance formula, Section formula • Centroid of a triangle, In-center of a triangle • Area of a triangle using its three vertices, Area of a quadrilateral • Slope or gradient of a line • Angle between two lines • Conditions of perpendicularity and parallelism of two lines **The Straight line** • Various forms of equation of lines: point slope form; two points form; intercept form; perpendicular/normal form; • general equation of a line; slope/gradient; • distance of a point from a line; distance between parallel lines; • Angles between two lines; • equations of lines bisecting the angle between the lines; Identical Lines • Family of lines: • Lines parallel to $ax + by + c = 0$ are of the form $ay + bx + k = 0$; • Lines perpendicular to $ax + by + c = 0$ are of the form $ay - bx + k = 0$; • Any line through the intersection of two lines L1 and L2 is of the form L1 + KL2 = 0, where K ∈ R **Pairs of Straight Lines** • General equation of a family of lines passing through the intersection of two lines L1 and L2: L1 + kL2 = 0, k∈R; finding k using additional condition • General equation of second degree in x and y representing a pair of lines • Conditions for general second degree equation to represent a pair of straight lines; Conditions for two lines to be perpendicular or parallel • Point of intersection and angle between two lines represented by a second degree equation in x and y • Equation of the bisector of the angle between a pair of given straight lines **Conics** • As a section of a cone • Definition and understanding of Foci, Directrix, Latus Rectum • Recognition of Equation of a Circle, Parabola, Ellipse and Hyperbola in standard form • Finding the equation for a conic when focus, directrix, and eccentricity or related data are given

			• Finding basic information like foci, directrix, etc from a given equation.
		BBS1 and BBS 2	**Equations of Circles** • Equation of a circle in: Standard form; diameter form; general form; parametric form • Find the centre and the radius of a circle from given equation • Finding the equation of a circle, given 3 non-collinear points; and given other sufficient data **Theorems on Circles** • Theorems on chords of a circle • Theorems on arcs and angles • Theorems on angles in alternate segment • Theorems on congruent arc and chords • Theorems on tangent lines and circles **Points and their co-ordinates in 3-Dimensions** • Distance between two points; Section and mid-point formulas; • Direction cosines and direction ratios of a line; • Angle between two lines; • Conditions for lines to be parallel or perpendicular **Plane** • General equation of a plane, as $ax + by + c = 0$, where a, b, c are direction ratios of the normal to the plane • Equation of a plane: One-point form; Normal form; Intercept form • Distance of a point from a plane • Angle between two planes, and angle between a line and a plane • Equation of a plane though the intersection of two planes • Finding the equation of a plane given a point and direction cosine/ratios of the normal and other sufficient data **Assessment:** • Students can submit pictures of completed tasks through social media platforms such as telegram/WhatsApp etc. and/or google classroom • They can make models and submit/reach to a designated place so that teachers can collect and assess
Key Stage V (XI – XII)	**Data management and probability**	BBS1 and BBS 2	**Measures of Central Tendency** • Mean, Median, Mode; finding by direct methods, formulas, and graphs **Dispersion** • Range: Quartiles, inter quartiles • Standard deviation - by direct method, short cut method and step deviation method; the meaning of Standard deviation should be emphasized **Measures of dispersion**

			• Meaning of dispersion; quartile deviation; standard deviation, coefficient of variation; Mean deviation from the mean or median • Combined mean and standard deviation of two groups only **Correlations** • Definition and meaning of correlations coefficient • Use of scatter diagram and Line of best fit • Calculation of coefficient of correlation by Karl Pearson's method for ungroup data • Calculation of rank correlation coefficient by Spearman's method, for both repeating and non-repeating data • Calculation of regression coefficient and the two lines of regression by the method of least squares; use of lines of regression for prediction **Probability** • Random experiment and their outcomes • Events: sure events, impossible events, mutually exclusive events, independent and dependent events • Definition of probability of an event • Laws of probability: addition and multiplication laws; conditional probability. **Assessment:** Students can submit pictures of completed tasks through social media platforms such as telegram/WhatsApp etc. and/or google classroom They can make models and submit/reach to a designated place so that teachers can collect and assess

4. SCIENCE

(General Science, Physics, Chemistry, Biology and Environmental Science)

Key Stage	Topics/Theme	Pedagogy/Strategies/Tools	Remark/Scope
3 (VII-VIII)	**Life Processes**	**BBS-I and BBS- II** ✓ Use webinar session (Zoom app). ✓ Conduct live teaching through the zoom app. ✓ Record lesson through the feature available in Zoom app. ✓ Share the video through other social media (WhatsApp, WeChat, YouTube that students are accessible). **Assessment** • Use worksheet. • Assign through Google Classroom. • Solve questions assigned and submit response.	• Cell, tissues, organs, organ system and organism • Process and parts of digestive system. • Respiratory organs, process of breathing and respiration • Photosynthesis, factors affecting photosynthesis • Asexual and sexual reproduction in plants and animals.
	Materials and their Properties	**BBS-I and BBS- II** **Strategies:** ✓ Interactive Lecturing ✓ Cooperative learning ✓ Peer teaching ✓ Blended learning ✓ Mobile learning ✓ Ubiquitous learning ✓ Collaborative work through google drive, google classroom, slack etc. **Assessment** • Use worksheet. • Assign through Google Classroom. • Solve questions assigned and submit response.	• Elements of atomic numbers from 1 to 30 with names and symbols, metals and non-metals. • Atomic structure, mass number, atomic number, isotopes and arrangement of atoms during chemical reaction. • Homogenous and heterogeneous mixture and their separation technique. • Acids and bases in the fruits and food items. • Reactions of metals and bases (including metal carbonates) with common acids (word equations and chemical equations.)
	Physical Processes	**BBS-I and BBS- II** Pedagogy and Strategies: ✓ Interactive Lecturing ✓ Cooperative learning ✓ Peer teaching ✓ Collaborative work through google drive, google classroom, slack etc	• Turning force, its application to levers and relate it to the working of simple machines • Relationship between force, area and pressure and its application in people's daily life • Density, relative density, and relate it to everyday life

		Assessment • Use worksheet. • Assign through Google Classroom. • Solve questions assigned and submit response.	• Work, energy and power, and relationship between work, force and distance. • Current, voltage and resistance calculation using Ohm's Law, common electrostatic phenomena, direct current (d.c.) and alternating current (a.c.). • Formation of an image by spherical mirrors and lenses, prove that the white light is a composite light.
4 (IX-X)	**Life Process**	**BBS-I and BBS- II** ✓ Web-based ICT tool such as Phet, Virtual Lab, MyPhysicsLab, Physics Classroom ✓ Use webinar session (Zoom app). ✓ Conduct live teaching through the zoom app. ✓ Record lesson through the feature available in Zoom app. ✓ Share the video through other social media (WhatsApp, WeChat, YouTube that students are accessible). ✓ Maintain journal of lesson learnt. ✓ Use webinar session. ✓ Use Edcite database to assign the task and grade. ✓ Maintain journal. **Assessment** • Use worksheet. • Assign through Google Classroom. • Solve questions assigned and submit response.	• Mitosis and meiosis. • Composition and functions of blood, structure and function of heart and blood vessels, structures and functions of the nervous system. • Insulin, adrenalin and sex hormones. • Functions of plant hormones in the c o n t r o l of plant's growth and development. • Structure and function of DNA. • Interdependence, adaptation, competition and predation the distribution and relative abundance of organisms in a habitat • Organisation interactions (Predation, Competition, Parasitism, Commensalism) • Levels of biodiversity and Importance of biodiversity • Concept and principles of Sustainable development
	Materials and their Properties	**BBS-I and BBS- II** Google classroom, video tutorial, WeChat, etc. **Assessment** • Use worksheet. • Assign through Google Classroom. • Solve questions assigned and submit response.	• Boyle's Law, Charles' law and simple calculations based on the laws • Covalent bond, ionic bond and metallic bond • Alkane, alkene and alkyne • Carbon cycle and nitrogen cycle and their significance • Periodic table and periodicity
	Physical Processes	Pedagogy and Strategies: **BBS-I and BBS- II** ✓ Interactive Lecturing ✓ Cooperative learning ✓ Peer teaching ✓ Collaborative work through google drive, google classroom, slack etc.	• Speed, velocity, acceleration, terminal velocity and laws of motion. • Principle of moments to solve problems involving forces acting in two dimensions. • Density of irregular solids by Archimedes' principle. • Application of Pascal law•

		Assessment • Use worksheet. • Assign through Google Classroom. • Solve questions assigned and submit response.	• Work, power and the efficiency of a machine (simple calculation) • Ohm's Law and simple calculations. • Working of electric motor and generators • Current and flow of electrons • Electromagnetic spectrum, reflection, refraction and diffraction of electromagnetic spectrum.
5(XI and XII)	**Life Process**	**BBS-I and BBS- II** ✓ **Strategies:** ✓ Interactive Lecturing ✓ Cooperative learning ✓ Peer teaching ✓ Blended learning ✓ Mobile learning ✓ Ubiquitous learning ✓ Collaborative work through google drive, google classroom, slack etc. **Assessment** • Use worksheet. • Assign through Google Classroom. • Solve questions assigned and submit response.	• Biomolecules (carbohydrates, proteins, fats, and DNA and RNA). • Structure of the mammalian heart; and explain the main substances transported by the circulatory system. • Antagonistic skeletal muscles on the joints and the sliding filament model of muscular contraction • Transmission of nerve impulse through myelinated neuron. • Negative and positive feedback mechanisms of hormonal action. • Structure and function of the mammalian brain and spinal cord. • Formation of urine in the kidney, including ultrafiltration in the renal capsule and selective re-absorption in the proximal convoluted tubule. • Immune response, the roles of the body's primary defense against pathogens • Photosynthesis as a process, in which, light energy is used to produce complex organic molecules in the two-stage process in the chloroplasts. • Semi-conservative mechanism of DNA replication and production of messenger RNA in transcription • Genetic mutation and its importance. • Role of mitosis and meiosis. • Process of fertilization to form embryo and the process of implantation. • Pollination and the mechanism to ensure the cross pollination, and describe the double fertilization and the structural changes which occur after fertilisation. • Solving the puzzles of monohybrid and dihybrid crosses, incomplete dominance, codominance and multiple alleles

			• Gene cloning via genetic engineering (fragments of DNA can be produced by the conversion of mRNA to cDNA, using reverse transcriptase) and PCR. • Process of carrying out genetic fingerprinting and its application. • Selection or forces of natural selection: stabilizing (sickle-cell anaemia in malarial countries), directional (antibiotic resistance in bacteria) or disruptive (the two morphs of the peppered moth, Biston betularia). • Factors that contribute to speciation and the differences between sympatric speciation and allopatric speciation. • Role of gene banks; impacts of unsustainable cropping practices, overgrazing, deforestation and intensive farming, including the use of fertilizers, and herbicides.
	Materials and their Properties	**BBS-I and BBS- II** Google classroom, video tutorial. WeChat, etc. **Assessment** • Use worksheet. • Assign through Google Classroom. • Solve questions assigned and submit response.	• s, p, d and f orbitals and block elements • Coordinate bonding • Shape of the molecules based on the concept of hybridisation • Electronegativity and Polar molecules • Homologous series and IUPAC nomenclature • Isomerism • Addition and substitution and with reference to alkanes , alkenes and alkynes • Oxidation of primary, secondary and tertiary alcohols • Substitution and elimination reactions in haloalkanes • Structure and nomenclature of aromatic compounds(benzene and their derivatives) • Electrophilic substitution reaction in aromatic compounds • Formaldehyde, acetaldehyde and benzaldehyde and their simple properties • Carboxylic acid, the derivatives of the acids and their simple properties • Amines and amino acids • First and second law of Thermodynamics , entropy and enthalpy • Collision Theory and factors affecting the rate of chemical reactions

			• Lechatlier 's principle with reference to chemical equilibrium
			• Ideal and non -ideal solution, vapour pressure and Raoult's law
			• Bronsted and Lowry concept of acid and base,strength of acid and base in terms of Ka and Kb, pH and buffer solution and the mechanism of buffer,
			• Redox reaction and electrochemical cells
			• Radioactive decay and half life
			• Importance of mass spectrometry and chromatography
	Physical Processes •	Strategies: **BBS-I and BBS- II** ✓ Interactive Lecturing ✓ Cooperative learning ✓ Peer teaching ✓ Collaborative work through google drive, google classroom, slack etc **Assessment** • Use worksheet. • Assign through Google Classroom. • Solve questions assigned and submit response.	• Resultant forces and components of two coplanar vectors by using a vector triangle • Derivation of kinematics equations for acceleration in a straight line • Basic concept of projectile motion • Newton's three laws of motion and relate to everyday phenomena, • Fluid resistance and surface tension in capillary tubes • Bernoulli's principle and Stoke's Law • Poisson's ratio for the expansion of materials under stress • Hooke's law and the force constant. • Equation of potential energy and kinetic energy to prove the law of conservation of energy. • Centripetal acceleration and centripetal force, • Equation $v_{max} = (2rf) A$ for calculating the maximum speed of simple harmonic oscillator, total energy, kinetic energy and the potential energy of a system. • Mean translational kinetic energy of an atom of an ideal gas • Gravitational potential and the escape velocity of a body. • Coulomb's law and electrical charge. • Capacitors in series and in parallel circuits • Force on current conductor placed in a magnetic field • Magnetic flux (B), Faraday's and Lenz's law • Electric current, potential difference and resistance and Kirchhoff's laws • Types of semiconductors. • Reflective index and image due to refraction and reflection. • Huygen's Principle • Principle of superposition, constructive and destructive interference

			- Diffraction and polarization. - Communication systems - Photon model of electromagnetic radiation. - Electron diffraction to determine the structures of crystalline - Hydrogen emission spectrum - Quark model of hadron. - Spontaneous and random nature of radioactive decay - Einstein's mass –energy and binding energy - Kepler's law and Newtonian gravitation. - Astrophysical plasma.

Note: Refer the science curriculum framework while preparing the lesson.

5. ENVIRONMENTAL SCIENCE

Key Stage	Themes/Topics		Pedagogy/Strategies/Tools	Remarks / scope
5 **Key Stage**	**System in Nature Chapter**	**Ecosystem – Structure and functions**	✓ Use webinar session (Zoom app). ✓ Share the video through other social media (WhatsApp, WeChat, YouTube that students are accessible). Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Spheres of the Earth • Biomes and Ecosystem Biodiversity and Endemism • Bhutan's rich biodiversity and ecosystem services
		Balance in Nature	✓ Use Google Classroom. ✓ Use e-library. ✓ Maintain journal. Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Energy Flow in an Ecosystem • Biogeochemical cycles • Disturbances and ecological succession.
5 **Key Stage**	**Environmental Issues and Concern**	**People and Environment**	✓ Use YouTube lesson Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Dependency on Natural Resources • Interdependency of humans and environment Land degradation
		Natural resource degradation	✓ Maintain journal regarding the natural resources degradation. ✓ Refer newspapers and write feedbacks and opinion. Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Natural Resources and its Exploitation Ecological Footprint
		Pollution	✓ Use Webinar session Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Natural Resources and its Exploitation • Health Hazards of Toxic Substances • Understanding Climate Change
		Climate Change Disaster and Environment 1.	✓ Use webinar session. ✓ Use online quiz for assessment. Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Climate Change • Phenology and Climate Change • **Disaster and its Reduction**

5 **Key Stage**	**Natural Resource Management**	**Disaster and Environment**	✓ Use Google Classroom. ✓ Maintain journal Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Hazards and Disasters • Disaster reduction • Hazards and Disasters
		Biodiversity and Measurement Land use and management	✓ Use webinar session (Zoom app). Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Measuring Biodiversity Management-Land and water • Water conservation techniques • Water conservation for irrigation
		Biodiversity Conservation	✓ Digital story telling. ✓ Question and answer Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Conservation of Biodiversity • Biodiversity Conservation (Protected Areas) and Poverty Alleviation
		Water and Land Management & Energy Resources	✓ Use Environmental Profile ✓ Maintain journal of energy uses at home. Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Land Waste Management • Entrepreneurship and Waste Management • Methods to conserve energy
		Energy Conservation	✓ Use Webinar session ✓ Quiz Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Energy Management and Efficiency Energy Efficiency and Technology. • Energy Efficient ways and devices
5 **Key Stage**	**Sustainable Development**	**Environment and Development**	✓ Use Google Classroom ✓ Share YouTube links. Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• Development • Green Economy
		Sustainable Development	✓ Use webinar. ✓ Maintain journal. Assessment with thought provoking summary 1- 2 questions BBS1/BBS2	• GNH and Sustainable Development Sustainable Development • Relationship - Development and Environment

6. SOCIAL SCIENCES

(History, Geography and Economics)

Key Stage	Themes	Topics	Pedagogy/Strategy/tools	Remarks/Scope
I (PP-III) II (IV-VI)	Key stage I and II to be focused on literacy and numeracy	Key stage I and II to be focused on literacy and numeracy	NA	In key stage I and II, focus will be on literacy and numeracy subjects
III (VII-VIII)	1. Resources and Sustainable development	Population and its importance	BBS I &II YouTube, google classroom (1-2 thought provoking and competency based questions to assess student learning)	Death rate, birth rate, natural change, causes of change and impact of change.
	2. Spatial interaction	Trade, Transport and Communication	BBS I &II YouTube, google classroom (1-2 thought provoking and competency based questions to assess student learning)	Concept of trade, transport and communications
	3. Government, Civil Society and Media in Bhutan	State and Government	BBS I &II YouTube, google classroom (1-2 thought provoking and competency questions to assess student learning)	Forms of Government Constitution and Citizens
	4. The Earth and its people	Settlement and its evolution	BBS I &II YouTube, google classroom (1-2 thought provoking and competency based questions to assess student learning)	Types, patterns of settlement and classification
	5. Bhutan as a Nation-State and Importance of Monarch	Institution of Monarchy	BBS I &II YouTube, google classroom (1-2 thought provoking competency based questions to assess student learning)	Zhabdrung and Chhoesid system (Making a Nation-State) Institution of Monarchy and the successive Druk Gyalpos
	6. Economic sectors	Economic sectors	BBS I &II YouTube, google classroom (1-2 thought provoking and competency based questions to assess student learning)	Sectors of economy
IV (IX-X)	1. Resources and Sustainable development	GNH, Economic Growth and Development	BBS I &II YouTube, google classroom	Population and economy, economic growth

			(1-2 thought provoking and competency based questions to assess student learning)	
2.	Spatial interaction	Trade, Transport and Communication	BBS I &II YouTube, google classroom (1-2 thought provoking and competency based questions to assess student learning)	Concept of trade, domestic and international trade, balance of payment, development of communication and transport in Bhutan, impact of trade, transport and communications
3.	Government, Civil Society and Media in Bhutan	Bhutanese Government System, world development since 1945 (Role of UN)	BBS I &II YouTube, google classroom (1-2 thought provoking and competency based questions to assess student learning)	The Legislature, The Executive, The Judiciary, the Constitutional Bodies and Local Government) World development since 1945 – Important topic in World History
4.	The Earth and its people	Climate and its impact	BBS I &II YouTube, google classroom 1-2 thought provoking and competency based questions to assess student learning) (	Factors affecting climate, winds, climatic zones of Bhutan, climate change, climate change and environmental problems
5.	Bhutan as a Nation-State and Importance of Monarch	Institution of Monarchy	BBS I &II YouTube, google classroom (1-2 thought provoking and competency based questions to assess student learning)	Institution of Monarchy and the successive Druk Gyalpos
6.	Economic sectors	Role of economic sectors for the economy	BBS I &II YouTube, google classroom (1-2 thought provoking and competency based questions to assess student learning)	Introduction to Economics, Understanding economy, Factor earning, Public finance,
V (XI-XII) 1.	Resources and Sustainable development	GNH, Economic Growth and Development	BBS I &II YouTube, google classroom (2-3 thought provoking and competency based questions to assess student learning)	Bhutanese economy, Money and Banking, Public finance, development planning
2.	Spatial interaction	Trade, Transport and Communication	BBS I &II YouTube, google classroom (2-3 thought provoking and competency based questions to assess student learning)	Means of transport and communication, impact of transport and communications
3.	Government, Civil Society and Media in Bhutan	Bhutanese Government System	BBS I &II YouTube, google classroom	Society, State and Nation Forms of government Constitution

			(2-3 thought provoking and competency based questions to assess student learning)	Role of the Monarch in a Democratic Constitutional Monarchy
4.	The Earth and its people	Climate and its impact	BBS I &II YouTube, google classroom (2-3 thought provoking and competency based questions to assess student learning)	World climate, climate types and zones, impact of climate change
5.	Bhutan as a Nation-State and Importance of Monarch	Institution of Monarchy- Role of Monarch in Democratic Constitutional monarchy	BBS I &II YouTube, google classroom (2-3 thought provoking and competency based questions to assess student learning)	Role of Monarch in Democratic Constitutional monarchy Bhutan and international Organisations
6.	Economic sectors	Role of economic sectors for the economy	BBS I &II YouTube, google classroom 2-3 thought provoking and competency based questions to assess student learning)	National Income, Bhutanese economy.

7. ACCOUNTANCY

Key Stages	Topics	Strategies/tools	Remarks/Scopes
V (XI-XII)	**Accounting Theory**	BBS I & BSS II	• Identification of stakeholders in business • Underlying assumptions and convention used in preparation of financial statement • Qualitative characteristics of useful financial information • Elements of financial statement • Meaning and purposed of AS **Eg. Assessment:** Study a financial statement of a company and validate it quality.
	Accounting Equation	BBS I & BSS II	• **Identification of accounts in a transaction and prepare equation** • **Relate accounting equation with financial statement** **Eg. Assessment:** Solve a practical problem from the textbook
	Journal, Ledger and Trial balance	BBS I & BSS II	• **Vouchers** • **Categorise of accounts** • **Dual concepts** • **Pass journal entries** • Prepare ledger and trial balance **Eg. Assessment:** Solve a practical problem from the textbook
	Accounting for PPE	BBS I & BSS II	• **Recognition criteria for PPE** • **Depreciation** • **Prepare depreciation schedule** **Eg. Assessment:** Make a visit around your place and identify different items of PPE.
	Financial Statements	BBS I & BSS II	• **Elements of financial statement** • **Prepare financial statement** **Eg. Assessment:** Solve a practical problem
	Costing	BBS I & BSS II	• Classify the elements of cost- material cost, labour cost and overheads. • Prepare cost sheet. **Eg. Assessment:** Make a visit to a construction place in your area and identify different cost involved.

8. COMMERCE

Key Stages	Topics	Strategies/tools	Remarks/scope
V(XI-XII)	**Business, Trade and Commerce**	BBS I and II	- Classification of human activities - Business - Employment - Profession - Classification of business - Industry - Commerce - Commerce and its branches - Purpose of business organisations - Types of business organisation - Soles proprietorship - Partnership - Company - Cooperatives - Concepts of trade - Types of trade **Eg. Assessment:** a) Identify different types of trades in your locality b) Why trade is essential for our livelihood?
	Financing		- Types of finance for the business - Sources of business finance - Services of commercial banks **Eg. Assessment:** a) Identify different banks offering finance to business in the country b) Think of a situation where there is no bank in the country
	Management and Communication		- Meaning of management - Functions of management - Need for effective business communication - Different modes of business communication - Principle of effective business communication - Barriers to communication **Eg. Assessment:** Considering your house as business entity, relate management household with business organisation.
	Marketing		Concepts of marketing

			• Importance of marketing for business
			• Different medium for marketing
			Eg. Assessment: Identify different marketing carried for a product around your place and design a marketing strategy for a product

Key satge	Topics/Themes	Pedagogy/Strategy/ Tools	Scope/Remarks
Key Stage 5	**Media and Information Literacy**	❖ Lessons on the identified learning areas would be aired through BBS ❖ Tutorial clip (Video) would be delivered through YouTube play list or any other social media group. ❖ Audio materials shall be delivered through sound cloud or other social media group ❖ Print materials shall be delivered through appropriate social media: email, Facebook, ❖ Group Discussion amongst the students for exchange of ideas would be encouraged through appropriate social media: WeChat group, WhatsApp group, telegram group **1. Assessments** Assignments such as; write-ups, textual analysis, etc. would be assigned and evaluated through Google Classroom. Questions & Answer would be conducted at the end of learning areas to check students' understanding using Google Classroom Online quiz questions would be used for students' self-assessment through internet tool like google form.	➢ Evolution of Media ➢ Types of Media ➢ Information and information Literacy
	Understanding Media Messages and Information		➢ What is Media Literacy? ➢ Importance of Media Literacy ➢ Nature of Media Messages
	Media and Language		➢ Basic Persuasion Techniques ➢ Key Questions to Look at Media ➢ Visual Literacy ➢ Film Language
	Representation in Media and Information		➢ Who Should Media Represent? ➢ Determining News Values ➢ Analyzing Representation ➢ Methods and Technology Media Adopt
	Traditional Media and New Media		➢ TM and NM – Collaboration for Success ➢ Digital as New Media ➢ Use of NM Technologies in Society ➢ New Media World and Citizenship Orientation ➢ Uses of Multimedia Tools
	Journalist Code of Ethics and Research Ethics		➢ Principles of Journalism ➢ Research Ethics verses Media Ownership ➢ Process of New Publication
	Media and Global Village		➢ Global Economy and Media Ownership ➢ Technology Convergence and Media Conglomerates

Note: All the lessons will be planned based on the curriculum framework.

གནས་རིམ།	ལྱབ་སློན་འབད་དགོ་པའི་དོན་ཚན་གཙོ་ཅན།	སློབ་སྟོན་ཐབས་ལམ།
སློབ་རིམ་༡༡ པ་དང་། སློབ་རིམ་༡༢པ།	སློང་འཇུག། སློབ་རིམ་༡༡ པའི་ནང་ལུ་ ལེའུ་༡ པ་ལས་ ལེའུ་༡༠ པ་ཚུན། སློབ་རིམ་༡༢ པའི་ནང་ལུ་ ལེའུ་༡༡ པ་ལས་ ལེའུ་༡༧ པ་ཚུན། (སློབ་ཕྲུག་གི་གནས་ ཚད་དང་འབྱེལ་ཏེ་ བརྫོད་དོན་གལ་ཅན་ཚུ་གདམ་འཐུ་འབད་དེ་ སློབ་དེབ་བརྩོ་ཡོད་མི་ལས་སློན་ནི།)	སློང་འཇུག་གི་སློབ་སློན་ སྐྱ་གཟུང་འབད་དེ་བཀྲམ་ནི། སློན་མ་ལས་ ཐྲམ་སློབ་དཔོན་ཚུ་གིས་ ཆོས་བཤད་གནང་ཡོད་མི་ཚུ་ཡང་ བསྐྱ་སློག འབད་དེ་ བཀྲམ་ནི། WeChat, Facebook, YouTube, Google ཚུ་གི་ཐོག་ལུ་ མཐོང་བསོ་མཁོ་ཆས་ཚུ་བཟོ་སྟེ་བཀྲམ་ཐོག་ལས་ ལྱབ་བཅུག་ནི།
སྐུན་དག། སློབ་རིམ་༡༡ པའི་ནང་ལུ་སློན་དགོཔ། རང་བཞིན་བརྫོད་པ་ མཚོངས་གསལ་ དཔེ་རྒྱན་གསུམ། སློབ་རིམ་༡༢ པའི་ནང་སློན་དགོཔ། དཔེ་རྒྱན་བསྐྱར་ཞིབ་དང་ གཟུགས་ཅན་གྱི་རྒྱན། (སློབ་ཕྲུག་གི་གནས་ཚད་དང་འབྱེལ་ཏེ་ འབད་ཚུགས་པའི་ རྒྱན་ལེགས་ཤོམ་ཚུ་གདམ་འཐུ་འབད་ དེ་ སློབ་དེབ་བརྩོ་ཡོད་མི་ལས་སློན་ནི།)	སྐུན་དག་གི་སློབ་སློན་ སྐྱ་གཟུང་འབད་དེ་བཀྲམ་ནི། WeChat, Facebook, YouTube, Google ཚུ་གི་ཐོག་ལུ་ མཐོང་བསོ་ མཁོ་ཆས་ཚུ་ བཟོ་སྟེ་བཀྲམ་ཐོག་ལས་ ལྱབ་བཅུག་ནི། སྐུན་དག་དང་ འབྱེལ་བའི་ རྒྱན་ཏེན་ཚུ་ ཡོངས་འབྲེལ་ཐོག་ལས་ འཐོབ་ཚུགས་པ་ དང་ ཡོངས་འབྲེལ་ཁ་ཐུག་ཚུ་ སློན་བྱིན་ནི།
མཚོན་བརྫོད། སློབ་རིམ་༡༡ པའི་ནང་ལུ་སློན་དགོཔ། མཐོ་རིམ་སྟེ་ཚོན་ལས་ ས་འོག་གི་སྟེ་ཚོན་ཚུན། སློབ་རིམ་༡༢ པའི་ནང་སློན་དགོཔ། ས་གཞིའི་སྟེ་ཚོན་ལས་ མཐུག་བྱུང་ཚུན།	མཚོན་བརྫོད་ཀྱི་བཤད་པ་ སྐྱ་གཟུང་འབད་དེ་བཀྲམ་ནི། WeChat, Facebook, YouTube, Google ཚུ་གི་ཐོག་ལུ་ མཐོང་བསོ་ མཁོ་ཆས་ཚུ་ བཟོ་སྟེ་བཀྲམ་ཐོག་ལས་ ལྱབ་བཅུག་ནི། རང་གིས་ལྱག་ སྟེ་ དཀོ་ཚུགས་པའི་ཚོས་ཚན་ཡིནམ་ལས་ དེ་སྟེ་ལྱབ་དགོ་པའི་ལས་ སློན་མཐོང་བསོས་ཅིག་བཟོ་ནི།

	(སློབ་ཕྲུག་གི་གནས་ཚད་དང་འཁྲིལ་ཏེ། དོན་ཚན་གདམས་འབྱུ་འབད་དེ། སློབ་དེབ་བཟོ་ཡོད་མི་ལས་སྦྱོན་ནི།)
ཕྱབ་སྐྱང་འབད་ཐངས་ དང་ དཔྱེ་ཞིབ་ཐབས་ ལམ།	སློབ་ཕྲུག་ཚུ་གིས་ རིག་གཞུང་གདམ་ཁའི་ཚེས་ཚན་འདི་ རང་གི་ཁྱིམ་ནང་ རྒྱུ་མཐོང་དང་ ཡོངས་འབྲེལ་ འགྲུལ་འཕྲིན་ སློག་རིག་མཁོ་ཚས་ཚུ་གི་ཐོག་ ལས་དང་ རང་གིས་འབད་ སློབ་བསྐྱེད་དེ་ཕྱབ་དགོལ་དང་། རང་གི་ཕམ་དང་སྤུན་ཆ་ ཤེས་མི་ཚུ་ལས་ རྒྱབ་སྐྱོར་ལེན་ཏེ་ ཕྱབ་དགོལ་ཡིན། དེ་སྟེ་ཕྱབ་སྐྱང་འབད་ཚར་བའི་ཤུལ་ལུ་ དཔྱེ་ཞིབ་འབད་ཐངས་དེ་ཡང་ རང་ཉིད་དཔྱེ་ཞིབ་དང་། ནང་རོག་དཔྱེ་ཞིབ་ཀྱི་ཐབས་ལམ་ཚུ་ སྤྱན་ཏེ་ ཤེས་མ་ཤེས་ དཔྱེ་ཞིབ་འབད་ནིའི་ ཐབས་ཤེས་ཚུ་སྤྱོན་ནི་དང་། མཐའ་མཇུག་གི་ཚེས་རྒྱགས་དེ་ཡང་ ལས་འགུལ་དང་ འདྲི་ལན་ ཡངན་ ཡོངས་འབྲེལ་ google ཚུ་གི་ ཐོག་ལས་ དུས་ཐོག་ལུ་ ཚེས་རྒྱགས་ལེན་ཉིའི་ ཐབས་ལམ་མ་འདྲཝ་ཚུ་གི་ཐོག་ལས་ དཔྱེ་ཞིབ་འབད་ནི་ཡིན།

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Education in Emergency

PRIORITIZED CURRICULUM
KEY STAGE 4: Classes IX - X

1. DZONGKHA

ཆོས་ཚན་......ལྔག་རིག་དང་ཚོམ་རིག　　　　　　　　　　　　　　སློབ་རིམ་......དགུ་པ།

གནས་ཚད།	སློབ་ཚན།	དོན་ཚན།	ལས་དོན།	སློང་ཚད
• རྫོང་ཁའི་ནང་ཡོད་པའི་ལོ་རྒྱུས་འབྲི་ཚོམ་དང་འགྲེལ་བཤད་འབྲི་ཚོམ་གྱི་དཔེ་དེབ་ཚུ་རང་སྦྱངས་ཀྱིས་ལྷག་སྟེ་གོ་བ་ལེན་ཚུགས་དགོ། • ཚོམ་རིག་མ་འདྲཝ་ཚུ་ལྷག་སྟེ་འབྲི་ཐངས་ཀྱི་ཁྱད་པར་ཚུ་ངོས་འཛིན་འབད་ཚུགས་དགོ།	འབྲི་ཚོམ།	• སྤྱིར་བཏང་རྫོང་ཁ་ལས་འབྲི་ཚོམ་གྱི་འབྲི་བཀོད་ཚུལ། • རྡོག་མ་ཆུ་ཚིག་གང་གི་གཡོ་འཕུལ།（ལོ་རྒྱུས་འབྲི་ཚོམ།） • འགྲོལ་བཤད་འབྲི་ཚོམ་ལས་གཅིག	དོན་ཚན་འདི་སླབ་ཚཝ་ད་ ཕོག་གི་གནད་དོན་ཚུ་གི་སྐོར་ དཀོ་སྟེ་འབྲི་སླབ་འབད་ཚུགས། • ལོ་རྒྱུས་འབྲི་ཚོམ་གྱི་ཁྱད་རྣམ་ཚུ་འབྲི་ཚུགས། ལོ་རྒྱུས་འབྲི་ཚོམ་འབྲི་ཚུགས། • འགྲེལ་བཤད་ཀྱི་ཁྱད་རྣམ་སྐོར་ཤེས་ཚུགས། • འགྲེལ་འབྲི་ཚོམ་འབྲི་ཚུགས།	
• རྫོང་ཁའི་དཔེ་དེབ་དང་ཡིག་རིགས་ག་ཅིར་ཨིན་རུང་རྫོང་སྐད་གཅོད་མཚམས་ཚིག་མཚམས་ཆུ་ཚུལ་དང་མཐུན་ཏོག་ཏོ་སྟེ་ལྷག་ཚུགས་དགོ། • རྫོང་ཁའི་དཔེ་དེབ་ཆུ་ལྷག་སྟེ་བསྒྱུར་ཞིབ་འབད་ཚུགས་དགོ།	སྙན་ཚོམ།	• སྙན་ཚོམ་གྱི་སྤྱིར་གཏང་དོ་སློད། • རྩང་མོ། • བསླབ་བྱ།	• ཚོམ་རིག་གི་གོ་དོན་དང་ཚོམ་རིག་གི་དབྱེ་བ་ཕྱེ་ཚུགས་དགོ། • རྩང་མོ་དང་བསླབ་བྱ་ཆུ་དབྱེ་བ་ཕྱེ་སྟེ་ལག་ལེན་འཐབ་ཚུགས་དགོ།	༣༠
• གོ་དོན་ལེན་�ནི་དོན་ལུ་ལྷག་ཐངས་ཀྱི་ཐབས་ཤེས་མ་འདྲཝ་ཚུ་ལ་གོ་ལེན་འཐབ་ཚུགས་དགོ། • ལྷག་ནི་ལུ་གོམས་འདྲིས་ཚུད་དེ་མི་ཚེའི་ནང་ལྷག་ནི་ལུ་བརྩོན་ཤུགས་བསྐྱེད་ཚུགས་དགོ།	སྤུང་དང་གཏམ་རྒྱུད།	• སྤྱིར་བཏང་དོ་སློད། • སྣམ་མོ་རྗེ་མོ། • བྲམ་པ་བྲ་སེ་སྒེ།	• ཤེས་ཚད་དང་བསྣུན་པའི་ ཚོམ་རིག་སྤུང་ཚུ་ ལྷག་སྟེ་ འབྲི་ཐངས་ཀྱི་ རིག་ཚུལ་ འབྲི་དཔྱད་འབད་ཚུགས། • སྤུང་གི་ཁྱད་རྣམ་ཆུ་འབྲི་ཚུགས། • ཁྱད་རྣམ་ཆ་ཚང་བའི་ སྤུང་གསར་ཚོམ་ འབད་ཚུགས།	༣༠
• ཚོམ་རིག་ཆུ་ལྷག་སྟེ་ཚོམ་དང་ལམ་སློལ་ལུ་བརྗེ་མཐོང་གི་བསམ་སྦྱོང་ཉེས་ཡོན་དང་ཚོས་ཤིག་ཀྱི་བྱ་གཞག་ཆུ་ལུ་རྣམ་དཔྱོད་ཀྱི་ཤེས་ར་བཏོན་ཚུགས་དགོ། • ཚོས་སྐད་ནང་ཡོད་པའི་ཡིག་ཆ་དང་དཔེ་ཆ་ཚུ་ལྷག་ཚུགས་དགོ།	རྒྱས་སྲས་ལག་ལེན།	• དོ་སློད། • མཚན་དོན་ལས་རང་སེམས་རང་གིས་ བཅུལ་དགོཔ་ཚུལ།（ཚིགས་བཅད་ ཆ་མཉམ།）	• ཚོ་དང་ ལམ་སློལ་གྱི་ བསམ་སྦྱོང་ ཤེས་ཡོན་ལུ་ བརྗེ་མཐོང་བསྐྱེད་ཚུགས། • ཚོས་སྐད་ཀྱི་མི་ཚིག་ཆུ་ རྫོང་ཁའི་ནང་ བྲི་ཚུགས། • ལས་རྒྱུ་འབྲས་ལུ་ ཡིད་ཆེས་བསྐྱེད་ཚུགས།	༣༠

གནས་ཚད།	སློབ་ཚན།	དོན་ཚན།	ལས་དོན།	ཐིད་ཚད
• མགོ་རྒྱན་དང་ མཇུགས་ཡིག་གི་ཡིག་བཟོ་སྐོམས་འགྲིགས་དང་ བཀལ་ཐངས་ཚུ་ ཚུལ་མཐུན་འབད་ བྲི་ཚུགས། • འབྲི་ཚོམ་ཚུ་ནང་ལུ་ གནད་དོན་བཅུགས་ཐངས་དང་ བཟོད་ མཚམས་ ཚིག་མཚམས་ དོན་མཚམས་ཚུ་ འབྲི་བཀོད་ལམ་ ལུགས་དང་འཁྲིལ་ཏེ་ བྲི་ཚུགས།	བྲི་ནིའི་རིག་རྩལ། འབྲི་ཚོམ།	རྒྱུད་སྐྱལ་འབྲི་ཚོམ། རྒྱས་བཤད་འབྲི་ཚོམ།	རྒྱུད་སྐྱལ་དང་རྒྱས་བཤད་འབྲི་ཚོམ་གྱི་ཁྱད་རྣམ་དང་ དབྱེ་བ་འབྲི་ཐངས་ཚུ་ད་གོ་སྟེ་ འབྲི་སྐྱབ་འབད་ཚུགས་ དགོ།	༣༠
ཞུ་ཡིག་ གཏང་ཡིག་ གན་རྒྱ་ བཀོད་རྒྱ་ སྙན་ཞུ་དང་ ཐུབ་བསྐུལ་གས་ གསལ་བསྐུལ་ གསལ་བཀད་ སྒྱོག་རིག་ཡོངས་འབྲེལ་ སྒྱོག་འཕྲིན་ གཏང་ནི་ལ་སོགས་པའི་ བརྡ་འཕྲེལ་གྱི་ཡིག་རིགས་ཚུ་ བྲི་ཚུགས།	བྲི་ནིའི་རིག་རྩལ། ཡིག་འགྱུལ།	གཏང་ཡིག ཞུ་ཡིག	གཏང་ཡིག་དང་ཞུ་ཡིག་གི་ འབྲི་བཀོད་དང་ཁྱད་རྣམ་ འབྲི་ཐངས་ཚུ་ད་གོ་སྟེ་ ལག་ལེན་འཐབ་ཚུགས་དགོ།	༡༠
• སྐད་ཡིག་གི་དགོས་པ་དང་ཕན་ཐོགས་ཁྱད་རྣམ་དང་སྐྱབ་ཚུལ་ཚུ་ ཤེས་ ཚུགས་དགོ • ཕད་རྣམ་དབྱེ་ཚུལ་ཚུལ་མཐུན་ཕོག་ ལག་ལེན་འཐབ་ ཚུགས་དགོ	སྐད་ཡིག་དང་ཡིག་སློར།	• སྤྱིར་བཏང་ སྐད་ཡིག་གི་དོ་སློད་ ལས་ ལྲ་གལ་ཡོག་སྐད་ཡིག་ཚུན། (ཆ་ཚད།) • ཡིག་སློར་གྱི་དོ་སློད། • རྣམ་དབྱེ་བརྒྱད། • བྱེད་མེད་ལས་ཚིག་དང་ སྐུན་ཚིག་ གི་སོར།	• སྐད་ཡིག་གི་སློའི་ བྱེད་ལས་དང་ ཕན་ཐོགས་ཚུ་ ཤེས་ཚུགས། • ཁ་སྐད་དང་སྐྲ་སྐད། ཡི་གུའི་ཏོ་སློད་དང་གཡུས་སྐད་ཀྱི་ ཁྱད་ པར་བྱེ་ཚུགས། • རྣམ་དབྱེ་བརྒྱད་ཀྱི་ དོས་འཛིན་དང་དཔེར་བཏོད་ཚུ་ རྒྱབ་ ཚུགས། • བྱེད་མེད་ལས་ཚིག་དང་ སྐུན་ཚིག་གི་སོར་ལས་ཤེས་ཚུགས།	༥༠

གནས་ཚད།	སློབ་ཚན།	དོན་ཚན།	ལས་དོན།	ཐུན་ཚད
• རྫོང་ཁའི་དཔེ་དེབ་དང་ཡིག་རིགས། ག་ཅི་ར་འབད་རུང་རྫོང་སྐད་དང་ ཆིག་གི་ གཅད་མཚམས་ཚུལ་དང་མཐུན་ཏོག་ཏོ་འབད་ ལྷག་ཚུགས། • གོ་དོན་ལེན་ནིའི་དོན་ལུ་ ཞིབ་ཞིབ་འབད་ལྷག་ནི་ གདམ་ཁ་རྐྱབ་སྟེ་ལྷག་ནི་ མིག་བཤལ་རྐྱབ་སྟེ་ལྷག་ནི་ ལྷག་སྟེ་ཆིག་དོན་བློ་ལུ་གཟུང་ནིའི་ ཐབས་ཤེས་མ་འདྲཝ་ཚུ་ ལག་ལེན་ འཐབ་ཚུགས། • ཚོམ་རིག་གི་ གོ་དོན་དང་ དབྱེ་བ་ ཕྱེད་པར་ཚུ་ ཕྱེ་ཚུགས། • ཚོམ་རིག་ཚུ་ལྷག་སྟེ་ ཚོམ་པ་པོའི་མནོ་ལུགས་དང་ འབྲི་ཐངས་ཀྱི་ཐབས་རིག་ འབྱུང་རིམ་ཀྱི་ཚོར་སྣང་ སྦྱང་ཚེད་པའི་སྐྱེད་རྣམ་ཚུ་ འབྲི་དཔྱད་ འབད་ཚུགས།	འབྲི་ཚོམ།	• སྙིར་བཏང་རོ་སྒྲིག • སྙིང་ཇེ། (རྒྱུད་བསྐུལ།) • དབུ་ཞུ་བ་རོགས་གདོང་ ཅན། (རྒྱས་བཤད།)	དོན་ཚན་འདི་སྦྱང་ཚར་ཝ་ད་ འོག་གི་གནད་དོན་ཚུ་གི་སྐོར་ ད་གོ་སྟེ་ འབྲི་སྒྲུབ་འབད་ཚུགས། • རྒྱུད་སྐུལ་གྱི་ཁྱད་རྣམ་ཚུ་འབྲི་ཚུགས། • རྒྱུད་སྐུལ་འབྲི་ཚོམ་འབྲི་ཚུགས། • རྒྱས་བཤད་ཀྱི་ཁྱད་རྣམ་སྐོར་ཤེས་ཚུགས། • རྒྱས་བཤད་འབྲི་ཚོམ་འབྲི་ཚུགས།	༣༠
• རྫོང་ཁའི་དཔེ་དེབ་དང་ཡིག་རིགས་ག་ཅི་ཨིན་རུང་རྫོང་སྐ་གཅད་མཚམས་ཆིག་ མཚམས་ཚུལ་དང་མཐུན་ཏོག་ཏོ་སྦེ་ལྷག་ཚུགས་དགོ • རྫོང་ཁའི་དཔེ་དེབ་ཚུ་ལྷག་སྟེ་བསྐྱར་ཞིབ་འབད་ཚུགས་དགོ	སྙན་ཚོམ།	• ཚོམ་གྱི་སྙིར་གཏང་རོ་སྒྲིག • ཚོམ། • དཔེ་གཏམ།	• ཚོམ་རིག་གི་གོ་དོན་དང་ཚོམ་རིག་གི་དབྱེ་བ་ཕྱེ་ཚུགས་དགོ • སྒྲ་གཅན་དང་སྐོར་གསལ་དཔྱེ་གཏམ་དང་ལྱུབ་འཇིན་ཚུ་དབྱེ་བ་ཕྱེ་སྟེ་ལག་ ལེན་འཐབ་ཚུགས་དགོ	༣༠
• གོ་དོན་ལེན་ཉིའི་དོན་ལུ་ལྷག་ཐངས་ཀྱི་ཐབས་ཤེས་མ་འདྲཝ་ཚུ་ལག་ལེན་འཐབ་ ཚུགས་དགོ། • ལྷག་ནི་ལུ་གོཿམས་འདྲིས་ཚུད་དེ་མི་ཚེའི་ནང་ལྷག་ནི་ལུ་བཅོག་ཤུགས་དང་སྤྲོ་བ་ སྐྱེད་ཚུགས་དགོ	སྲུང་དང་ གཏམ་རྒྱུད།	• སྙིར་བཏང་རོ་སྒྲིག • རི་དགས་རུ་སྤུ། • ཨང་རྐུས་ཀྱི་རོ།	• ཤེས་ཚད་དང་བསྟུན་པའི་ཚོམ་རིག་སྲུང་ཚུ་ལྷག་སྟེ་འབྲི་ཐབས་ཀྱི་རིག་རྩ་ ལ་འབྲི་དཔྱད་འབད་ཚུགས། • སྲུང་གི་ཁྱད་རྣམ་ཚུ་འབྲི་ཚུགས། • ཁྱད་རྣམ་ཚང་བའི་སྲུང་གནངར་ཚོམ་འབད་ཚུགས།	༣༠
•	རྒྱས་སྲས་ལག་ ལེན།	• འདོད་ཡོན་སྤྱང་་དཀྱིལ་ལས་ ཕུང་གཞི་སྤྱང་དཀྱིལ་ཚུན།	• ཚོས་དང་ལམ་སྲོལ་གྱི་བསམ་སྤྱོད་ཤེས་ཡོན་ལུ་བརྟེ་མཐོང་བསྐྱེད་ཚུགས། • ཚོས་སྐྱུང་ཀྱི་མིང་ཆིག་ཚུ་རྫོང་ཁའི་ནང་འབྲི་ཚུགས། • ལས་རྒྱུ་འབྲས་ལུ་ཡིད་ཆེ་བསྐྱེད་ཚུགས།	༣༠

གནས་ཚད།	སློབ་ཚན།	དོན་ཚན།	ལས་དོན།	ཉིད་ཚད
• མགོ་རྒྱུན་དང་ མགྲིགས་ཡིག་གི་ཡིག་བཟོ་སྟེམས་འགྲིགས་དང་ བཀལ་ཐངས་ ཚུ་ ཚུལ་མཐུན་འབད་ བྲི་ཚུགས། • འབྲི་ཚོམ་ཚུ་ནང་ལུ་ གནད་དོན་བཙུགས་ཐངས་དང་ བཏོད་མཚམས་ ཅིག་མཚམས་ དོན་མཚམས་ཚུ་ འབྲི་བཀོད་ལམ་ལུགས་དང་འཁྲིལ་ཏེ་ བྲི་ཚུགས། • གཞན་གྱིས་ ཚོམ་སྒྲིག་འབད་དེ་ཡོད་མི་ཚུ་ བསྐྱར་ཞིབ་དང་ དབྱེ་དཔྱད་འབད་ དེ་ རང་གི་ལྟོ་འདོད་ལྟར་ གོ་རིམ་བསྒྲིགས་ཏེ་ བཀོད་ཚུགས།	བྲི་སྙིའི་རིག་རྩལ་འབྲི་ཚོམ།	རྒྱུད་སྐྱལ་དང་རྒྱས་བཤད།	རྒྱུད་སྐྱལ་དང་རྒྱས་བཤད་འབྲི་ཚོམ་གྱི་ཁྱད་རྣམ་དང་ དབྱེ་བ་འབྲི་ཐབས་ཚུ་དུ་གོ་སྟེ་ འབྲི་སྐྱབ་འབད་ ཚུགས་དགོ།	༣༠
• ཞུ་ཡིག་ གཏང་ཡིག་ གཞན་རྒྱ་ བཀོད་རྒྱ་ སྐྱེན་ཞུ་དང་ ཁྱབ་བསྒྲགས་ གསལ་བསྒྲགས་ གསལ་བཤད་ སློག་རིག་ཡོངས་འབྲེལ་ སློག་འཕྲིན་ གཏང་ཉིལ་ སོགས་པའི་ བརྡ་འབྲེལ་གྱི་ཡིག་རིགས་ཚུ་ བྲི་ཚུགས།	བྲི་སྙིའི་རིག་རྩལ་ ཡིག་འགྲུལ།	• གཏང་ཡིག • ཞུ་ཡིག	• ཞུ་ཚིག་གི་འབྲི་བཀོད་ལུགས་འབྲི་ཚུགས། • ཁྱུད་ཚོད་ལྡན་པའི་ཞུ་ཚིག་འབྲི་ཚུགས • ལམ་ལུགས་གཙེས་ཀྱི་ཐོ་ཞུ་ཡིག་དང་གཏང་ཡིག་ འབྲི་ཚུགས།	༡༠
• སྐད་ཡིག་གི་དགོས་པ་དང་ཐབན་ཕོགས་ཁྱད་རྣམ་དང་སྐྱབ་ཚུལ་ཚུ་ཤེས་ཚུགས་དགོ • ཕྱད་རྣམ་དབྲེ་ཚུ་ཚུལ་མཐུན་ཕོག་ལག་ལེན་འཐབ་ཚུགས་དགོ	སྐད་ཡིག་དང་ཡི་ག་སློར།	• སྐད་ཡིག་གི་དགོས་པ་དང་ཐབན་ ཕོགས་ཚ་ཚད། • བྱ་ཚིག་གི་དབྱེ་བ་ལས་ཚིག་སྐྱ་ར་གྱི་ཞེ་ས་སྒྱུར་ཐབས་ཚུན། • བདག་སྒྲ། • ཚིག་ཕྱད་ཅེ་དང་ཡི་ཚུ་གི་སྐྱོར་ ཚུལ།	• སྐད་ཡིག་གི་སྤྱི་བྱེད་ལས་དང་ཐབན་ཕོགས་ཚུ་ཤེས་ཚུགས། • རྒྱལ་ཡོངས་སྐད་ཡིག་གི་ཁྱད་རྣམ་ཚུ་ཤེས་ཚུགས། • བདག་སྒྲ་དང་ཚིག་ཕྱད་ཅེ་དང་ཡི་ཚུ་གི་སྐྱོར་ལས་ཤེས་ཚུག ས།	

2. ENGLISH

Subject: English   **Class: IX**

STRAND	CHAPTER	SCOPE		Weighting
		TOPICS / SUB-TOPICS	**LEARNING OBJECTIVES**	
Reading (Reading & Literature)	Essay	The Dignity of Work- Charles Finn.	1. Evaluate the point of view of the writer on issues like right and wrong, justice and injustice, in literature. 2. Build their vocabulary and practise pronunciation skills. 3. Read and articulate personal and critical responses to fiction and non-fiction texts.	20%
		Nature is Not Always Kind – Helen Keller	1. Build their vocabulary and practise pronunciation skills. Read, understand and engage with the ideas expressed by different authors in different forms of essays.	
	Short Story	The Big Story – George Loveridge	1. Build their vocabulary and practise pronunciation skills. 2. Evaluate the point of view of the writer on issues like right and wrong, justice and injustice, in literature. 3. Utilise the features of literary texts to help them understand the ideas they encounter in the texts they are reading.	20%
		I've Got Gloria – M.E. Kerr	1. Build their vocabulary and practise pronunciation skills. 2. Evaluate the point of view of the writer on issues like right and wrong, justice and injustice, in literature. 3. Utilise the features of literary texts to help them understand the ideas they encounter in the texts they are reading.	
		The Road Not Taken – Robert Frost	1. Read and articulate personal and critical responses to fiction and non-fiction texts. 2. Utilise the features of literary texts to help them understand the ideas they encounter in the texts they are reading 3. Build their vocabulary and use the pronunciation skills to pronounce new words clearly. 4. Talk and write about major classical and modern writers, including Bhutanese writers, and their works.	

		The Highway Man – Alfred Noyes	1. Read and articulate personal and critical responses to fiction and non-fiction texts. 2. Utilise the features of literary texts to help them understand the ideas they encounter in the texts they are reading. 3. Evaluate the point of view of the writer on issues like right and wrong, justice and injustice, in literature. 4. Read, understand and engage with the ideas expressed by different authors in different forms of essays.	20%
	Poetry	I Know Why the Caged Bird Sings – Maya Angelou	1. Read and articulate personal and critical responses to fiction and non-fiction texts. 2. Talk and write about major classical and modern writers, including Bhutanese writers, and their works. 3. Utilise the features of literary texts to help them understand the ideas they encounter in the texts they are reading. 4. Evaluate the point of view of the writer on issues like right and wrong, justice and injustice, in literature.	
	Novel Weighting:	Dawa: The Story of a Stray Dog in Bhutan – Kunzang Choden	1. Read and articulate personal and critical responses to fiction and non-fiction texts. 2. Talk and write about major classical and modern writers, including Bhutanese writers, and their works. 3. Utilise the features of literary texts to help them understand the ideas they encounter in the texts they are reading. 4. Evaluate the point of view of the writer on issues like right and wrong, justice and injustice, in literature. 5. Build their vocabulary and use the pronunciation skills to pronounce new words clearly.	20%
Writing	Writing	1. Descriptive essay 2. Letter Writing	1. Use the writing strategies developed in earlier classes. 2. Write for a variety of purposes and audiences using a wider variety of forms encountered in their reading to include memoir and descriptive essay. 3. Use rhetorical devices, including antithesis, in their writing. 4. Select and use diction appropriate to the writing task. 5. Respond in writing to examination questions and homework assignments at an acceptable level.	40%

Language and Grammar	Grammar	• Use modal auxiliaries • Use indefinite pronoun • Phrasal verb • Conjunction coordinator and correlation (hardly. no sooner) Discourse markers (however, in so far as, therefore, henceforth)	1. Demonstrate a sound knowledge of the grammar that has been taught from earlier classes. 2. Use indefinite pronouns appropriately. 3. Use periodic sentences correctly. 4. Use a wider range of discourse markers correctly including "however", "in so far as", "therefore", "henceforth". 5. Use antonyms, synonyms and homonyms and homophones correctly 6. Use additional phrasal verbs correctly. 7. Use conjunction coordinators and correlatives (hardly…. when, no sooner…than) correctly.	40%
Listening & Speaking		• Argue and debate • Panel and group discussions. • Prepared Speeches. • Interview. • Role play. • Book talk and oral presentation.	1. Use the listening and speaking skills developed in earlier classes. 2. Use reading and literature texts as a source for ideas for discussion or debate. 3. Use negotiation skills to resolve diplomatically conflicts that arise among members of groups. 4. Deliver speeches incorporating literary quotations, allusions and imagery. 5. Conduct interviews to collect specific information on assigned topics or topics of their choice. 6. Speak with clear pronunciation.	20% (CA)

Subject: ENGLISH   **Class: X**

STRAND	CHAPTER	SCOPE		Weighting
		TOPICS / SUB-TOPICS	**LEARNING OBJECTIVES**	
Reading (Reading & Literature)	Essay	Toasted English (RK Narayan)	1. Compare and contrast different cultural values, traditions and beliefs, using situations encountered in the literature they are reading. 2. Respond personally and critically to fiction and non-fiction texts showing an understanding of the structural features of the different texts. 3. Pronounce new words correctly.	20%
		Progress (Alan Lightman)	1. Compare and contrast different cultural values, traditions and beliefs, using situations encountered in the literature they are reading. 2. Respond personally and critically to fiction and non-fiction texts showing an understanding of the structural features of the different texts. 3. Pronounce new words correctly	
		He-y, Come On Ou-t! (Shinichi Hoshi)	1. Compare and contrast different cultural values, traditions and beliefs, using situations encountered in the literature they are reading. 2. Respond personally and critically to fiction and non-fiction texts showing an understanding of the structural features of the different texts. 3. Pronounce new words correctly	
		Is He Living or Is He Dead? (Mark Twain)	1. Compare and contrast different cultural values, traditions and beliefs, using situations encountered in the literature they are reading. 2. Respond personally and critically to fiction and non-fiction texts showing an understanding of the structural features of the different texts. 3. Pronounce new words correctly	

	Short Story	The White Knight (Eric Nicol)	1. Read and articulate their understanding of experiences such as separation, love, compassion, loss, and spirituality using situations encountered in literature to support their positions. 2. Respond personally and critically to fiction and non-fiction texts showing an understanding of the structural features of the different texts.	20%
	Poetry	Dover Beach (Mathew Arnold)	1. Read and articulate their understanding of experiences such as separation, love, compassion, loss, and spirituality using situations encountered in literature to support their positions. 2. Compare and contrast different cultural values, traditions and beliefs, using situations encountered in the literature they are reading. 3. Respond personally and critically to fiction and non-fiction texts showing an understanding of the structural features of the different texts. 4. Talk and write about some of major classical and modern writers, including Bhutanese authors, and their works.	20%
		A Red Palm (Gary Soto)	1. Read and articulate their understanding of experiences such as separation, love, compassion, loss, and spirituality using situations encountered in literature to support their positions. 2. Compare and contrast different cultural values, traditions and beliefs, using situations encountered in the literature they are reading. 3. Respond personally and critically to fiction and non-fiction texts showing an understanding of the structural features of the different texts.	
	Novel	The Giver (Louise Lowry)	1. Read and articulate their understanding of experiences such as separation, love, compassion, loss, and spirituality using situations encountered in literature to support their positions. 2. Compare and contrast different cultural values, traditions and beliefs, using situations encountered in the literature they are reading. 3. Respond personally and critically to fiction and non-fiction texts showing an understanding of the structural features of the different texts. 4. Talk and write about some of major classical and modern writers, including Bhutanese authors, and their works.	20%

Writing	Writing	3. Expository essay 4. Letter writing	1. Use the writing strategies developed in earlier classes. 2. Write for a variety of purposes and audiences using a wider variety of forms encountered in their reading to include expository essays, letters of application and resumes. 3. Write reports on assigned and self-selected topics. 4. Take notes at meetings and prepare minutes accurately. 5. Use rhetorical devices, including irony, in the organization of their writing. 6. Respond in writing to examination questions and homework assignments at an acceptable level. 7. Distinguish the best pieces of their writing and add them to their portfolio. 8. Enjoy writing by participating in a community of writers.	40%
Language and Grammar	Grammar	1. Gerunds 2. Phrasal verbs 3. Modal auxiliaries 4. Direct-indirect speech 5. active-passive voice, 6. quantifiers (another, both, each, every, other, either, neither 7. conditional clauses.	1. Use the knowledge of grammar learned in earlier classes. 2. Use gerunds and participles appropriately. 3. Use phrasal verbs appropriately. 4. Use appropriate language in formal and informal contexts. 5. Use modal auxiliaries in increasingly complex ways.	40%
Listening & Speaking		1. Book talk 2. Debate 3. Discussions 4. Prepared Speeches 5. Extempore speeches 6. Role plays	1. Talk about major classical and modern writers and their works including Bhutanese writers. 2. Speak using correct question tag. 3. Use the appropriate protocols, including Bhutanese when introducing a speaker and addressing the chairperson at a meeting 4. Present reports orally to different audiences. 5. Ask questions and provide supportive comments after listening to oral presentations. 6. Speak with clear pronunciation.	20% (CA)

3. AGRICULTURE AND FOOD SECURITY

Subject: Agriculture and Food Security   **Class: IX**

Chapter	Scope		Weighting (%)
	Topic/Sub-topic	**Learning Objective**	
1. Introduction to Agriculture for Food and Security	1. Food and nutrition security 2. Classification of food based on their functions (energy giving food, growth promoting food, and protective food) 3. Constituents of food and nutrients (micro-nutrients and macro-nutrients) 4. Importance of physical activities	• Explain food and nutrition security • Classify food based on their functions • Distinguish micro-nutrients from macro-nutrients with examples • Write the importance of physical activities	7
2. Introduction to Bhutanese Agriculture	1. Agriculture and its importance 2. Agriculture in Bhutan 3. Agro-ecological Zones (AEZ) of Bhutan 4. Linkage between AEZ	• Describe agriculture • Explain the importance of agriculture • Describe agro-ecological zones • Identify crops and vegetables grown in different AEZ	7
3. Growing of Vegetables I	1. Vegetables and their importance 2. Procedure for growing vegetable crops 3. Common pests and diseases of vegetable crops 4. Cultivation practices of vegetables	• Explain the types of vegetables and their importance • Elaborate the procedures of growing vegetable crops • Identify common vegetables pests and diseases; suggest measures to overcome the diseases • State the cultivation practices of vegetables (cabbage, peas, mustard green and potato)	10
4. Growing of Fruits I	1. Categories of fruits (pome, stone, walnut and strawberry) 2. Conditions required for the growth of different categories of fruits 3. Procedure and management of fruits	• Categorise fruits into groups • Mention the conditions required for the growth of different categories of fruits • Design procedures involved in the growth of fruits (layout plan till harvest)	8

5. Starting a Poultry Farm	1. Poultry and poultry breeds of Bhutan 2. Intensive production system 3. Managing the artificial brooding 4. Management of poultry 5. Diseases, causes and prevention 6. Hygiene and biosecurity 7. Pecking and cannibalism 8. Improvement of local chicken 9. Enhancement of poultry production 10. Challenges and scope of poultry farm in Bhutan	• Mention the poultry breeds found in Bhutan • Explain intensive production system • Differentiate between native and exotic chicken breeds • Identify the diseases, their causes and prevention • Suggest ways to improve local chicken and poultry production • Explain the challenges of poultry farm in Bhutan	**9**
6. Starting a Pig Farm	1. Pig breeds in Bhutan; exotic and native 2. Diseases of pigs, symptoms, control and prevention 3. General biosecurity measures and hygiene	• Classify the pig breeds found in Bhutan • Identify the common diseases of pigs, symptoms, control measures and prevention • Outline general biosecurity measures and hygiene associated with pig farming	**8**
7. Forest for Agriculture	1. Forest and its importance 2. Agro-forestry 3. Benefits of agro-forestry 4. Management of forest nursery	• Explain agro-forestry • Describe the benefits of agro-forestry • Outline the processes involved in the forest nursery management	**9**
8. Establishing an Entrepreneurship in Agriculture	1. Concept of enterprise and its entrepreneurship in agriculture for food security 2. Procedure for starting a business or enterprise in agriculture	• Explain the concept of enterprise and entrepreneurship in agriculture for food security • Outline procedure for starting a business or enterprise in agriculture	**7**

Subject: Agriculture and Food Security   **Class X**

Chapter	Scope		Weighting (%
	Topic/Sub-topic	**Learning Objective**	
1. Introduction to Landscaping and Ornamental Horticulture	1. Concept of ornamental horticulture 2. Floriculture (*Carnation, Gladiolus, Rose, Hydrangea, Lily, Petunia, Begonias, Azaleas)*	• Explain the concept of ornamental horticulture • Establish the floriculture enterprise to promote the art of landscape design and floriculture business	**9**
2. Medicinal, Aromatic plants and Spices	1. Medicinal and aromatic plants in Bhutan (MAPS) (Ruta, Manu, Goned, Gurgum, Cordyceps, Lemon grass, Ginger, Large cardamom) 2. MAPS cultivation	• Name MAPS found in Bhutan • Explain the health benefits of MAPS • Describe the procedures of MAPS cultivation	**10**
3. Introduction to Post-harvest Technology	1. Developmental stages of fruits and vegetables 2. Primary and secondary causes for the deterioration of fruits and vegetables 3. Harvesting of fruits and vegetables with appropriate technology 4. Storage and packaging of fruits and vegetables 5. Management of post-harvest pests and diseases 6. Integrated management of post-harvest pests and diseases	• Outline the developmental stages of fruits and vegetables • Explain the main causes of deterioration in fruits and vegetables • Differentiate between manual and mechanical harvesting methods of fruits and vegetables • Compare conventional and high investment storage methods of fruits and vegetables • Explain the packaging methods of fruits and vegetables • Identify the factors influencing post-harvest pests and diseases • Mention ways to manage post-harvest pests and diseases	**8**
4. Growing of Vegetables II	• Procedure of growing vegetables (Tomato, Chilli, Carrot, Onion, Asparagus)	• Elaborate the procedures of growing vegetables (Tomato, Chilli, Carrot, Onion, Asparagus)	**10**
5. Growing of Fruits II	• Conditions and procedures for growing fruits (Citrus, Passion fruit, Mango, Banana, Arecanut, Grapes)	• Mention the procedures of growing fruits (Citrus, Passion fruit, Mango, Banana, Arecanut, Grapes) • Explain the conditions necessary for growing aforementioned fruits	**10**

6. Starting a Dairy Farm I	• Common cattle in Bhutan's dairy farm (Jersey, Brown Swiss, Holstein Friesian, Seri, Yak) • Care for lactating dairy cow • Management of cow and calf during and after parturition • Dairy housing • Common infectious diseases of livestock (Anthrax, Black quarter, Foot mouth disease, Haemorrhagic septicemia, Mastitis and Ecto-parasitic diseases)	• Identify the cattle breeds found in Bhutan • Describe the ways to care lactating dairy cow • Explain ways to manage cow and calf during and after parturition • List common infectious diseases and symptoms of livestock • Suggest measures to control livestock diseases	**9**
7. Managing an Agriculture Farm	Farm management and its aspects ✓ Farm business records and account ✓ A cash flow budget ✓ Other farm budgeting techniques ✓ Features of successful farm management ✓ Efficiency in agriculture production ✓ Writing agriculture business proposal	• Explain farm management • Explain the aspects of farm management • Write agriculture business proposal	**9**

4. BIOLOGY

Subject: BIOLOGY   **Class IX**

Chapter	Scope		Weighting (%)
	Topic/Sub-topic	**Learning Objective**	
1. The Cell	1. The cell a. Cell theory b. Cell structure c. Components of cell d. Plant cell and animal cell e. Cell structures and their adaptation to functions f. Techniques for the preparation of temporary slides. g. Cell functions related to life process	• Describe the basic structure of an animal cell and plant cell as seen under a microscope. • Relate the structures of cells to their functions. • Explain the need for staining. • Explain how different cells (e.g. root hair cells, sperm cells) are adapted to their functions. • Relate cells and cell function to life processes in a variety of organisms.	**5**
2. Green Plants	1. Photosynthesis a. What is photosynthesis? b. Chloroplast-Food producer of the cell c. Factors affecting photosynthesis d. Importance of photosynthesis	• Explain photosynthesis • Describe the structure of chloroplast. • List the factors affecting photosynthesis • List the importance of photosynthesis.	
	2. Transpiration a. What is transpiration? b. Kinds of transpiration c. Mechanism of stomatal opening and closing. d. Significance of transpiration e. Factors affecting transpiration f. Significance of transpiration g. Adaptation of plants to reduce excessive transpiration.	• Explain transpiration in plants. • List the factors affecting transpiration • Explain the mechanism of stomatal opening and closing • Describe the significance of transpiration • Explain the mechanism of plant adaptation to reduce transpiration.	
	3. Transportation system in plants a. Transportation in plants i. Transport of water and minerals ii. Transportation of food and other substances (translocation)	• Explain the transportation food and water within the plants required for growth and reproduction. • Describe the methods of mineral or salt adsorption by plants.	**14**

	b. Adsorption of mineral salts
	   i. Passive absorption
	   ii. Active absorption		

	4. Plant hormones
	   a. Auxins
	   b. Cytokinins
	   c. Gibberellins
	   d. Abscisic Acid
	   e. Ethylene
		• Name the plant hormones.
		• Describe the roles of plant hormones in the growth and development of plants.	

3. Human Digestive System	1. Alimentary canal and accessory organs
	   a. Mouth
	   b. Teeth
	   c. Tongue
	   d. Salivary glands
	   e. Pharynx
	   f. Esophagus
	   g. Stomach
	   h. Small intestine
	   i. Liver and gall bladder
	   j. Pancreas
	   k. Large intestine
		• Identify the human digestive organs.
		
		• State the functions of each human digestive organs.
		
		• Explain the processes of digestion, including the adaptations of digestive organs to their functions.
			5

	2. Physiology of human digestive system
	   a. Ingestion
	   b. Secretion
	   c. Mixing and movement
	   d. Digestion
	   e. Absorption
	   f. Egestion		

4. Human Circulatory System	1. Components of cardio vascular system (Heart)
	   a. Chambers of the heart
	   b. Valves present in the heart
	   c. Blood vessels entering and leaving the heart
	
	2. Blood vessels
	   a. Arteries and arterioles
	   b. Capillaries
	   c. Veins and venule
		• Describe the basic structure of the heart, veins, arteries and capillaries.
		• Differentiate between systemic and pulmonary circulation.
		• Describe lymphatic circulation .
			4

	3. Physiology of cardiovascular system
	   a. Circulation of blood (systemic circulation and pulmonary circulation
	   b. The lymphatic circulation		

5. Human Respiratory System	1. Respiratory organs and their functions 2. Lungs 3. Breathing cycle 4. Gaseous exchange a. Transport of oxygen and carbon dioxide	• Explain that respiration is a chemical reaction that releases energy from glucose using oxygen. • Describe the basic structure of the breathing system (lungs, diaphragm, bronchi and alveoli) and its role in providing cells with oxygen for respiration.	**4**

6. Human Nervous System	1. Nervous system
	2. Neuron –the unit of nervous system
	3. Nerve and nerve impulse
	4. The central nervous system
	   a. The brain
	   b. The spinal cord
	5. Peripheral nervous system
	   a. Somatic nervous system
	   b. Autonomic nervous
		• Describe the structure and functions of the nervous system.
		• Explain the types of nervous system.
		• Explain the role of neurons in transmitting electrochemical impulses.
		• Justify the presences of myelin sheath in some neurons.
		• Describe the two major division of the nervous system
			7

7. Human Endocrine System	1. What are hormones?
	2. Major endocrine glands
	   a. Pituitary glands
	   b. Thyroid glands
	   c. Adrenal glands
	   d. Pancreas
	3. Hormones and their control of menstrual cycle
		• Name the major endocrine glands and the hormones they secrete.
		• Describe the role of the hormones secreted by major endocrine glands.
		• Explain how gonadotropins regulate the menstrual cycle.
			6

8. Variations, Genetics and Evolution	1. Variations in organisms
	   a. Causes of variations (Genetic variations, variation due to environment)
	2. Genes and hormones
	   a. Genes
	   b. Chromosome
	   c. Nucleic acids (DNA, RNA)
	3. Genetic engineering
	   a. What is genetic engineering
	   b. Ethical safety concerns
	4. Cloning
	   a. What is cloning
		• Describe that variation arises from genetic causes, environmental causes, and a combination of both.
		• Explain the basic principles of cloning and genetic engineering and consider the moral and ethical implications of these procedures.
		• Evaluate the implications of reduced variation within a population.
		• Define gene as a section of DNA.
		• Describe the relationship between chromosomes and genes.
		• State the theories of evolution.
			10

	b. Methods of cloning 5. Plant tissue culture or micro propagation 6. Evolution a. What is evolution? b. Evidences of evolution c. Theory of evolution	• Explain that the fossil record is one of the evidences for evolution.	
9. Health and Harmful Substances	1. Homeostasis and body control system a. Homeostasis b. Positive and negative feedback c. Maintenance of a constant body temperature d. Defense mechanism of our body 2. Harmful substances a. Drugs b. Effects of substance abuse c. Effects of solvents	• Explain that it is important for human body to maintain a constant internal environment. • Describe how humans maintain a constant body temperature. • Describe the defense mechanisms of our body, including the role of the skin, blood and mucous membranes of the respiratory tract. • Explain the effect of solvents, alcohol, tobacco and other drugs on our body functions.	**5**

10. Organisms in its Environment	1. Interaction in its environment
	 a. Ecological interaction
	  i. Predation and prey relationship
	  ii. Competition
	  iii. Symbiosis
	
	 b. Micro-organism interaction
	  i. Decomposition
		• Explain, using ideas of interdependence, competition and predation, about the distribution and relative abundance of organisms in a habitat.
		• Explain how microbes and other organisms are involved in the decomposition of organic materials
			5

Chapter	Scope		Weighting (%)
	Topic/Sub-topic	**Learning Objective**	

1. The Cell	1. Types of cell
	  a. Eukaryotic (exclude structure of eukaryotic cell and table 1.1)
	  b. Prokaryotic-Parts of prokaryotic cell
	2. In and out of the cell
	  a. Cell membrane or plasma membrane (exclude the structure of cell membrane)
	  b. Diffusion
	  c. Osmosis
	  d. Tonicity
	  e. Active transport
	3. Cell division
	  a. Mitosis (stages of mitosis and significance of mitosis)
	  b. Meiosis (stages of meiosis and significance of meiosis)
		• Describe the differences between the structures of a prokaryotic cell and a eukaryotic cell.
		• Explain how substances enter and leave cells through the cell membrane by diffusion, osmosis and active transport.
		• Explain division of cells by mitosis during growth, and by meiosis to produce gametes.
			7

2. Green Plants	5. Photosynthesis
	  a. Light reaction
	  b. Dark reaction
	  c. Factors affecting the rate of photosynthesis
	  d. Blackman's law of limiting factors
	  e. Utilization of photosynthesis products
		• Explain the phases of photosynthesis.
		• Explain that the rate of photosynthesis is affected by light intensity, carbon dioxide concentration or temperature (Law of limiting factor)
		• Explain the utilisation of the products of photosynthesis by plants.
			10

	6. Transportation system in plants
	  a. Path of translocation of organic solutes
	    i. Xylem
	    ii. Phloem
	  b. Mechanism of translocation through phloem
	    i. The pressure flow hypothesis
	  c. Mineral nutrients uptake in plants
	    i. Ion exchange
	    ii. Mass flow
	    iii. Donnan Equilibrium
		• Describe the structure of xylem and phloem as the conducting tissues.
		• Explain how minerals and food synthesized in the leaves are transported to other parts of the plants.	

	7. Plant Hormones
	  a. The interaction of plant hormones
	  b. Commercial use of plant hormones
		• Explain that plant hormones are used to control plant growth and development, including the	

		plant hormones used commercially (rooting and grafting).

	1. Digestion
	  a. Chemical digestion
	    i. Mouth
	    ii. Stomach
	    iii. Small intestine
	    iv. Large intestine
	  b. Absorption of food
	  c. Assimilation of food
		• Explain the role of enzymes, stomach acid and bile in the process of digestion.
		• Describe the absorption and assimilation of food in the alimentary canal.	

	2. Blood and circulation
	  a. Blood and its composition
	    i. Plasma
	    ii. Functions of blood plasma
	    iii. Cellular components
	    iv. Red blood cells
	    v. Production of red blood cells
	    vi. White blood cells
	    vii. Production of white blood cells
	    viii. Blood platelets (Thrombocytes)
	    ix. Clotting of blood
	    x. Blood grouping
	  b. Exchange of substances between capillaries and tissue
		• Describe the composition and functions of blood.
		• Explain the exchange of substances between capillaries and tissues.
		• Outline the process of blood clotting.
		• Explain ABO blood grouping.
		• Outline the possibility of blood transfusion based on ABO blood grouping.	

	3. Excretion
	  a. Human kidney
	    i. Internal structure of kidney
	    ii. The kidney tubule or nephron
	    iii. Blood supply to the kidney tubule
	  b. Urine formation
	    i. Ultrafiltration
	    ii. Selective reabsorption
	    iii. Tubular secretion
	  c. Composition of urine
	  d. Osmoregulation
		• Describe removal of waste products of body functions by the kidneys.
		
		• Explain regulation of the water content of the body by the kidneys	

3. Human as Organisms	8. Respiration
	   a. Cellular respiration
	     i. Mechanism of aerobic respiration (Glycolysis and The Krebs cycle and electron transfer pathway)
	     ii. Mechanism of anaerobic respiration
	   b. Oxygen debt
		• Categorise respiration as aerobic respiration or anaerobic respiration, depending on the availability of oxygen.
		• Explain the process of aerobic and anaerobic respiration.
		• Explain how an 'oxygen debt' occurs in muscle during vigorous exercise.
			13

4. Response and Coordination in Human	1. Nervous system
	   a. Types of neurons
	   b. Receptors and effectors
	   c. Reflexes
	     i. Types of reflexes
	     ii. Pavlov's experiment on dog
	   d. Nervous pathway in reflexes
		• List the types of neurons with their function.
		• Describe the role of receptors and effectors
		• Explain the types of reflexes and Pavlov's experiments
		• Explain the rapid responses to dangerous stimuli by the reflex arc and the relay neuron.	

	2. Hormones
	   a. Adrenaline
	     i. Effects of adrenaline
	   b. Sex hormones
	   c. Medical uses of hormones
	     i. Home therapy
	     ii. Antidiabetic drugs
	     iii. Thyroid drugs
	     iv. Steroids hormones
	     v. Other uses of sex hormones
		• Explain the way in which hormonal control occurs including the effects of insulin, thyroxin, adrenalin and sex hormones.
		• Describe some medical uses of hormones, including the treatment of diabetes and thyroid dysfunction.
		• Outline the medical use of sex horomes.	

	3. Reproductive system
	   a. Birth control
	     i. Contraception and pregnancy prevention (Hormonal methods, and implications of hormonal birth control methods)
	   b. Infertility treatment
		• Explain the uses of hormones in controlling fertility (oral contraceptives inhibiting FSH production and giving FSH as a fertility drug).	**10**

	1. Micro-organisms
	   a. Bacteria
	     i. Size and shapes
	     ii. Reproduction in bacteria
		5. Describe the basic structure of bacteria, virus and fungi.
		6. Relate their structures to their function.	

5. Micro-organism, Diseases and Drugs	iii. Importance of bacteria
	b. Virus
	   i. Characteristics of virus
	   ii. Structure of Virus
	   iii. Viral reproduction
	   iv. Types of virus
	c. Fungi
	   i. Structure of fungi
	   ii. Reproduction in fungi
	   iii. Importance of fungi
			7

	2. Disease and protection against infection
	a. Disease causing micro organisms
	   i. Bacterial disease in human
	   ii. Viral disease in human
	   iii. Fungal diseases in human
	b. Immunity and immune system
	   i. Types of immunity
	   ii. Vaccination and immunization
		• List examples of pathogens that cause bacterial, viral and fungal diseases.
		• Differentiate between innate and inborn immunity.
		• Evaluate the protection by vaccination from contracting infectious disease.	

	1. Variation
	a. Types of genetic variation
	   i. Continuous variation
	   ii. Discontinuous variation
	b. Causes of genetic variation
	   i. Mutation
	   ii. Sexual reproduction
	      • Independent assortment in meiosis
	       Crossing over in meiosis
	      • Random fertilization
	   iii. Recombination
	   iv. Hybridization
		• Explain that sexual reproduction is a source of genetic variation, while asexual reproduction produces clones.
		• List the factors that cause genetic variation.	

6. Variation, Inheritance and Evolution	2. Inheritance
	   a. Chromosomes-the carrier of heredity
	   b. Genes and their alleles
	   c. Mendel's experiment
	   d. Genetic cross
	      i. monohybrid cross
	   e. Sex-linked inheritance
		• Define genes and alleles.
		• Describe the mechanism of monohybrid inheritance, where there are dominant and recessive alleles.
		• Explain the mechanisms by which sex-linked diseases are inherited.
			12

	3. Deoxyribonuleic acid (DNA) a. Structure of DNA	• Describe the structure of DNA and its functions	

	4. Evolution
	   a. Types of species
	   b. Hardy-Weinberg Law
	   c. Factors responsible for speciation (mutation, natural selection, genetic drift, isolation of species and migration)
		• Explain that variation and selection may lead to evolution or to extinction.
		• Explain the two types of species.
		• Discuss the mechanisms of speciation
		• Outline the genetic equilibrium based on Hardy-Weinberg Law
		• List the factors responsible for speciation	

7. Living things in their Environment	1. Ecosystem
	   a. Components of ecosystem
	      i. Biotic components
	      ii. Abiotic components
	   b. Food chain
	      i. Grazing food chain
	      ii. Detritus food chain
	   c. Ecological interdependence
		d. Explain the components of ecosystem.
		e. Describe the types of food chain.
		f. Discuss the types of interactions.
		g. Explain that a change in an ecosystem leads to competition (intra and inter) for food and can lead to the extinction of a species.
			6

	2. Biodiversity and sustainability
	   a. Types of biodiversity
	   b. Bhutan's biodiversity
	   c. Significance of biodiversity
	   d. Sustainability of biodiversity
	   e. In-situ conservation strategies
	   f. Ex-situ conservation strategies
	   g. The Bhutan trust fund for environment conservation (BTFEC)
	   h. Biodiversity acts and policies for conservation in Bhutan.
		• Explain the types of biodiversity.
		• Outline the significance of biodiversity.
		• Describe Bhutan's biodiversity.
		• List the sustainability efforts of biodiversity preservation.	

5. CHEMISTRY

Subject: Chemistry   **Class: IX**

STRAND	CHAPTER	SCOPE		Weighting
		TOPIC/SUB-TOPIC	**LEARNING OBJECTIVES**	
Material and their properties.	**The Periodic Table**	**Modern Periodic Table:** • **Characteristics of Periods** • **Characteristics of Groups** • **Short Description of the Modern Periodic Table**	✓ Explain that the Periodic Table shows all the elements, arranged in order of ascending atomic number. ✓ Mention characteristics of Periods and Groups ✓ Identify that each element has a specific number of protons in the nucleus.	**15%**
		Trends in the Modern Periodic Table: • Valence Electron • Atomic Size • Metallic Character • Ionization Enthalpy or Ionization Energy • Electron Affinity • Electronegativity	✓ Explain the connection between the arrangement of outer electrons and the position of an element in the Periodic Table and predict the group of the given elements. ✓ Explain that elements in the same group of the Periodic Table have similar properties and justify with reasons. ✓ Explain periodic properties and their variations across the period and down the group.	
		Group -1 Elements -The Alkali Metals: Variation in Properties of Alkali Metals down the Group: • Chemical Properties **Group -18 Elements -The Noble Gases:** • Periodic properties of Noble Gases	✓ Describe the reactions of the alkali metals, Li, Na and K with water, oxygen and acids and write balanced chemical equations for each reaction. ✓ Investigate the reactions of the alkali metals with water, oxygen and acids to describe the trends in reactivity as the order in group descends. ✓ Explain the changes in physical properties of the Noble Gases as the order in group descends.	

Chemical Bonding	**Introduction**
	Duplet Rule
	Octet Rule
	Chemical Bond
	Types of chemical bond:
	    • Formation of Cation and Anion
	Electrovalent or Ionic bond:
	    • Formation of Sodium Chloride(NaCl)
	General Properties of Ionic Compounds
	Covalent Bond:
	    • Types of Covalent Bonds
	Characteristics of Covalent Compounds
		✓ Explain duplet and octet rules.
		✓ Define chemical bond.
		✓ State different types of chemical bonds.
		✓ Explain the formation of ions when atoms gain or lose electrons to form ionic compounds.
		✓ Explain the formation of NaCl.
		✓ Explain that the giant ionic lattices are held together by the attraction between oppositely charged ions.
		✓ Define covalent bond.
		✓ State different types of covalent bond.
		✓ Explain formation of covalent bonds when atoms share electrons.
		✓ Explain that substances which have covalent bonding can be elements (e.g. H_2, O_2, N_2, C) or compounds (e.g. CH_4, CO_2, SiO_2).
		✓ Describe that substances with covalent bonds can form simple molecular structures or giant
			15%

Reactivity of Metals	**Properties of Metals and Non-metals**
	
	Activity Series of Metals:
	  Reaction of Metals with Air
	  Reaction of Metals with Water
	  Reaction of Metals with Acids
	  Uses of Activity Series
		✓ State and explain the properties of metals and non-metals.
		✓ Describe using balanced chemical equations, the reactions of common metals (e.g. Ca, Mg, Zn, Fe,Pb, Cu) with acids, oxygen and water.
		✓ Construct a reactivity series for metals (e.g. Ca, Mg, Zn, Fe, Pb, Cu) by using the knowledge of the reactions of these metals with acids, water and oxygen.
			10%

Chemical Reactions, Conservation of Mass and Stoichiometry	**Chemical Equation:** • Types of Chemical Equations • Rules for Writing Chemical Equations • Steps for Balancing Chemical Equations • Significance of a Chemical Equations • Limitations of a Chemical Equations **Stoichiometry and Stoichiometric Calculations** **Law of Conservation of Mass**	✓ Represent chemical reactions by balanced symbol equations to justify that mass are conserved in all chemical reactions. ✓ State and explain the law of conservation of mass.	**10%**
Rate of Reaction and Energy Transfer	**Introduction** **Slow and Fast Reaction Collision Theory** **Rate of a Chemical Reaction:** Rate of Reaction in Terms of Concentration of the Reactant Rate of Reaction in Terms of Concentration of the Product **Factors Affecting the Rate of Chemical Reactions** **Heat of Reaction** **Thermochemical Equation:** Exothermic and Endothermic Reaction	✓ Give examples of different chemical reactions where there is a great variation in the rates at which these reactions take place. ✓ Explain collision theory ✓ Explain how the rate of reaction vary with change in concentration of reactant and product. ✓ Describe alteration of the rates of reactions by varying temperature or concentration, or by changing the surface area of a solid reactant, or by adding a catalyst. ✓ Define heat of a reaction. ✓ Classify reactions as exothermic reaction or endothermic reaction depending on the temperature change that takes place during the course of the reaction	**12%**

Green Chemistry	**Introduction** **Nitrogen Cycle:** • Steps Involved in Nitrogen Cycle **Nitrogen fixation:** • Denitrification • Nitrification • Importance of Converting Nitrogen to Ammonia for Agriculture **Fertilizers:** • Sources of Fertilizers • Example of Nitrogenous Fertilizers • Uses of Fertilizers • Environmental Consequences of Overuse of Fertilizes **Carbon Cycle:** • Weathering • Role of Carbon Cycle in Maintaining the Atmosphere Composition **Global Warming:** Natural Causes of Global Warming Man-made Causes of Global Warming Effect of Global Warming	✓ Draw a schematic diagram of a nitrogen cycle. ✓ Describe the different parts of the nitrogen cycle. ✓ Explain the importance of converting nitrogen to ammonia for agriculture. ✓ Explain the manufacture of nitrogenous fertilizers and their effect on plant growth. ✓ Explain the environmental consequences of the over-use of chemical fertilizers ✓ Describe that the Earth's atmosphere and oceans have changed over time. ✓ Describe the role of carbon cycle in maintaining the atmospheric composition. ✓ Explain that the burning of fossil fuels can upset the balance of the carbon cycle resulting to global climate change. State few man-made and natural causes of global warming.	**15%**	

| Organic Chemistry | **Introduction**
Modern Definition of Organic Compounds:
  • Reasons for Existence of Large Number of Organic Compounds
Hydrocarbons
Classifications of Hydrocarbons

Nomenclature of Organic Compounds
Alkanes
Isomerism in Alkanes
Methane:
  • Preparation of Methane
  • Physical Properties of Methane
  • Chemical Properties of Methane

Ethane:
  • Preparation of Ethane
  • Physical Properties of Ethane
  • Chemical Properties of Ethane

Unsaturated Hydrocarbons
Alkenes
Isomerism in Alkenes
Ethene :
  • Preparation of Ethene
  • Physical Properties of Ethene
  • Chemical Properties of Ethene

 Alkynes
Isomerism in Alkynes
Ethyne: | ✓ Define catenation and explain how this property of carbon leads to the formation of large number of organic compounds.
✓ Define hydrocarbons.
✓ Explain that alkanes are saturated hydrocarbons, alkenes and alkynes are unsaturated hydrocarbons.
✓ Apply the general formula for alkanes (C_nH_{2n+2}), alkenes (C_nH_{2n}) and alkynes (C_nH_{2n-2}).
✓ Apply the IUPAC rules to the nomenclature of alkanes, alkenes and alkynes.
✓ Explain that alkanes are saturated hydrocarbons.
✓ Apply the general formula for alkanes (C_nH_{2n+2}).
✓ Draw and name structural isomers for simple alkanes.
✓ Explain the laboratory preparation and chemical properties of methane.
✓ Explain the laboratory preparation and chemical properties of ethane.
✓ Explain that alkenes and alkynes are unsaturated hydrocarbons.

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✓ Apply the general formula for alkenes (C_nH_{2n}).
✓ Draw and name structural isomers for simple alkenes.
✓ Explain the laboratory preparation and chemical properties of ethane.

✓ Apply the general formula for alkynes (C_nH_{2n-2}).
✓ Draw and name structural isomers for simple alkynes
✓ Explain the laboratory preparation and chemical properties of ethyne.

✓ State some uses of addition polymers e.g. polyethene and polyvinylchloride (PVC). | **23%** |

		Preparation of Ethyne Physical Properties of Ethyne Chemical Properties of Ethyne **Polymers:** Classification of Polymers Polyethylene or Polyethene Formation Polyvinyl Chloride Uses of Polymers and Environmental Hazards Caused by Polymers.	✓ State the environmental hazards caused by waste polymers. State a number of measures to prevent environmental hazards caused by waste polymers e.g. how waste polymers can be processed, the development of biodegradable plastics and the removal of toxic products during the disposal of halogenated plastics (e.g. PVC).	

Subject: CHEMISTRY   **Class: X**

STRAND	CHAPTER	SCOPE		Weighting
		TOPIC/SUB-TOPIC	**LEARNING OBJECTIVES**	
PHYSICAL PROCESS	**1.Gas laws**	**1.1 Introduction: Gas Law** **1.2 Gas Laws:** 1.2.1 Boyle's law: Pressure-volume relationship 1.2.2 Charles' law: Pressure-volume relationship 1.2.3 Avogadro's law Gas equation (combining Boyle's & Charles' law) 1.2.5 Ideal gas equation	• State Boyle's Law, Avogadro's Law and Charles' Law. • Derive gas law equations. • Apply gas law equations to solve numerical problems. • Use the ideal gas equation $pV = nRT$ and $pV=nRT$ in numerical problems.	12%
	2.The mole concept and stoichiometry	**2.1 Introduction** **2.2 Relative atomic mass and Relative molecular mass, Avogadro's number & Mole** 2.2.1 Relative atomic mass 2.2.2 Gram atomic mass 2.2.3 Relative molecular mass 2.2.4 Avogadro's number 2.2.5 Mole concept **2.3 Percentage composition, empirical formula and molecular** 2.3.1 % composition 2.3.2 Empirical formula 2.3.3 Molecular Formula	• Explain that the quantity of one mole is set by defining one mole of carbon 12 atoms to have a mass of exactly 12 grams. • Define the term relative atomic mass (Ar), relative molecular mass (Mr) and relative formula mass (for ionic compounds). • Explain the concept of a mole as applied to electrons, atoms, molecules, ions, formulae and equations. • Explain the Avogadro's constant as the number of particles per mole (6.02×10^{23} mol-1).	17%

		2.3.4 Differences between Empirical formula, Molecular Formula 2.4**Calculation based on chemical equations** 2.4.1 Calculation based on chemical equations	• Calculate empirical formula and molecular formula from composition by mass and percentage composition data. • Compare Empirical formula and molecular formula. • Solve numerical problems based on chemical equation	
3.Metallury		**3.3Electrolysis** 3.3.1Types of conductor 3.3.2 Electrolytic cell or Voltameter 3.3.3 Electron transfer process-oxidation and reduction 3.3.4 Dissociation or ionization of the electrolyte 3.3.5Discharge of ions at the electrodes 3.3.6 Electrolysis of concentrated sodium chloride solution	• Compare the conductivity electrolytic conductor with metallic conductor. • Explain electrolysis. • Describe the purification and recycling of metal by electrolysis. • Explain electrolysis of concentrated sodium chloride solution.	17%
	4.Halogens	**4.1 Introduction** **4.2 Basic information of halogens** 4.2.1 Occurrence and source 4.2.2 Electron configuration 4.2.3 Safety and storage of elemental halogens **4.3General Properties** 4.3.1 Nuclear charge and effective nuclear charge 4.3.2 Periodic properties of halogens	• State the physical properties of the halogens (e.g. m.p.s and b.p.s) and the changes in these properties as the order in group descends. • Describe the reactions of Group 17 elements Cl_2, Br_2 and I_2 with halide ions in aqueous solution ($Cl-$, $Br-$, $I-$).	10%

		4.3.3 Physical properties	• Describe the trends in reactivity of the reactions of Group 17 elements Cl_2, Br_2 and I_2 with halide.	
		4.3.4 Chemical properties		
		4.4 Uses of halogens		
		4.4.1 Fluorine		
		4.4.2 Chlorine	• Ions in aqueous solution as order in group descends to predict the reactions of fluorine.	
		4.4.3 Bromine		
		4.4.4 Iodine		
		4.4.5 Astatine	• State the common uses of some of the halogens.	
		5.1 Introduction		
		5.2 Electron configuration and position in periodic table	• Justify the position of transition elements in the periodic table.	
		5.2.1 Electron configuration in s p d f orbital notation		
		5.2.2 Position in a periodic table	• Write electronic configuration of some common transition elements in s p d f notation.	
	5. Transition elements	**5.3 Characteristics of transition elements**		10%
		5.4 d-block elements of group 11 and the uses of transition elements	• Describe the similarities among transition elements and describe the characteristic properties of their compounds.	
		5.4.1 Similarities among copper, silver & gold		
		5.4.2 Similarities of group 11 elements with other transition elements	• State some uses of transition elements.	
		5.4.3 Reaction involving transition elements		
		5.4.4 Uses of transition elements		

	6. Chemical energetics	**6.1 Introduction** **6.2 Energy change in chemical reactions**	• Explain that energy transfer is involved in making and breaking of chemical bonds in chemical reactions. • Classify reactions as exothermic reaction and endothermic reaction.	**10%**
	7. Alcohols	**7.1 Introduction** **7.2 Alcohol-structure, classes and nomenclature** 7.2.1 Homologous series and functional group 7.2.2 Alcohol -hydroxy derivate of alkane 7.2.3Structural representation 7.2.4Classification 7.2.5 Nomenclature **7.3 Properties of alcohol** 7.3.1Physical properties 7.3.2 Chemical properties of alcohol **7.4 Denatured alcohol or methylated spirit** 7.4.1 Spurious liquor or illicit alcohol 7.4.2 Identification **7.5 Preparation and uses of ethanol** 7.5.1Ethanol from starch by fermentation 7.5.2 Ethanol from ethene by hydration 7.5.3 Ethanol from molasses- commercial production 7.5.4 Uses of ethanol **7.6 Ethanol and its impacts**	• Identify the functional group present in alcohols. • Name the first three alcohols, methanol, ethanol and propanol, in the homologous series of alcohols. • Derive alcohols from its corresponding alkane. • Differentiate the classes of alcohol based on the number of –OH bonded to it. • Differentiate the classes of alcohol based on number of –OH bonded to it. • Describe industrial manufacture of ethanol by fermentation and by the reaction of ethene with steam. • Explain the principles of manufacture of alcohol in the distilleries.	**15%**

| | | 7.6.1 Impact on environment

7.6.2 Impact to economy, society and Health | • Describe the general properties of alcohols.
• Compare the economic and environmental advantages and disadvantages of production of alcohol.

• State the uses of ethanol e.g. in alcoholic drinks, as a bio-fuel and as a solvent in methylated spirits.
• Describe the social and health issues of drinking alcohol. | |
| | | | | |

6. PHYSICS

Subject: Physics **Class: IX**

Chapter	Scope		Weighting
	Topics/Sub-Topic &	**Learning Objectives**	
1. Force and Motion	**3. Force and Acceleration** A. *Speed and Velocity* B. *Graphical representation of distance-time graphs*	✓ State the differences between speed and velocity. ✓ Explain distance, time and speed graphically. ✓ Define acceleration	**16%**
	4. Momentum A. *Balanced and unbalanced forces. (**Exclude the activity 1.4**)* B. *Momentum of a body* C. *Equations of linear motions (**Include only the equation of motion without derivation to solve the simple numerical problems**)*	✓ Explain momentum and state its effect on vehicle stopping distances. ✓ Explain that balanced forces do not alter the velocity of a moving object. ✓ Explain that mass is the property of a body which resists change in Motion. ✓ Apply of equation of motions to simple numerical problems.	
	5. Newton's Laws of Motion i. *Newton's first law of motion.* ii. *Newton's second law of motion.* **iii.** *Newton's third law of motion*	✓ explain Newton's first law of motion. ✓ Derive the equation of Newton's second law of motion. ✓ Use F=ma to solve simple numerical problems. ✓ Explain Newton's third law of motion. ✓ explain the applications of Newton's laws of motion.	
2 . P	**1. Pressure in Fluid.**	✓ Define pressure.	**15%**

		A. *Pressure inside a liquid* B. *Pressure at a point inside a liquid.* C. *Atmospheric pressure and weather forecasting* (***Include concept of atmospheric pressure only***)	✓ State laws of liquid pressure. ✓ Derive the expression, p=hdg, at a point inside a liquid. ✓ Explain Pascal's law in relation to transmission of pressure in liquid. ✓ Describe atmospheric pressure.	
		2. Buoyant Force A. *Up thrust.* B. *Archimedes' Principle.* C. *Density and Archimedes' Principle*	✓ Explain up thrust. ✓ State factors affecting the up thrust on a body. ✓ Derive expression for calculating up thrust. ✓ State Archimedes' principle. ✓ Carry out an experiment to prove Archimedes' Principle. ✓ define density and relative density (R.D.) of a substance. ✓ Determine density of irregular solids and liquids, using Archimedes' principle.	
		3. Principle of Floatation A. *Floating bodies. (**Exclude Equilibrium of floating bodies**)* B. *Volume of body submerged in liquid*	✓ differentiate between the terms centre of gravity and centre of buoyancy. ✓ describe the relationship between up thrust and the weight of a floating body. ✓ State the principle of floatation. ✓ Explain some applications of the principle of floatation.	
4.	Ene	**1. Temperature** A. *Measurement of temperature*	✓ Convert temperatures from degree Celsius to Fahrenheit and vice versa.	**21%**

	B. *Thermal Energy*	✓ Convert temperatures from degree Celsius to Kelvin and vice versa. ✓ Explain the transfer of thermal energy. ✓ Explain the term thermal energy. ✓ Relate thermal equilibrium to our day-to-day life.
	2. Energy Transfer A. *Thermal Insulation (**Explain the types of thermal expansion**)* B. *Specific Heat Capacity* C. *Latent Heat*	✓ Explain the uses of insulation. ✓ Define specific heat capacity. ✓ Compare the specific heat capacity of various substances. ✓ Explain the term latent heat of fusion. ✓ Explain the term latent heat of vaporization. ✓ Describe thermal expansion with examples.
5. Electricity and Magnetism	**1. Electromagnetic Effects** A. *Alternating Current and Direct Current (a.c. and d.c.)* **(Exclude F=qvBsinθ)** • *Force on a current carrying conductor placed in a magnetic field. (**Include only the simple concept of force exerted on a current-carrying wire in magnetic field.*** **B.** *Electromagnetic Induction*	✓ Explain the term alternating current (a.c.) ✓ Explain the term direct current (d.c.) ✓ Explain the force is exerted on a current-carrying wire in a magnetic field. ✓ Describe the working of simple d.c.motors.
	2. Electric Charge A. *Electric Current*	✓ Explain electric current in terms of the flow of charge carried by free electrons in metals, or ions during an electrolysis. ✓ Calculate steady current, charge and time using the formula I=dq/dt

16%

5. Refraction & Dispersion of Light	**A. Refraction of light through a glass slab** **B. Laws of refraction** **C. Total internal reflection**	✓ Describe refraction through glass slab. ✓ Determine the refractive index of a glass block. ✓ Discuss refractive index of different coloured light through a prism. ✓ Explain total internal reflection. ✓ Discuss the applications of total internal reflection.	**12%**
6. Waves	**1.Characteristics of Waves.** A. *Types of waves (**Exclude the transfer of energy in waves**)* B. *Terms used to describe waves* **C.** *Properties of waves*	✓ Describe the properties of waves. ✓ Demonstrate properties of longitudinal waves using string or spring. ✓ Measure time period of a simple pendulum. ✓ Solve problems using the equation, $v = f\lambda$ ✓ Describe uses of ultrasound e.g. medical scanning, SONAR and radiowaves in RADAR.	**12%**
7. The Earth and Beyond	**1. The Universe** A. *Galaxy* B. *Asteroids* C. *Comets* D. *Meteors and meteorites* E. *Black holes and wormholes*	✓ Describe universe and galaxies in our universe. ✓ Identify and draw constellations. ✓ Describe asteroids, comets, meteors and meteoroids.	**18%**
	2. Relative size and position of heavenly bodies A. *Parallax method* B. *Kepler's third law*	✓ compare the relative sizes and positions of heavenly bodies in the universe.	
	3. Astronomical instruments A. *Telescopes* B. *Advancement in telescope* C. *Exploration of space*	✓ Describe how the development of technology has helped our knowledge. ✓ Explain telescopes, early satellites, modern space probes and space telescopes. ✓ Construct a simple telescope using two convex lenses.	

Subject: PHYSICS   **Class: X**

Chapter	Scope		Weighting
	Topics/Sub-Topic &	**Learning Objectives**	
8. Force and Motion	**6. Gravitational Force** C. *Centre of gravity and Stability of bodies* D. *Equilibrium*	✓ Describe gravitational force. ✓ Define center of gravity of an object. ✓ Explain the stability of a body.	14%
	7. Momentum of Force D. *Forces and equilibrium. (**Exclude the parallelogram law of forces**)* E. *Couple.* F. *Principle of Moments*	✓ Describe statics and system in equilibrium. ✓ Describe resultant force and Moment (***Include only the equation of motion to solve the simple numerical problems without derivation***). ✓ Explain the couple, torque of a couple and the principle of moment.	

	8. Falling Objects
	
	A. *Forces on falling objects*
	
	   i. *Free Falling Objects*
	
	   ii. *Drag Force*
	
	   iii. *Terminal Velocity* (***Exclude the stages of terminal velocity***)
		✓ explain that forces acting on falling objects change with velocity.
		
		✓ Describe Terminal velocity of falling objects.	

2. Pressure and Its Application	**1. Pressure.** D. *Thrust on a surface area (**Exclude the topic body in Fluid**)*	✓ Define Pressure ✓ Describe the factors affecting the magnitude of pressure ✓ State and apply the equation of pressure	14%
	9. Transmission of Pressure in a Liquid D. *Pascal's law* E. *Application of Pascal's Law*	✓ State Pascal's law. ✓ Explain the applications of Pascal's Law	

10. Energy	**3. Work and Energy**
	
	   C. Work and Power
	
	   D. *Energy (**Exclude the topic Kinetic and potential energy**)*
		✓ Calculate the work done by a constant force using W=Fd
		✓ Calculate the power of a machine as rate of work done.
		✓ Calculate the efficiency of a machine as a ratio of work output and input
		✓ State the principle of conservation of energy.
		✓ Apply the principle of conservation of energy to gravitational potential energy, kinetic energy and work done against resistive forces.
			21%

	4. Energy Conversation D. *Sustainable use of energy (**Exclude the types of thermal expansion**)*	✓ Describe efficient ways to use energy. ✓ Describe the need for economical and sustainable use of energy sources ✓ Describe the environmental implication of our current methods for generating energy.	

11. Electricity and Magnetism	**1. Electric Circuit**
	
	   3. Flow of electric current
	
	• *Ohm's Law (**Include only the generic graph for Ohmic and Non-Ohmic Conductor**)*
	   4. Heating Effect of Current
		✓ Explain resistance, Power, Voltage and Current.
		✓ Describe that the flow of charges through a resistor results in heating of resistor
		✓ Explain and verify Ohm's Law
		✓ Interpret the graph of Ohmic and Non-Omic Conductors.
			22%

	2. Electromagnetic Effects A. *Electromagnetic Induction*	✓ Explain the working of Simple AC generators and Transformers. ✓ Calculate the voltages across the coils in a transformer from the number of turns in the coils. ✓ Describe transfer of electrical energy from power stations to consumer.	

5. Waves	1. **Electromagnetic Spectrum** **A. Types of Electromagnetic Waves**	✓ Identify Different Components of the Electromagnetic spectrum. ✓ Identify the electromagnetic waves based on frequency and wavelength. ✓ Describe the uses of microwaves, infrared and ultraviolet Rays and their potential dangers. ✓ State some use of x-rays and gamma rays in medical field.	14%

	2.**Communication through Waves**
	  A. Communication over short distances
	  *B. Communication over long distances (**Exclude communication through Waves**)*
	  C. *Analogue and digital signals*
		✓ Explain the transfer of information along optical fibres.
		✓ Explain that radio waves, microwaves, infrared and visible light carry information over large and small distances including global transmission via satellite.
		✓ Describe the ways in which reflection, refraction and diffraction affect communication.
		✓ Describe the difference between analogue and digital signals.	

5.The Earth and Beyond	4. **Gravity and Universe**
	  F. Force of Gravity
	  G. The Role of gravity in Universe
		✓ Explain that the gravity acts as a force throughout the universe.
		✓ Explain the Role of Gravity in the formation of Solar System, planets, stars and the universe.
			14%

	5. **Evolution of Stars and Galaxies** *C. Cosmic Microwave Background and Redshift*	✓ Describe the Cosmic Microwave background and redshift that explain the origin and evolution of the universe.	

7. ECONOMICS

Subject: ECONOMICS   **Class: IX**

Chapter	Scope		Weighting
	Topics/Sub topics	**Learning objectives**	
1. **Introduction to Economics.**	1.0 Introduction. 1.1 Understanding Economics. 1.2 Nature and Scope of Economic.	• Define economics. • Discuss the nature and scope of economics • Outline the key ideas to define economics	**6**
2. **Scarcity and Choice.**	2.0 Introduction. 2.1 Human Wants. 2.2 Types of Human Want. 2.3 Economic Problems. 2.4 Basic Economic Problems. 2.5 Opportunity Cost.	• Explain human wants and their types. • Explain the basic economic problems and their causes. • Illustrate the concept of opportunity cost using Production Possibility Curve. • Explain the process of making choice by individual and government.	**11**
3. **Economic Resources and Production.**	3.0 Introduction. 3.1 Resources. 3.2 Human Resources. 3.3 Factors of production. 3.4 Entrepreneur. 3.5 Production. 3.6 Consumption. 3.7 Utility	• Describe resources • Explain the factors of production • Explain the characteristics of an entrepreneur as a factor of production • Explain the concept of production and consumption • Explain the concept of utility and forms of utility	**11**
4. **Economic and Non-economic Activities.**	4.0 Introduction. 4.1 Economic and Non-Economic Activities. 4.2 Factors Affecting Economic Activities. 4.3 Sectors of the Economy.	• Differentiate between economic and non-economic activities with examples. • Explain the factors affecting economic activities. • Discuss different sectors of an economy with examples. • Explain the role of primary, secondary and tertiary sectors in the economy.	**16**
5. **Demand and Law of Demand.**	5.0 Introduction. 5.1 Price. 5.2 Demand. 5.3 Elasticity of Demand.	• Discuss the meaning of price. • Discuss factors affecting price. • Define demand and state the law of demand. • Explain factors affecting demand for goods and services. • Construct demand curve based on schedule • Differentiate between individual and market demand • Explain the movement along the demand curve. • Explain the shift of demand curve.	**19**

		• Explain price elasticity of demand.	
6. Elasticity of Demand.	6.0 Introduction. 6.1 Supply. 6.2 Elasticity of Supply. 6.3 Determination of Equilibrium Price.	• Define supply. • Explain factors affecting supply of goods and services. • State the law of supply. • Differentiate between individual supply and market supply. • Construct a supply curve based on the supply schedule. • Explain price elasticity of supply. • Illustrate and explain determination of equilibrium price of goods and services.	22
10. Trade	10.0. Introduction. 10.1. Meaning of Trade. 10.2. Types of Trade. 10.3. Impact of Trade 10.4. Basis of Trade. 10.5. E-commerce	• Define basic concepts of domestic and international trade. • Give examples of domestic and international trade. • Explain the reasons for trade. • Explain the impact of external and internal trade on the countries. • Discuss the concept of absolute and comparative cost theories. • Mention major trading partners of Bhutan and commodities traded. • Examine e-commerce.	15
			100

Subject: ECONOMICS   **Class: X**

Chapter	Scope		Weighting
	Topics/Sub topics	**Learning objectives**	
Wage and Employment	Labour: its meaning and types Meaning of wage Factors affecting demand for and supply of labour Determination of wage rate Effects of shift in demand for and supply of labour on wage and quantity demanded and supplied Employment trends in Bhutan Factors affecting the trend of employment Difference in earning and reasons for it	✓ Differentiate between labour and labourer ✓ Explain different types of labour ✓ Define wage ✓ Explain meaning of demand for labour and supply of labour ✓ Explain factors affecting demand for and supply of labour ✓ Illustrate diagram to examine determination of wage rate. ✓ Examine the effects of shift in demand for and supply of labour on equilibrium wage and quantity with diagrams. ✓ Discuss the employment trend in Bhutan. ✓ Examine factors affecting employment. ✓ State reasons for differences in earning.	**15**
Factor Earnings: Rent, Interest and Profit	Income: its meaning and types Circular flow of income in an economy. Rent as factor earning. Interest: meaning and reasons for payment of interest. Determination of interest rate. Profit	✓ Write meaning of income and its types. ✓ Explain factor earnings as returns to factors of production. ✓ Differentiate between earned and unearned income. ✓ ✓ Explain circular flow of income with diagram. ✓ Define rent ✓ Define interest and reasons for paying interest. ✓ Examine how interest rate is determined with demand for and supply of capital ✓ Define profit	**15**
Public Finance	Public Finance: Its meaning, importance and scope. Public Expenditure and its classification.	✓ Define public finance ✓ Explain importance of public finance ✓ Explain public revenue ✓ Differentiate between direct taxes and indirect taxes with examples	**15**

	Borrowing as a source of Revenue. Government budget and its Importance Sources of revenue for the government: revenue from taxes, non-tax sources and grants and their relative contribution to the government exchequer.	✓ Discuss meaning of public expenditure ✓ Explain types of public expenditure with examples ✓ Define borrowing or public debt ✓ Explain types of borrowing by the government ✓ Explain government budget and its importance ✓ Discuss non-tax and grants as a source of revenue ✓ Examine the contribution from taxes, non-taxes and grants to the government revenue	
Trade	Trade: meaning and types Internal and external trade-their similarities and differences. Reasons for trade: theories of trade.	✓ Explain the meaning and types of trade ✓ Identify similarities and differences between internal and external trade ✓ Explore reasons for trading among the countries ✓ Explain absolute and comparative cost theory with illustration	12
Bhutanese Trade	Nature of Bhutanese Trade. Bhutan's Trade Composition: Bhutan's exports and imports. trade in services. Impacts of international trade on Bhutanese economy. Bhutan's trade strategy.	✓ Describe the nature of Bhutanese trade ✓ Examine Bhutan's trade composition (import and export of goods) ✓ Explain trade in services(tourism) ✓ Explain the impacts of international trade on Bhutanese economy ✓ Explain trade strategy (import substitution and export promotion ✓ Discuss trade strategy of Bhutan	15
Balance of Payment	Meaning and component of balance of payment. Concept of surplus and deficit in balance of payments. Causes of deficit in balance of payment. Measures to correct deficit in the balance of payments. Status and trends of Bhutan's balance of payments.	✓ Define balance of payment ✓ Examine the balance of trade and balance of payment ✓ Explain surplus and deficit in balance of payment ✓ Discuss causes of deficit in the balance of payment ✓ Suggest corrective measures to solve deficit balance of payment ✓ Discuss the status and trend of Bhutan's balance of payment	10

Economic Growth	Meaning of economic growth. Use of production possibility frontier to explain economic growth. Modern economic growth Measurement of economic growth and development Economic growth and Gross National Happiness Comparison between GNP and GNH approaches of economic growth.	✓ Explain economic growth ✓ Explain economic growth with the help of production possibility curve ✓ Discuss features of modern economic growth ✓ Examine different indicators to measure economic growth and development ✓ Discuss the ways of GNH as a better indicator of economic growth ✓ Compare and contrast between GNH and GNP	18
			100

8. ENVIRONMENTAL SCIENCE

Subject: Environmental Science   **Class IX**

Strand/ Fundamental concepts	Chapter title and No	Scope		Weighting
		Topic/ Subtopic	Learning Objectives	
Strand I. Systems in nature: Scope of Environment	1. Introduction of Environmental Science	I. Atmosphere II. Hydrosphere III. Lithosphere IV. Biosphere	• Explain environment in relation to the four spheres (atmosphere, hydrosphere, lithosphere and biosphere)	1
Strand I. Systems in nature: Biogeographical zones, Biomes and Ecosystems	2. Ecosystem	2. Biogeographical zones and Biomes 3. Ecosystems-Organisation and Types (Ecosystem and its organisations, Types of ecosystems)	• Distinguish between biogeographical zone and biome. • illustrate the biomes on the world map. • Identify the biogeographical zone(s) that Bhutan belongs to. • Name the predominant biomes of Bhutan and their salient features. • Explain the levels of organisation in ecosystems. • Describe ecological niche. • Identify the types of ecosystems.	12
Strand I. Systems in nature: Interdependence in nature and Ecological resilience	3. Balance in nature- Interaction and Resilience	1.Interdependence in nature: organism interaction (Organisms Interaction i. Predation ii.Competition iii. Parasitism iv. Commensalism v. Mutualism vi. Amensalism) 2. Ecological Resilience	• Explain various interactions among living organisms (refer class X textbook for additional information), and the interdependence of biotic and abiotic components). • Discuss the roles of interactions amongst different organisms in sustaining a healthy ecosystem. • Explain homeostasis. • Identify the external and internal factors responsible for the changes in the ecosystem. • Appreciate the dynamic nature and resilience of the Earth's ecosystem.	8

Strand I. Systems in nature: Classification of natural resources, Human dependence on natural resources, the changing relationship between natural resources and human society.	4. People and Environment	1. Environment and natural resources (Classification of natural resources) 2. Human dependence on natural resources (socio-economic, cultural and ecological provision) 3. Natural Resources and Human Societies - The changing relations (The human societies and natural resources, Migration and its impact on livelihood and environment)	• Classify natural resources. • Explain the socio-economic, cultural and ecological provisions of natural resources. • Relate the changes in human societies and the use of natural resources. • describe the pattern of migration and its impact on the livelihoods and environment of Bhutan	8
Strand II. Environmental issues and concerns: Environmental degradation through aspects, such as depletion of natural resources caused directly or indirectly by anthropogenic activities has major implications on the environment and wellbeing of all living organisms.	5. Natural resources Degradation	1. Disturbance of natural resources (Natural causes, Anthropogenic causes) 2. Pressure on natural resources (Impact of pressure on natural resources)	• Identify the major causes of disturbances to the natural resources. • Differentiate between natural and anthropogenic causes. • identify the impacts of pressure on natural resources. • discuss the implications of natural resource degradation on human and environmental well-being.	11
Strand II. Environmental issues and concerns: Irreversible pollution is induced and facilitated by anthropogenic activities.	6. Pollution	1. What is pollution? (Pollution, Pollutants, Forms of pollution)	• Define pollution. • Explain pollutants and their forms. • Identify the causes and effects of air pollution. • Explain measures to control air pollution. • Identify the causes and effects of water pollution. • Describe eutrophication and biomagnifications.	10

		2. Air pollution (Sources of air pollutants, Effects of air pollution) 3. Water pollution (Water pollutants, Effects of water pollution) 4. Land pollution (causes of land pollution, Effects of land pollution, Measures to control land pollution)	• Explain measures to control water pollution. • Discuss the causes and effects of land pollution. • Relate land pollution to biomagnification. • Explain the measures to control land pollution (waste management and 7 R's- use class 10 text book).	
Strand II. Environmental issues and concerns: All hazards do not lead to disaster but all disasters are a result of hazards.	7. Disaster risk and Environment	1.Hazard, risk and vulnerability 2.Disaster	• Explain the terms hazard, vulnerability, risk and response capacity. • Relate hazard to disaster. • generate the relationship among disaster, hazard, vulnerability and risk. • Explain major causes and the impacts of disasters. • Identify natural and human induced disasters. • Assess the preparedness for the hazards.	9
Strand III. Natural Resource Management: Biodiversity and the significance of it in maintaining homeostasis.	8. Biodiversity	1. What is biodiversity? (Levels of Biodiversity), 2. Geographical distribution of biodiversity in Bhutan (Forest, aquatic agricultural and wildlife diversity), 3. Importance of Biodiversity	• Define the term biodiversity. • Explain the levels of biodiversity. • Explain the economic, social, cultural and ecological importance of biodiversity. • Appreciate biodiversity as the lifeline and the basis of existence of life. • Appreciate the richness of species on the Earth. • Explain the biodiversity hotspots. • Discuss the threats to biodiversity.	10
Strand III. Natural Resource Management: Climate change is threatening fresh water	9.Fundamentals of watershed management	1.Watershed (What is watershed?) 2.Watershed management (Causes of watershed	• Describe watershed with examples. • Explain the importance of watershed. • Discuss the impact of human activities on the watershed.	11

supply, which could potentially impact the whole facet of human life. Watershed management is a measure to ensure the continuity of freshwater supply.		degradation, Managing watershed) 3.Watersheds of Bhutan and their management (Watersheds of Bhutan and their importance, Watershed management in Bhutan)	• Explain the principles of watershed management. • Illustrate the major watersheds of Bhutan. • List the steps involved in watershed management. • Explain the relevance of watershed management in Bhutan.	
Strand III. Natural Resource Management: Energy is the key driver of economic growth. However, the sources which facilitates the production of energy is contended in light of climate change and its associated impact. Therefore the move towards green energy.	10. Energy resources	1. Energy (What is energy?, Energy resources) 3. Energy challenges (Energy concerns, Energy conservation and efficiency) 4. Energy scenario in Bhutan.	• Identify different forms of energy. • Classify energy resources with examples. • Differentiate between renewable and non-renewable energy. • Outline the advantages and disadvantages of renewable and non-renewable energy resources. • Examine the advantages and disadvantages of various energy sources. • Explain energy efficiency and energy conservation with examples. • Explain the consumption and supply of energy in Bhutan.	9
Strand IV. Sustainable Development: There are many conceptualisations about development. Relentless pursuit of growth in GDP has repercussions, particularly on social wellbeing and the environment. Sustainable development paradigms are taking hold in international debates.	11. Environment and Development	1.Development (What is development? Measuring development) 2.Sustainable Development- concept and practice (concepts and principles of sustainable development, Practices of sustainable development) 3.Developmental perspective of Bhutan- GNH (Gross National Happiness)	• Explain various perspectives of development. • Explain the parameters and indicators in the measurement of development. • Explain sustainable development. • Describe the dimensions of sustainable development. • Relate the importance of environment for sustainable development. • Identify sustainable development practices in Bhutan. • Identify four pillars and nine domains of GNH. • Appreciate the GNH as Bhutan's contribution to the global community.	11

Subject: Environmental Science   **Class: X**

Strand/ Fundamental concept	Chapter Title and No.	Topic/Subtopic	Learning Objectives	Weightage
1. Systems in Nature: Flow of nutrients in the ecosystem.	1.Ecosystem	1.Biogeochemical Cycle A. Gaseous biogeochemical cycles B. Sedimentary biogeochemical cycles I. Calcium Cycle II. Phosphorus cycle	• Explain biogeochemical cycle. • Describe carbon, nitrogen, calcium and phosphorus cycles. • Explain how humans influence or disrupt the biogeochemical cycles. • Identify the roles of biogeochemical cycles in maintaining the nutrient flow.	10
1. Systems in Nature: Natural phenomenon disrupts ecosystem stability however, the earth has its own capacity to regain if left undisturbed. But due to increased anthropogenic activities, it delays the natural reclamation period thereby leading to decrease in carrying capacity of the Earth.	2. Balance in Nature	1.Carrying Capacity A. Carrying Capacity of an ecosystem B. Measuring Carrying Capacity of an ecosystem	• Explain carrying capacity. • Relate population, production and consumption to carrying capacity. • Calculate the carrying capacity of an ecosystem.	11
		2. Ecosystem Stability A. State of an Ecosystem i. Factors influencing ecosystem stability	• Explain ecosystem stability. • Describe the factors influencing the equilibrium of an ecosystem.	
1. Systems in Nature: Population explosion and	3. People and Environment	1. People and Resource Consumption	• Explain the term lifestyle.	10

		A. Life Style B. Life Style and Resource Consumption	• Discuss the relationship between lifestyle and resource consumption (with particular emphasis on overharvesting of resources).	
		2. Ecological Footprint A. Measuring Ecological Footprint	• Explain the concept of Ecological Footprint. • Identify the factors influencing Ecological Footprint. • Calculate one's own resource consumption using the Ecological Footprint.	
increase in purchasing power parity has led to a change in the lifestyle. This has put tremendous pressure on the natural resources. The impact of such change in lifestyle is inevitable. Thus, it has to be discussed through the study of Ecological Footprint.				
Strand 2: **Environmental Issues and Concerns:** Environmental degradation through aspects, such as depletion of natural resources caused directly or indirectly by anthropogenic activities has major implications on the environment and wellbeing of all living organisms.	4. Natural Resource Degradation	1. Natural resource degradation and carrying capacity A. pressure and impacts on the natural resources in Bhutan B. Environmental Degradation and Carrying Capacity	• Identify various forms of pressures on natural resources. • Relate pressures, impacts and carrying capacity to natural resources and environmental degradation.	11
		2. Carrying Capacity of the Earth	• Justify that the carrying capacity of Earth is limited. • Describe carrying capacity overshoot.	
Strand 2: **Environmental Issues and Concerns;** Environmental degradation and disasters	5. Disaster Risk & Management	1.Environmental Degradation and disaster A. Environmental Health and Disaster	• Relate environmental degradation to disasters.	11

		2. Disaster risk reduction	• Explain disaster risk reduction (DRR)	
are inextricably linked. Since we are already experiencing disasters related to the environment, disaster risk management, to contain the effects of disasters, has come into effect.		A. Reducing the impacts of disaster B. Disaster risk management	• Explain some of the strategies in reducing the impacts of disaster. • Explain the phases of disaster risk reduction. • Practice all of the phases of disaster risk reduction in school or at home.	
Strand 2: Environmental Issues and Concerns: Climate change has been linked to global warming which in turn is fuelled by pollution.	6. Pollution and Climate Change	1. Global Warming B. Greenhouse Effects and Global Warming	• Relate enhanced greenhouse effects to global warming. • Explain the relationship between global warming and climate change.	11
		2. Climate Change	• Explain the concept of climate change. • Identify the factors, which contribute to climate change. • Explain the effects of climate change – global and country level.	
		3. Phenology A.What is Phenology? B. Phenology Factors C. Importance of Phenology	• Define phenology. • Identify factors affecting phenology of plants and animals. • Explain the importance of phenology.	
		4. Initiatives on Climate Change	• Describe the significance of global and national initiatives (focus on acts and policies) on climate change. • Suggest ways to minimize the causes of climate change.	
Strand 3 Natural Resource Management: Conservation efforts in		1. Biodiversity	• Explain biodiversity, including endemism. • Distinguish levels of biodiversity with examples.	10

Bhutan are governed by acts and policies, traditional belief systems which has been effective till now.	7. Biodiversity and its Conservation		• List the endemic species of Bhutan. • Measure the species diversity in your local area.	
		2. Biodiversity Conservation in Bhutan A. Threat to Biodiversity B. Community Conservation Initiatives	• Explain the need to conserve biodiversity. • Explain various biodiversity conservation initiatives of Bhutan (acts, policies, role of traditional & indigenous practices, ecotourism). • Discuss the roles of communities in biodiversity and its conservation.	

Strand 3: Natural Resource Management:
 	
Land use has undergone changes at the cost of natural environment for socio-economic development.
	8. Land use and Management	1.Land use pattern
		
		  A. Land Use and their Impacts
		
		  B. Land Use Change
		
		3. Waste Management
		
		  A. Waste
		
		  B. Managing Waste
			• Describe various land use in Bhutan.
			
			• Identify impacts of change in land use on the environment.
			
			• Explain the types of waste
			
			• Assess the solid waste management in their locality
			
			• Draw a solid waste management plan to be implemented in the school
				9

Strand 3: Natural Resource Management: Energy crisis is impending due to its production from non-renewable resources. Globally initiatives on green energy sources are actively sought to replace the non-renewable sources of energy for	9.Energy Resources	1. Hydro energy in Bhutan	• Explain the advantages of hydropower development in Bhutan. • Investigate the impacts of hydropower on the environment.	**11**
		2. Wind Energy in Bhutan	• Explain wind energy as a source of green energy. • Evaluate the wind potential of Bhutan.	
	9.Energy Resources	3. Solar Energy in Bhutan	• Discuss the production of solar energy using photovoltaic cells. • Evaluate the solar energy resource potential of Bhutan.	

environment conservation.		4. Conservation of Energy	• Explain the concept of conservation of energy. • Examine various methods of conserving energy.	
Strand 4. Sustainable Development: There are many conceptualisations about development. Relentless pursuit of growth in GDP has repercussions, particularly on social wellbeing and the environment. Sustainable development paradigms are taking hold in international debates.	10. Environment and Development	1. Sustainable Development	• Explain sustainable consumption and production with examples. • Describe the developmental change from unsustainable to sustainable.	**6**
		2.Sustainable Development Initiatives in Bhutan	• List the international treaties and conventions on development related to Bhutan. • Describe challenges of sustainable development efforts of Bhutan.	

9. GEOGRAPHY

Subject: Geography   **Class: IX**

Strand	Chapter No. #	Topics/ Subtopics	Scope		Weighting
			Topics/ Subtopics (Scope) **Learning Objectives**		
Time and Space	1	Topographical Studies	• Read and interpret topographical maps • Interpret different type of settlement, human occupation, relief features, drainage pattern and stage of economic development		10
Time and Space	2	Map Works • **Asia:** • *Mountains/plateaus/peaks* • *Rivers/seas* • *Climates & vegetation*	• Identify and locate various relief features, main countries, climatic and vegetation belts of Asia, physical features, distribution of agricultural products, minerals and population and chief cities of Asia and physical features, selected places and dzongs of Bhutan		3
		• **South Asia** • *Peaks/mountains/highlands* • *Rivers/seas/bays* • *Chief cities*			3
		• **Bhutan** • *Major rivers* • *Dzongkhag Headquarters* • *Importance places*			4
Physical Environment	1	Formation of Himalayas: The theory of Continental Drift and Plate tectonics, the evolution of the Himalayas from the pre – tertiary Tethys Sea to the present mountain systems	• Explain the evolution of the Himalayas from the pre – tertiary Tethys Sea to the present mountain systems		4
	2	Rocks and Minerals: Formation of rocks and occurrence of minerals	• Explain the process of rock formation and occurrence of minerals		4
	3	Soils: Formation of Soils, Factors helping formation of soils, their usefulness to faming	• Mention the factors determining soil formation • Discuss the importance of soil in agricultural activities		4

	4	Climate: factors determining the climate of Bhutan, Climatic Zones and their effects on human activities	• Identify climatic zones and describe the factors influencing the climate • Explain how the climatic zones	4
	5	Forests & wildlife: Types of forest, wildlife and their relationship with humans	• Identify different categories of vegetation and wildlife • Elaborate the relationship between vegetation and humans	0
	6	Rivers & Their Erosional Works	• Discuss the various stages and associated landforms and nature of the river's works	0
	6	The Earth's Sphere: Structure of lithosphere, formation and examples of igneous, sedimentary and metamorphic rocks	• Identify and explain the formation of various rocks with examples	0
	7	Movement in the Earth's Crust: Earthquakes & Volcanoes – Their causes and effects	• Explain the phenomena causing volcanoes and earthquakes and draw the effects of their movement to human life.	2
	8	Forces that Sculpture the Earth's Surface: Denudation and Weathering, types of weathering soil and its profile, characteristics of different soils, causes of soil erosion and its conservation.	• Explain the causes and effects of internal and external forces that have carved varied landscapes on the earth's surfaces	0
	11	The Work of Ground Water (permeable & impermeable rocks): water table, springs, wells and artesian wells	• Explain the work of each ground water	3
	13	The Nature of the Atmosphere: weather and climate, elements of weather, factor affecting temperature of a place.	• Identify the main elements of weather and climate • Factors affecting the elements • Explain how the factors affect each of the elements resulting in the variation of weather and climate in different places	4
	14	Pressure of the Atmosphere: factors affecting pressure, shifting of pressure belts and its consequence.	• discuss the factors affecting pressure • mention pressure belt and explain the significance of the pressure belts in the weather system	4

	15	Movement of the Atmosphere: monsoon winds (prevailing) & its importance, formation of cyclonic & ant-cyclones	• Discuss the various type of prevailing winds • Explain the importance of monsoon winds on the human and weather pattern • Discuss the forms of cyclones and its effects on the human life	4
	16	Water Vapour in the Atmosphere: Types of rainfall & Isohyets	• Discuss the different forms of rainfall and explain the formation of each rainfall	2
People & Environment		-	-	-
			Total 100 %	**65**

Subject: GEOGRAPHY   **Class: X**

Strand	Chapter #	Scope		Weighting
		Topics/Sub-topics	**Learning Objectives**	
Time and Space	1.Map work	**Asia** • Physical Features (mountains, plains, plateaus, rivers, seas) **South Asia** • Physical Features (mountains, plains, plateaus, rivers, seas) **Bhutan** • Physical features (mountains/peaks, passes, and rivers)	Identify and locate various relief features, main countries, climatic and vegetation belts of Asia, physical features, distribution of agricultural products, minerals and population and chief cities of Asia and physical features, selected places and dzongs of Bhutan	**10**
	2. Topographical maps	• Concepts of contours • Signs and symbols, • finding heights and direction • meaning of scale and its representation • measuring distance • Grid reference • Drainage Patterns • Identification and descriptions of human and natural features	• Read and interpret topographical maps • Interpret different type of settlement, human occupation, relief features, drainage pattern and stage of economic development	**10**
	3. The shape and size of the Earth	Appearance and reality, the unique Earth and Unique Earth	• Explain the Uniqueness of the Earth in relation to other and the various proofs through as evidences for the sphericity of shape of the Earth	**3**
	4. Movements of the Earth	• Movements of the Earth and their effects-Rotation-day and night: • Revolution-seasons and variations in length of day and night	• Explain the effects of the movements of the earth and uses of lines of latitude and longitude and apply the knowledge in explaining natural phenomena and varying length of day and night and varying length and day and night, and	**5**

		locating places, determining climate and time of a place		
	5. Position on the globe	• Concepts of latitude and longitude • Relation between longitude and time • Local and international time • Great circle • International date line	• Explain latitude and longitude • Describe significance of the latitude and longitude • Explain international Date Line and its significance	**6**
Physical environment	1.Source Of Energy	• Types of energy • Alternative sources of energy • Future of power in Bhutan	• Categorise various forms of energy sources • Compare and constrast conventional and non-conventional sources of energy	3
People & Environment	1.Rural Urban Settlement	• Patterns of settlements • The Growth of towns (Urbanisation) • Hierarchy of settlements • Central Place Theory • Problems of Urbanisation	Explain rural and urban settlement Describe the growth towns in Bhutan. Elaborate the problems of urbanization	4
	2. Agriculture	• Subsistence and commercial farming • Agro-ecological zonation and farming practices • Crops and cropping patterns • Challenges to farming	Differentiate subsistence and commercial farming Recommend measures to improve agricultural productivity Suggest measure to combat agricultural challenges	6
	3. Growth of Industries	• Pre- Modern industries • Modern Industries • Distribution of industries • Service Industries • Tourism and its impact	Describe pre modern and modern industries. Explain the factors affecting the location of industries Examine the impact of tourism.	6
	5. Trade, Transport & Communication	• Modern trade • Balance of payment • Development of communication and transport in Bhutan	Explain the meaning of trade, transport and communication Elaborate the development of trade transport and communication.	6

		• Transport networks in Bhutan Impact of transport and communication	Describe the impact of trade transport and communication	
	6. The people and Environment	• Growth of human population • Natural ecosystem interaction between humans and natural systems • Impact of population on natural environment, • Climate change, Environmental problems in Bhutan	Demonstrate care and concern for maintaining the balance in the ecosystem for making sustainable use of resources Explain the relationship between population and natural environment.	6
			Total 100	**65%**

Subject: History   **Class: IX**

Strand	Chapter	Scope		Weighting
		Topic/sub-topics	**Learning objectives**	
Evolving Civilization	Chapter One: Ancient history – Part I Origins of the early inhabitants, their social and economic life, and names of the country.	**Origin of early inhabitants** Artifacts – Namcha and Doring Socio-economic life of early inhabitants Name of country	Assess ancient artefacts in relation with socio-economic life in ancient Bhutan. Describe the socio-economic life of Bhutan's early inhabitants. Explain the significance of various ancient names of Bhutan.	**4**
Spirituality, identity and culture	Ancient History-Part II - Religion of early inhabitant and first advent of Buddhism	The first advent of Buddhism Hinayana and Mahayana Ancient temples	Explain main religion of early inhabitants prior to the advent Buddhism. Describe the circumstances leading to the spread of Buddhism in Bhutan. Describe the significance of introduction of Buddhismprior to the arrival Guru Padmasambava prevalence of Buddhism. Explain the importance of Kyichu and Jampa Lhakhang.	5
Spirituality, identity and culture	Chapter Three: Guru Padma Sambhava. The second advent of Buddhism	**The second Advent of Buddhism** Early life of Guru Rinpoche Guru's visit to Bhutan major legacies of Guru Rinpoche.	Outline Sakyamuni Buddha's prophecy on the birth of Guru Rinpoche. Describe Guru Rinpoche's arrival in Bhutan.	5
Spirituality, identity and culture	Chapter Six: Drukpa Kagyupa.	Genealogy. Phajo Drugom Zhigpo. Phajo's descendents and visits of other Drukpa saints. Other Drukpa Families.	Trace the gene logy of the Kagyupa. Analyse the role of Phajo Drugom Zhigpo in spread of Drukpa Kagyupa.	6

Spirituality, identity and culture	Chapter 7: The Tertoens	Tertoen Pema Lingpa. Pema Lingpa's descendants and spiritual lineages.	Describe the treasures discovered by Pema Lingpa Evaluate the spiritual impacts of the *Peling* Tradition on the lives of Bhutanese. Explain Terton Pema Lingpa's contribution to the cultural and spiritual heritage of Bhutan. Discuss the lineages of Pema Lingpa.	6
Governance and peace	Chapter 8: Zhabdrung Ngawang Namgyal and the creation of the nation state of Bhutan	Unification of western Bhutan. Defending Bhutan's sovereignty. Nga Chudrugma. Tibetan invasion during Zhabdrung's retreat. The creation of a unique national identity. The code of laws. Setting up a political system. Retreat and Death.	Discuss the political condition during the Zhabdrung Ngawang Namgyal's arrival in western Bhutan. Describe the process of unification in western Bhutan. Discuss the causes of Tibetan attacks during Zhabdrung's era. Describe Tibetan attacks during Zhabdrung's era. Assess the outcome of Tibetan attacks during Zhabdrung's era. Explain the concept and the significance of Nga *Chudrugma* as transcendental 'I' Analyse the code of laws and political setup of Zhabdrung Ngawang Namgyal. Discuss retreat and death of Zhabdrung	8
Governance and peace	Chapter 9: Completion of Unification of Sharcho Kholo Tsibgye.	Revolts and military campigns in central and east - Mangde, Bumthang, Kurtoe, Trahigang, Tashiyangste and zhongar, Kheng. Second Rebellion in the east.	Explain the Sharcho Khorlo Tsibgye as the significance in the unification of nation state. Describe the second rebellion in eastern Bhutan.	6
			TOTAL	**40%**

BHUTAN CIVICS   **Class IX**

Strand	Chapter	Scope		Weighting
		Topic/sub-topics	Learning objectives	
Governance and peace	Chapter 1: History of the constitution Bhutan	Making of the constitution origin commencement of drafting constitution submission distribution Dissemination and public consultation Significance of the constitution	Discuss the making of constitution. Explain the significance of public consultation prior to its adoption. Write the significance of the Constitution of the Kingdom of Bhutan in a Constitutional Democratic Monarchy.	5
	Chapter 3: Fundamental Rights and Duties.	Fundamental Rights (Article 7) Classification of Fundamental Rights. Features of Fundamental rights. #Reasons for incorporating fundamental rights in the Constitution.	Explain the meaning of fundamental rights. Discuss the types of Fundamental Rights. Analyze the significance of Fundamental rights and duties. Discuss the significance of incorporating fundamental rights in the Constitution. Analyze the relationship between fundamental rights and duties.	5
	Unit two: Chapter 1: Formation of Political Parties	Meaning of a political party. Pre-requisites for a political party. Formation of a political party. Roles of Political parties.	Explain political party. Discuss the Pre-requisites for a political party. Explain the formation of political party. Discuss the significance of roles of political parties.	5
	Chapter 2: Election.	• Need for elections • Types of election • Election procedures of Bhutan • Funding • Voting procedures	Analyze the need of election Explain the types of elections Describe the source of fund and the process of campaigning Explain the voting and election procedures	5
			TOTAL	**20%**

INDIAN HISTORY & WORLD DEVELOPMENT SINCE 1945   **Class: IX**

Strand	Chapter	Scope		Weighting
		Topic/sub-topics	**Learning objectives**	
Evolving Civilsation	Chapter 1: The Indus Valley Civilization**.**	Features: town planning and city life roads drainage system buildings Economic life of the people: Agriculture and domestication of animals Trade Political organization Religious life Decline	Discuss the features of Indus valley civilization Explain the Economic life of Indus people Describe the political organization and religious life of the Indus people. Assess the decline of the Indus valley civilization	**10**
Spirituality, identity and culture	Chapter 3: Buddhism	Cause of the Rise of Religious movement Gautam Buddha The Dhamma, Eightfold path, attitudes towards god, The Sangha Cause of the spread of Buddhism Cause of the Decline	Explain the cause of the Rise of religious movement Explain the Doctrine of Buddhism Discuss the causes of the spread of Buddhism in India and in Asia. Evaluate the cause of the decline of Buddhism in India.	10
			Total	**80%**

BHUTAN HISTORY   **Class: X**

| Strand | Chapter | Scope | | Weighting |
		Topic/sub-topics	Learning Objectives	
Governance and peace	Chapter One: Jigme Namgyal.	Reunification of the east and first military venture into the west. Trongsa Penlop Jigme Namgyal. Conflic with Tshondrue Gyaltshen. Religious life Jigme Namgyal Jigme Namgyal and the Duar War Jigme Namgyal ascends to the throne as Druk Desi. Rebellion and consolidation of the central authority**.**	Discuss Jigme Namgyal's role in unification of country. Analyse Jigme Namgyel's role as Trongsa Peonlop in the Duar war. Assess Jigme Namgyal's strategies as Druk Desi to build peace and unity. Discuss the significance of the post of Trongsa Penlop to Jigme Namgyel. Discuss the significance of the institution of Trongsa Penlop in the establishment of monarchy.	**7**
Governance and peace	Chapter 2: Druk Gyalpo Ugyen Wangchuck	Strengthening of Political Unity. The last struggle for peace. Appointment of Gyadrung. Bhutan- British relation and the Anglo-Tibetan War 1904. Recognition by the British The first Druk Gyalpo. The Treaty of Punakha 1910. Internal Reforms	Explain the events leading to the battle of Changlimithang of 1885. Analyse Druk Gyalpo Ugyen Wangchuck as a skilled diplomat. Discuss the immediate circumstances leading to the establishment of Hereditary Monarchy. Explain the significance of His Majesty Druk Gyalpo Ugyen Wangchuck's role in the institution of Monarchy.	6

Governance and peace	Chapter 3: Druk Gyalpo Jigme Wangchuck	Reform of the Administrative and taxation system. Religious reforms. Efforts towards modern development. Foreign relations.	Explain His Majesty Druk Gyalpo Jigme Wangchuck as the consolidator in an era of internal and external turmoil. Analyze the tax and administrative reforms of Second Druk Gyalpo. Discuss the Druk Gyalpo Jigme Wangchuck's role in religious affairs of the nation. Assess Bhutan's relation with India during the reign of Druk Gyalpo Jigme Wangchuck.	4
Governance and peace	Chapter 4: Druk Gyalpo Jigme Dorji Wangchuck.	Social reforms Constitutional reforms Judicial System Administrative and other reforms The District Administration The Army and police Culture and traditions Written Dzongkha Language Developmental Plans: First, Second and Third Five Year Plans International Relation	Discuss Druk Gyalpo Jigme Dorji Wangchuck's socio-economic and constitutional reforms. Assess Bhutan's relation with India and international community during the reign of His Majesty Druk Gyalpo Jigme Dorji Wangchuck. Evaluate Third Druk Gyalpo as the father of Modern Bhutan.	7
Governance and peace.	Chapter V: Druk Gyalpo Jigme Singye Wangchuck.	Birth Planning for development Education services. Health Services. Rural Development and Agriculture.	Explain the birth prophecies of His Majesty Druk Gyalpo Jigme Singye Wangchuck. Assess reforms (Constitutional, administrative, economic, cultural and religious and labor reforms of Druk Gyalpo Jigme Singye Wangchuck.	9

		Environmental Concern. Communincation Syatem. His Majesty as reformer: Economic, administrative, Labour, Legislative and Judicial, cultural and religious Reforms. Foreign relations. National Identity and the Concept of One Nation One People. The Royal Family. A Monarch of the People.	Discuss Bhutan's relation with India and international community during the reign of His Majesty Druk Gyalpo Jigme Singye Wangchuck. Discuss Fourth Druk Gyalpo as A Monarch of the People. Explain the concept of One Nation One People.	
Spirituality, identity and culture	Chapter 6: Art, architecture and Handicrafts.	The Bhutanese form of art. Painting: Statue, wall and scroll painting. Sculpture. Architecture. Special characteristics of Bhutanese architecture. Different types of Building: Lhakhang, Goenpa, Dzongs, Chhoetens, Mani walls, Palaces, Village houses. Handicrafts: Bamboo and Cane Products, wood products, metal products, Handloom Products.	Explain *a* didactic function of Bhutanese art. Differentiate Bhutanese types of painting. Explain characteristic of Bhutanese architecture Assess the significance of types of buildings Discuss the importance of handicraft products	7
			TOTAL	**40%**

BHUTAN CIVICS   **Class X**

Strand	Chapter	Scope		Weighting
		Topic/sub-topics	**Learning objectives**	
Governance and peace	Chapter 1: The Legislature	Powers and function of the Parliament. Gyalyong Tshogdu. Gyalyong Tshogde. Relation between the two houses**.**	Explain the meaning of parliament. Explain the power and functions of Parliament. Examine the relation between National Assembly (Gyalyong Tshogdu) and National Council (Gyalyong Tshode) Define the Legislature Explain Legislature as one the important branches of government.	5
	Chapter 2: The Executives	The Lhengye Zhungtshog. Appointment and tenure of members of Lhengye Zhungtshog. Functions of the Lhengye Zhungtshog	Describe the major functions of Executive. Explain the Appointment of and tenure of members of Lhengye Zhungtshog. Explain the importance of constitutional bodies in smooth functioning of the government.	5
	Chapter 3: The Judicary.	Judicial system • Supreme court • high court • Dzongkhag Court • Drungkhag court • Barmis Jurisdiction of the Thimkhangs. Salient features of our Judicial system.	Distinguish the different judicial system of the country based on function and composition of judges Explain the jurisdiction of the Thimkhangs. Discuss the salient features of judicial system of Bhutan.	5
	Chapter 5: Local Government	Gewog Tshogde(GT): Members, Observers Powers and functions: Administrative powers and functions. Financial Powers	Explain branches/units of Local government Explain the powers and functions of: Gewog Tshogde, Dzongkhag Tshogde and Thromde Tshogde.	5

		Regulatory powers. Dzongkhag Tshogdu (DT): Members, Observers Powers and functions od DT: Regulatory powers and functions. Administrative powers and functions. Financial Powers and functions. Thromde Tshode (TT): Members of TT Relation among GT, DT and TT	Explain the relation among three units of LG	
			TOTAL	**20%**

INDIAN HISTORY & WORLD DEVELOPMENT SINCE 1945   **Class X**

Strand	Chapter	Scope		Weighting
		Topic/sub-topics	Learning objectives	
Governance and Peace	Chapter 5: Mahatma Gandhi's Philosophy and Leadership	Mahatma Gandhi: Beliefs and philosophy. Gandhi's Methods: Faith in Masses and Belief in social justice. Gandhi's views on education. Communal Harmony. Gandhi's Leadership. Major Movements: Khilafat and Non-Co-Operation Movement. Civil Disobedience Movement. Quit India Movement.	Explain the Gandhian's beliefs and Philosophy. Assess the significance of major movements in the Indian freedom fighting. Evaluate Mahatma Gandhi as undisputed leader of India.	6
	Chapter 6: The United Nations Organization	Origins of UNO UN charter Organs of the UNO General Assembly Security council International court of justice Secretariat Economic and social council trusteeship council	Discuss some of the major world Declaration and conference which helped in formation of UNO. Explain the organs of UNO List Organs of UNO Evaluate the role and function of UNO in present days.	8
	Chapter 7: Major agencies.	UNDP (Functions.) UNICEF (Functions) WHO (Function and achievements) UNESCO (achievements)	Discuss the functions of major agencies of UNO. Assess the significance of major agencies of UNO to its member nations.	

		ILO (functions)		
Chapter 9: Regional Organization.	SAARC, formation The principles constitution and organization Achievements		Explain the reasons for formation of SAARC. Discuss charters of SAARC Discuss major achievements of SARRC Elaborate on constitution and organization of SARRC.	6
			Total	**80%**

11.HEALTH and PHYSICAL EDUCATION

Subject: Health and Physical Education   **Class: IX**

Strand	Themes	Sub Themes	Learning Objectives	Weighting %
Movement and Physical Activity	Movement and skills for active lifestyles.	*Specific Movement Skills for Sports Proficiency*	• Explain concepts and importance of track and field events, and game categories (target, striking and fielding, net and wall, invasion games) for proficiency in sports. • Perform track and field events, target game, striking and fielding, net and wall, invasion games for promotion of process and performance outcome. • Apply specific physical skills of game categories for active participation in recreational activities and sports.	40
	Body posture, safety, First Aid and remedies for efficiency and wellbeing.	*Correct body posture for physical efficiency*	• Explain the concepts of alignment of bones and joints, use and functions of muscles, abnormal wearing of joints, use of energy and prevention of muscle strain. • Perform specific warming up and cooling down exercises of varying nature, situation and physical environment with correct body positioning to prevent injuries. • Apply physiological safety and skills before, during and after in individual and team physical activities to prevent injuries.	5
		Postural Safety and Remedies for efficiency.	• Explain the importance of postural safety and remedies to enhance anatomical and physiological efficiency in performing physical activities. • Perform remedial exercises to improve body postures through yoga asana and physiotherapy exercises. • Implement remedial exercises to improve body postures.	5
		First Aid for supporting and saving life	• Explain lodged foreign object (eyes/ears/nose/mouth), inflammations, sprain, and strain. • Assess and perform first aid for lodged foreign object (eyes/ears/nose/mouth), inflammations, sprain, and strain.	

			• Apply first aid for lodged foreign object (eyes/ears/nose/mouth), inflammations, sprain, and strain.	
	Fitness for health and quality life.	*Physical Fitness for Healthy Living.*	• Explain the components of health related fitness for active lifestyle.	10
			• Assess and improve physical fitness level through alterations of activities for specific fitness components.	
			• Apply fitness assessment skills to guide and improve individual fitness level through selected physical activities.	
Personal and Interpersonal Development	Behaviour and life skills for social harmony	*Psycho-social development for harmony.*	• Explain relations between physiological changes and psycho-social development of an individual.	5
			• Identify individual strengths and weaknesses and factors affecting social growth and development.	
			• Manage challenges relating to individual strengths and weaknesses for social growth and development.	
		Life Skills for Quality Living	• Explain the importance of life skills in the enhancement of code of conduct and prevention of teenage pregnancy.	5
			• Identify core life skills in relation to psycho-social development.	
			• Evaluate situations applying concepts of life skills in physical activities and provide positive feedback.	
			• Practise core life skills on a daily basis for psycho-social wellbeing.	
Health and Healthy Living	Nutrition choices and habits for longevity and sports excellence.	*Nutrition for sports excellence*	• Explain the importance of sports nutrition to enhance performance in sports.	10
			• Identify food and fluid needs for individual performance in sports.	
			• Estimate food and nutrients consumed in individual meal using servings.	
			• Practise healthy eating and hydration to improve performance in sports.	
		Right nutrients for longevity	• Explain nutrient deficiency and nutrient excess diseases.	5
			• Identify risk factors for nutrition deficiency and non-communicable diseases.	
			• Practice healthy eating habits to reduce the risk of nutrition deficiency and non-communicable diseases.	
	Water, sanitation and	*WASH for healthy living*	• Study best practices and impacts of WASH in schools and communities.	10

	hygiene for healthy living.		• Identify ways to engage community for sustaining WASH practices.	
			• Prepare strategies to collaborate with others to maintain water, sanitation, and hygiene.	
	Healthy and ethical use of substances	*Ethics in substance use for health benefits.*	• Explain impacts of unsafe use of substances on individual health, society and economy.	5
			• Identify safe use of medicines for health benefits.	
			• Advocate and create awareness on safe use of substances among friends and in the community.	

Subject: Health and Physical Education   **Class X**

Strand	Themes	Sub Themes	Learning Objectives	Weighting %
Movement and Physical Activity	Movement and skills for active lifestyles	*Specific Movement Skills for Sports Proficiency*	• Explain inter-relations amongst game categories for developing proficiency in sports performance. • Perform techniques, skills and tactics of game categories (target game, striking and fielding, net and wall, invasion games) with proficiency. • Apply techniques, skills and tactics of game categories in performing recreational activities and sports spontaneously.	40
	Fitness for health and quality life.	*Physical Fitness for Healthy Living*	• Explain the components of fitness (agility, balance, power, speed, coordination and reaction time) of skill-related fitness for active lifestyle. • Assess and improve physical fitness level through alterations of activities for specific fitness components. • Apply fitness assessment skills to guide and improve individual fitness level through selected physical activities to enhance personal fitness level.	10
	Body posture, safety, First Aid and remedies for efficiency and wellbeing.	*Postural Safety and Remedies for efficiency.*	• Explain the importance of safety measures and skills for active participation in physical activities. • Assess safety issues to take related measures in preventing injuries during physical activities of different nature, situation and physical environment. • Apply safety measures and skills before, during and after individual and team physical activities.	5
		Correct body posture for physical efficiency	• Explain factors contributing to poor body postures. • Perform remedial exercises to improve body postures through yoga asana and physiotherapy exercises. • Apply remedial exercises to improve body postures.	5
		First Aid for supporting and saving life	• Explain lodged foreign object (eyes/ears/nose/mouth), fracture, dislocation, chemical and electrical burn, altitude sickness, cardio pulmonary resuscitation (CPR)	

			• Assess and perform first aid for lodged foreign object (eyes/ears/nose/mouth), fracture, dislocation, chemical burn, altitude sickness, cardio pulmonary resuscitation (CPR)	
			• Apply first aid skills for lodged foreign object (eyes/ears/nose/mouth), fracture, dislocation, chemical burn, altitude sickness, cardio pulmonary resuscitation (CPR)	
Personal and Interpersonal Development	Behaviour and life skills for social harmony	*Psycho-social development for harmony.*	• Explain relations between physiological changes with social and emotional development in personal growth and development. • Assess strength and weaknesses in the progress of individual emotional and social development. • Identify opportunities to strengthen social and emotional development. • Adapt to deal with demands and situations in daily life for social and emotional development.	5
		Life Skills for Quality Living	• Explain the importance of life skills in developing leadership qualities and prevention of teenage pregnancy. • Identify core life skills important for developing leadership qualities and preventing teenage pregnancy. • Practise core life skills on a daily basis for leadership and wellbeing.	5
Health and Healthy Living	Nutrition choices and habits for longevity and sports excellence.	*Nutrition for sports excellence*	• Explain the importance of food choices for nutrition requirement for specific sports. • Estimate food and nutrients consumed in individual meal using servings in relation to specific sports. • Prepare plans for healthy eating and hydration for individual performance in sports.	10
		Right nutrients for longevity	• Explain the importance of food combination, preparation and food safety to prevent nutrient deficiency diseases. • List right food combinations and five steps of food safety. • Follow food safety steps to prepare daily healthy meals. • Consume right food combinations and servings.	5
	Water, sanitation and	*WASH for healthy living*	• Discuss the importance of community based approaches in sustaining WASH practices. • Identify ways to engage community in sustaining WASH practices.	10

	hygiene for healthy living.		• Prepare strategies to collaborate with others to maintain water, sanitation, and hygiene.	
	Healthy and ethical use of substances	*Ethics in substance use for health benefits.*	• Discuss the adverse effects unsafe use of substances on the performance in physical activities (psychoactive substances, doping, medicines)	5
			• Identify skills of preventing unsafe use of substances (Being assertive, self-aware, and analytical).	
			• Apply skills of decision making and self-control to prevent unsafe use of substances.	

12.ICT

Subject: ICT (literacy component)				CLASS: IX	
Strand	**Chapter**	**Topics and Sub-topics**	**Learning Objectives**	**Weighting (%)**	**Period**
A Technology Operation	1. Working with Data	**Project on Spreadsheet** - MS Excel basic tools - Enter data, sort, align - Basic calculation	- Create an informational video that can be used to introduce the school to the new students, teachers and visitors.	5	6
B Communication and Collaboration	2. Working with Video	**Project on YouTube** - Create a short movie - Create a YouTube account - Share video on YouTube	- Create a short video and upload it on personal YouTube channel for feedback.	10	9
C Safety and Ethics	3. Responsible online users	**Project on Responsible online users:** - Cyber bullying - Impact of cyberbully - Ways to stop cyberbully	- Identify the negative impacts of cyberbully. - Provide a awareness to friends and families on how to fights cyberbullies and support victims.	5	5
			Total	20	20

Subject: ICT (coding component)				CLASS: IX	
Strand	**Chapter**	**Topics and Sub-topics**	**Learning Objectives**	**Weighting (%)**	**Period**
D Coding (Pyleap)	1. Bright starry sky	- Programming - What is programming - Coordinate system - X-coordinate - Y-coordinate - Origin - Coordinate system	- Understand the concepts of programming and programming language. - Understand the coordinate representation and know the basic correspondence between the point and the position in the window.	9	5
	2. Dot to Dot	- Line segment object creation and drawing. - Line colour.	- Learn to create and draw segment object - Combined with coordinate knowledge to complete the task of connecting dots into a picture	9	5
	3. Magic Rainbow	- Circle object creation and drawing.	- Understand the meaning of the centre and radius of a circle - Learn the creation and application of circle objects. - Apply the characteristics of the circle to complete the drawing of rainbows and clouds.	9	6
	4. My school bus	- Rectangle object creation and drawing	- Understand the order in which the code runs - Learn the creation and application of circle objects, Understand and apply the attributes of rectangle object	9	6

			- Combined with the learned graphics to complete the drawing of the school bus		
	5. Sunflower	- Oval object creation and drawing - Rotation of graphics - Comprehensive application of graphics.	- Learn the creation and application of oval objects. - Learn to use the rotation method of graphic objects to complete the rotation of graphics - Combined with the 9learned graphics to complete the drawing of the sunflower. - Combine with the learned graphics to - Complete the design and drawing of emoji.	9	6
	6. Windmill kingdom	- Polygon creation and drawing - Comprehensive application of graphics	- Learn the creation and application of polygon - Combined with the learned graphics to complete the drawing of the windmill	8	6
	7. Rotating windmill	- Principle and implementation of animation.	- Understand the attributes of objects and learn to define and modify object attributes - Understand the principles of animation, and learn and use animation functions - Complete the rotation effect of windmill with animation function	9	6

	8. Sea voyage	- Comprehensive application of graphics - Optimize attributes operation - Animation realization	- Combined with the learned graphics to complete the drawing of the sailing ship - Review the animation principle and apply the animation function to complete the move animation. - Optimize the operation of attributes values to achieve the effect with fewer attributes	9	6
	9. Pet octopus	- Comprehensive application of graphics - Animation application	- Combined with the learned graphics to complete the drawing of the pet octopus - Use graphic rotation animation, attributes position movement animation, graphic size change and so on to complete pet animation.	9	6
			Total	**80**	**52**

Subject: ICT (literacy component)				Class 10	
A Technology Operation	1. Spreadsheet	**Project on spreadsheet** - Calculations - Chart	- Analyse data on real situations and present it in pictorial formats for decision making.	10	6
B Communication and Collaboration	2. Blogging	**Project on blog** - Create a blog - Write post on blog - Share blog	- Create personal blogs to share their work to online communities for feedback and improvement.	10	6
C Safety and Ethics	3. Fighting Fake news	**Project on fake news** - Distinguish between fake and real news. - Impact of fake news. - Advocacy on social media fake news.	- Use an online platform to create awareness on the impact of fake news on individuals, families and community at large.	10	6
			Total	30	18

Subject: ICT (coding component)				CLASS: X	
Strand	**Chapter**	**Topics and Sub-topics**	**Learning Objectives**	**Weighting**	**Period**
D **Coding** (Python)	4. My First Python Program	- print() - Input()	- Master the use of Python development environment, master input () and print () basic use methods, the use of annotations	4	3
	5. Wonderful variables	- Variables - Strings - Three quotation marks	- Mastering the use of variables, the use of assignment symbols, mastering string usage methods and the use of three quotation marks	4	3
	6. Into the world of numbers	- Integers - Float - Basic arithmetic operators	- Master integer, floating-point types and their mutual transformation, and the concept and use of basic arithmetic operators, operational priorities.	4	3
	7. Everything can be counted	- String type - Mathematical functions - Error messages	- Master the use of digital/numeric and string type conversions, commonly used common mathematical functions, and understand error messages	5	3
	8. Intelligent text	- Formatted character output - Built-in functions - Escape characters	- Mastering the use of formatted character output, built-in functions, and escape characters	4	3

9. Which way is it good to choose?	- If statement - Boolean values	- Master the concept of if and how to use it, understand Boolean values, ==,!=, indent use, the meaning of flowcharts	7	5
10. Working with multiple selections	- If, else and elif - Logical operators	- Mastery of Else, Elif. The use of statements, comparing operators <, >, <=, >=, and their operational priorities	8	6
11. More complex options	- Nested conditions - Logical operators	- Mastering nested usage, logical operators and, or, and their operational priorities	8	6
12. To be free from repetitive work	- For loop (basic) - range() - assignment operators	- Master the concept and use of For Loop Basics, range (), assignment operators and their operational priorities	8	6
13. Another kind of loop	- While loop - Difference between for and while loop	- Master the while loop concept and use, while the different points of the while and for, the respective scope of application.	8	6
14. Nested	- Nested while loop	- Mastering the nesting of loops: a combination of for, while andjudgment statements, integer(), Random ()	5	6
15. Stop loop	- Break and continue	- Master the comprehensive use method of circulation, master Break and continue.	5	4
		Total	70	54

13.MATHEMATICS

Subject: Mathematics   **Class: IX**

Strand/unit	Chapter	Scope		Weighting
		TOPICS/SUBTOPICS &#	**LEARNING OBJECTIVES**	
UNIT 1 NUMBER AND OPERATIONS	*Chapter 1*	***Exponents*** **1.1.1** Introducing the Exponent Laws *1.1.2* The Power Law of Exponents *1.1.3* Negative and Zero Exponents *1.1.4* Fractional Exponents	At the end of the lesson, students will be able to: • Apply the following exponent laws: $a^m \times a^n = a^{m+n}$; $a^m \div a^n = a^{m-n}$. • $\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$; $(ab)^n = a^n b^n$. • $(a^n)^m = a^{nm}$ • $(a^n)^m = a^{nm}$; $a^0 = a^{-n} = \frac{1}{a^n}$	10%
	Chapter 3	***Rational and Real Numbers*** **1.3.2** Order of Operations **1.3.4** EXPLORE: Representing Square Roots **1.3.5** Representing Real Numbers	At the end of the lesson students will be able to: • Apply knowledge of order of operations conventions with rational numbers. determine and justify if a given number is rational or irrational. • Give examples of rational and irrational numbers	
UNIT 2 POLYNOMIALS	*Chapter 1*	***Introducing Polynomials*** **2.1.1** Interpreting Polynomials. **2.1.2** Adding and Subtracting Polynomials	At the end of the lesson students will be able to: • Consolidate an understanding of what polynomials are and when they are used. • Add and subtract polynomials concretely, pictorially, and symbolically	9%
	Chapter 2	***Multiplying Polynomials*** **2.2.1** Multiplying a Polynomial by a Monomial **2.2.2** Multiplying a Binomial by a Binomial **2.2.3** Multiplying Polynomials Symbolically.	At the end of the lesson students will be able to: • Multiply a polynomial by a monomial, multiply a binomial by a binomial.	

		Dividing Polynomials **2.3.1** Dividing a Polynomial by a Monomial **2.3.3** Dividing a Polynomial by a Binomial	At the end of the lesson students will be able to: • Divide concretely, pictorially, and symbolically: monomial by a monomial; polynomial by a scalar; polynomial by a monomial	
	Chapter 3			
UNIT 3 LINEAR RELATIONS AND EQUATIONS	*Chapter 1*	**Linear and Non-Linear Relation Graphs** **3.1.1** Patterns and Relations in Tables **3.1.2** Scatter Plots of Discrete and Continuous Data **3.1.4** Graphs of Linear and Non-Linear Relations	At the end of the lesson students will be able to: • Describe verbally and symbolically, patterns given in tables, charts, pictures, and /or by problem situations. • Consider whether data represented by a scatter plot are continuous or discrete and whether interpolation is meaningful. • Distinguish between independent and dependent variables in a scatter plot	15%
	Chapter 2	**Equation of a Line** **3.2.1** The Meaning of Slope and *Y*-Intercept **3.2.5** Standard Form	At the end of the lesson students will be able to: • Use the term slope to represent rise/run relate the y-intercept to the to the value of the y-coordinate where the graph crosses the y-axis. • Determine the slope and y-intercept by examining a table or graph.	
	Chapter 3	**Linear Equations and Inequalities** **3.3.1** Solving Linear Equations Algebraically **3.3.2** Solving Linear Inequalities **3.3.3** Solving Linear Equations Graphically	At the end of the lesson students will be able to: • Solve linear equations algebraically. • Solve Linear Inequalities	
UNIT 4 DATA AND PROBABILITY	*Chapter 1*	**Displaying and Analysing Data** **4.1.1** Constructing Familiar Data Displays **4.1.2** Using Graphs to Compare and Organize Data **4.1.3** Using Graphs to Examine Change	At the end of the lesson students will be able to: • Determine, discuss and justify, why a particular display is suited to a specific type of data, or to a given context or purpose. • Compare various methods of displaying data. Draw inferences and conclusions from a number of data displays	6%

	Chapter 2	***Probability*** **4.2.1** Determining and Comparing Probabilities **4.2.2** Calculating Probability of Two Independent Events **4.2.3** Randomness: Experimental Versus Theoretical Results.	At the end of the lesson students will be able to: • Determine the number of possible outcomes for independent events using outcome charts, organized lists, and tree diagrams. • Calculate the probability of two independent events, A and B, as P(A) × P(B). • Distinguish between theoretical and experimental probability	
UNIT 5 GEOMETRY	*Chapter 1*	***Similarity and Congruenc*** **5.1.2** Congruent Triangles **5.1.3** Similar Triangles **5.1.4** Solving Problems with Similarity	At the end of the lesson students will be able to: • Demonstrate an understanding of the properties of similar triangles. • Compare and contrast congruence and similarity as they relate to triangles. • Demonstrate an understanding that, in similar triangles, the ratios of side lengths of one triangle are equal to the ratio of the corresponding side lengths of the second triangle	10%
	Chapter 2	***Transformations*** **5.2.1** Translations **5.2.2** Reflections and Rotations **5.2.3** Dilatations **5.2.4** Combining Transformations	At the end of the lesson students will be able to: • Apply translations, reflections, rotations, and dilatations to shapes on the coordinate plane, using mapping notation.	
UNIT 6 MEASUREMENT	*Chapter 1*	***Volume and Capacity*** **6.1.1** Volume of Prisms and Cylinders Pyramid and Prism Capacities **6.1.3** Volume of Pyramids and Cones **6.1.4** Volume of Spheres and Composite Shapes	At the end of the lesson students will be able to: • Estimate and calculate the volume of spheres, pyramids, prisms. • Solve problems the at involve finding the dimensions of a shape when the volume is given.	10%

			At the end of the lesson students will be able to:	
	Chapter 2	***Surface Area*** **6.2.1** Surface Area of Prisms **6.2.2** Surface Area of Pyramids **6.2.3** Surface Area of Cylinders **6.2.4** Surface Area of Cones **6.2.5** Surface Area of Spheres	• Estimate and calculate the surface area of prisms. • Estimate and calculate the surface area of a variety of 3D shapes.	
UNIT 7 COMMERCIAL MATH	*Chapter 1*	***Household Finances*** **7.1.1** Income and Expenditures **7.1.2** Budgets	At the end of the lesson students will be able to: • Familiarize with new terms and its meaning. • Estimate and calculate various types of income	5%
	Chapter 2	**7.2.2** Income Deductions **7.2.3** EXPLORE: Income Tax Rates CONNECTIONS: Taxation around the World	At the end of the lesson students will be able to: • Estimate and calculate various types of incomes.	

Subject: Mathematics			Class: X	
STRAND/ UNIT	**CHAPTER**	**SCOPE**		**WEIGHTING**
		TOPICS/ SUB TOPIC & #	**LEARNING OBJECTIVES:** **At the end of the lesson, students will be able to:**	
UNIT 1 **MATRICES AND NETWORKS**	*Chapter 1*	*Matrices* **1.1.1** Introducing Matrices **1.1.2** Adding and Subtracting Matrices **1.1.3** Multiplying a Matrix by a Scalar **1.1.4** Multiplying Matrices	• Demonstrate an understanding that matrices are used as a means of storing data. • Demonstrate an understanding that to add or subtract two matrices the dimensions of the two matrices must be same. • Demonstrate an understanding that to multiply a matrix by a scalar multiply each entry in the matrix by the scalar • Demonstrate an understanding that matrices can only be multiplied if the number of columns in the first matrix is the same as the number of rows in the second matrix • Apply the concepts learnt	**8%**
	Chapter 2	*Networks* **1.2.2** Describing a Network with a Matrix	• Represent a network as a matrix and interpret a matrix in terms of a corresponding network situation	

UNIT 2 COMMERCIAL MATH AND NUMBER	Chapter 1	*Commercial Math* **2.1.1** Purchasing Decisions **2.1.2** Compound Interest **2.1.3** Dividends and Stocks	• Use percentage to solve problems involving purchases • Demonstrate an understanding of the long term difference between simple and compound interest • Investigate both investments and financing situations	8%
	Chapter 2	*Radicals* **2.2.1** EXPLORE: Representing Square Roots **2.2.2** Simplifying Radicals **2.2.3** Operations with Radicals		
UNIT 3 LINEAR FUNCTIONS AND RELATIONS	Chapter 1	*Linear Functions and Relations* **3.1.1** Linear Functions **3.1.2** Applications of Linear Functions **3.1.3** Graphs of Linear Inequalities	• Demonstrate an understanding of the relationship between a relation and a function • Use graphs, tables of values, and written descriptions to describe patterns and relationships • identify patterns in graphs and/or tables of values • Describe a given graph using inequalities • Create graphs for given information in a variety of formats	9%
	Chapter 2	*Solving Systems of Linear Equations* **3.2.1** Solving Algebraically — The Comparison Strategy **3.2.2** Solving Algebraically — The Substitution Strategy **3.2.3** Solving Algebraically — The Elimination Strategy	• Analyse a variety of situations and model algebraically as equations • Solve linear equations by comparison method/ substitution method/ elimination method	
UNIT 4 MEASUREMENT	Chapter 1			7%
	Chapter 2	*Efficient Design* **4.2.2** 2-D Efficiency **4.2.3** 3-D Efficiency	• Examine maximizing area while restricting perimeter • Examine minimizing perimeter while restricting area • Demonstrate an understanding that surface area, capacity, and volume apply to 3-D shapes	

			• Demonstrate an understanding of the connection between volume and surface area	
UNIT 5 **NON-LINEAR** **FUNCTIONS AND** **EQUATIONS**	*Chapter 1*	***Graphing Functions*** **5.1.2** Graphs of Quadratic Functions in Factored Form **5.1.4** Relating Graphs of Quadratic Functions	• Create graphs for given information • Sketch the graph of a quadratic function in factored form and vertex form	**9%**
	Chapter 2	***Solving Non-Linear Equations*** **5.2.1** Factoring Quadratic Expressions **5.2.3** Solving Quadratic Equations by Factoring	• Develop factoring strategies for polynomials in one variable that are products of degree one binomials • Use the x-intercept to determine the solution of quadratic equations	
UNIT 6 **DATA,** **STATISTICS, AND** **PROBABILITY**	*Chapter 1*	***Data Involving One Variable*** **6.1.1** Histograms and Stem and Leaf Plots **6.1.3** Histograms and Box and Whisker Plots **6.1.4** Data Distribution	• Compare various methods of displaying data which are grouped in intervals and evaluate their effectiveness: stem and leaf plots, box and whisker plots and histograms • Demonstrate an understanding of the properties of the data distribution	**10%**
	Chapter 2	***Data Involving Two Variables*** **6.2.1** Correlation and Lines of Best Fit **6.2.2** Non-Linear Data and Curves of Best Fit	• Demonstrate an understanding that a correlation coefficient is a description of how well data fits a linear pattern • Identify the difference between a strong and weak correlation and between a negative and positive correlation based on the scatter plot and the value of the correlation coefficient	
	Chapter 3	***Probability*** **6.3.1** Dependent and Independent Events **6.3.2** Calculating Probabilities	• Distinguish between two events that are dependent or independent using reasoning and calculations	

UNIT 7 TRIGONOMETRY	Chapter 1	**Defining Trigonometric Ratios** **7.1.3** The Sine, Cosine, and Tangent Ratios **7.1.4** Trigonometric Identities	• Apply side and angle relationships when developing the primary trig ratios • Use calculators to determine the trig ratios $sin\theta, cos\theta, and\ tan\theta$ • Relate reciprocal ratios to primary trigonometric ratios • Demonstrate an understanding of what identities are and apply in appropriate situations	7%
	Chapter 2	**Applying Trigonometric Ratios** **7.2.2** Angles of Elevation and Angles of Depression **7.2.3** Areas of Polygons Trigonometric Ratios to Circles	• Explore angles of elevation (measured from the horizon up) and angles of depression (measured from the horizon down) in real world settings • Find areas of polygons using right triangle trigonometry	

Subject: Automobile (Module I Servicing Suspension system & Interpreting Engineering drawing)

Class IX (Note: Red front colour hour is actual hours for teaching)

Chapter	Scope		Weighting (Distribute instructional hrs)
	Topics/Subtopics	**Learning objectives**	
I. Practicing Occupational Health and Safety	Applying principles of 5S	Define 5S State the purpose of 5S Explain the principle of 5S	Theory &Practical (1 hours) 1hr
	Applying OHS Practices	Define OHS State the importance of OHS Explain the rights of employee State the main causes of accidents State the safety rules	Theory &Practical (1 hours) 1hr
	Using PPE	Define PPE State the importance of PPE List the categories of PPE Ensure to use appropriate PPE Ensure safe disposal of damaged PPE Ensure not to use defective and damaged PPE	Theory &Practical (1 hours)2hr
	Maintaining workplace safety	Define safety precaution List the different types of safety Explain workshop & personal safety State the importance of maintaining a workplace and personal safety Explain the importance of safety signs and symbols Explain the Emergency exit Describe the layout of the workshop	theory (1 hour) 1hr

	Maintain tools and equipment safety	Explain tools and equipment safety State the importance of maintaining tool and equipment safety List the Do's & Don'ts for tools and equipment Ensure all the tools are in workable condition Ensure to keep tools clean and dry, and store them properly after use Ensure to operate the machine when instructed Ensure to refer manual prior to operation of tools and equipment	Theory &Practical (30" +30" =1 hours)2hrs
	Use fire extinguisher	Define fire extinguisher. Label the parts of fire extinguisher. State the types of fire. List the types of fire extinguisher. State the method of combating/ extinguishing fire. Ensure to read the instructions provided on the fire extinguisher. Ensure appropriate use PPE.	Theory &Practical (1+1 = 2 hours)3hrs
	Use hacksaw	State function of hacksaw. List parts of hack saw. State types of hack saw. Ensure appropriate use of PPE.	Theory & practical (30"+6= 6:30 hours)7hr
	Perform filing	State the function of file. List the types of files. List the parts of file. Ensure appropriate use PPE	Theory & practical (30"+5= 5:30 hrs) 7hrs
	Perform drilling	Define drilling machine. State the function of drilling machine. List the types of drilling machine. **Operate drilling Mechine.** **Ensure appropriate use of PPE.** **Ensure to use coolant.**	Theory & practical (30"+30"= 1 hrs)2hrs
	Perform griding	State the function of grinding machine. Label the parts of grinding machine. List the types of grinding machine **Operate grinding machine.** Ensure appropriate use of PPE. Ensure to keep safe distance between hand and grinding machine. Ensure to use gradual force while grinding.	Theory & practical (30"+30"= 1 hours)2hrs

	Perform Arc welding	Define of arc welding Define arc welding machine. List the types of welding machine. List the accessories and its functions. Define arc length. **Operate arc welding machine.** Ensure appropriate use of PPE. Ensure to set welding current as per the job requirement.	Theory & practical (30"+3:30"= 4hrs)7hrs
II. Replacing faulty Rigid suspension components.	Replace Shock absorber	Define suspension system. State the function of suspension system. Explain the operation of suspension system. State the types of suspension system. List the components of suspension system. State the functions of shock absorber. Classify the types of shock absorber. Illustrate the construction of shock absorber. Explain the operation of shock absorber. Ensure the vehicle is parked safely. Ensure to place the safety stands on a designated area. Ensure to secure nuts and bolts of shock absorber. Ensure to handle tools and equipment properly.	Theory & practical (30"+4= 4:30hrs)6hrs
	Replace leaf spring assembly	Explain the types of leaf spring. State the functions of leaf spring. Explain the operation of leaf spring. Define and state the function of torque wrench. Explain the types of torque wrench. Explain the torque conversion factor. Use hydraulic jack. Use Torque wrench. Ensure vehicle is parked safely. Ensure all tools and equipment are handled properly. Ensure that chassis and axle is supported by safety stand.	Theory & practical (30"+18= 18:30hrs)19hrs

	Disassembling leaf spring assembly	List the spring defects. Describe the materials of spring. Identify the components of leaf spring and its functions. Ensure appropriate use of PPE. Ensure proper usage of right tools to pry up the clamp.	Theory & practical (30"+5= 5:30hrs)7hrs
	Assembly leaf spring assembly	Explain the importance of spring alignment. Define pneumatic impact gun. State the function of pneumatic impact gun. List the external components of pneumatic gun. **Use pneumatic impact gun.** Ensure appropriate use of PPE. Ensure leaf spring assembly is clamped on the vice securely.	Theory & practical (30"+5= 5:30 hrs)6.3hr
	Changing leaf spring bush	Explain function of spring bush. State the types of bushes. Ensure appropriate use of PPE. Ensure proper disposal of used bushes. Ensure to follow the cross pattern for loosening and tightening U-bolt.	Theory & practical (30"+3= 2:30 hrs)4.30hr
III. Replacing faulty independent suspension components	Replace strut assembly	Define independent suspension system State function of strut assembly. List the types of independent suspension system. Explain construction of strut assembly. Explain operation of strut assembly. Ensure appropriate use of PPE. Ensure brake lines are secured. Ensure to tightened wheel nut with the specific torque.	Theory & practical (30"+5= 5:30hrs)6.30hrs
	Disassembling strut & coil spring	Explain the components of independent suspension system. State the function of jack. List types of Jacks. Locate jacking position. Use screw jack. Ensure proper griping of strut assembly in the bench vice. Ensure the hooks of the spring compressors are place properly.	Theory & practical (6hours)7hrs

Assembly strut & coil spring	State importance of coil spring positioning. Use coil spring compressor. Ensure to hold the piston rod safety while tightening the lock nut. Ensure to install the spring in a correct position. Endure to hock coil spring compressor correctly. Ensure to tighten each coil spring compressor hook evenly.	Theory & practical (3 hours)3hrs
Replacing coil spring	State function of coil spring. List the characteristics of coil spring. Explain the operation of coil spring. Ensure appropriate use of PPE. Ensure to place the jack and safety stand in correct position.	Theory & practical (30"+4= 4:30 hrs)6hrs
Replacing Strut bar	Describe strut bar. State the function of strut bar. Ensure to wedge a wheels. Ensure to give specified torque to strut bar nut.	Theory & practical (1+2= 3hrs)3.30hrs
Replacing suspension arm	State the functions of suspension arm. Explain the types of suspension arm. Explain the operation of suspension arm. Ensure appropriate use of PPE. Ensure to wedge the wheels.	Theory & practical (30"+9= 9:30 hrs)10hrs
Replacing torsion bar	Define torsion bar. State the function of torsion bar. Explain the characteristics of torsion bar. Explain the operation of torsion bar. Ensure appropriate use of PPE. Ensure to wedge the wheels. Ensure to place the jack and safety standing correct position.	Theory & practical (30"+5= 5:30hrs)6hrs
Replacing lateral control rod	Define lateral control rod. State the function of lateral control rod. Explain the operation of lateral control rod. Ensure to wedge the wheels. Ensure the jack saddle is placed in the correct position. Ensure appropriate use of PPE.	Theory & practical (4hrs)4hrs

	Replacing stabilizer bar	Define stabilizer bar. State the function of stabilizer bar. Explain the construction of stabilizer bar. Explain the construction of stabilizer link bar. Ensure to park the vehicle safely. Ensure appropriate use of PPE.	Theory & practical (30"+5= 5:30hrs)6hrs
IV. Diagnosing suspension system failure	Performing visual inspection of suspension failure	List the methods of inspecting suspension system failure. Explain types of defects in suspension system. Explain the inspection check list. Ensure to use appropriate PPE. Ensure to park the vehicle safely.	Theory & Practical(30"+30"= 1hr)2 hrs
	Performing bounce test	Explain the methods of bounce test. Ensure the vehicle is parked on the level ground.	Theory &Practical (30"+30"=1hr)3hrs
	Performing Test drive	Explain the symptoms, causes and remedies of suspension system failure. Ensure to fasten seat belt while driving. Ensure to follow traffic signs and road hazards.	theory &practical (1.30 min) 3hrs
V. Draw basic signs, symbols &dimension	Using drawing instrumen+B30:D35	Define engineering drawing. State the purposes of engineering drawing. List the types of drawing instruments. List sizes of drawing papers. Ensure to maintain cleanliness and neatness of drawing. Ensure proper handling of drawing instruments.	Theory &Practical (3hr)6hrs
	Laying out drawing sheet	Define layout of a drawing. Define the title block. Ensure to maintain cleanliness and neatness of drawing. Ensure proper handling of drawing instruments.	Theory &Practical (3hr)6hrs
	Interpreting engineering signs, symbols	Define signs and symbols Define abbreviation Ensure to maintain cleanliness and neatness of drawing Ensure proper handling of drawing instruments	Theory &Practical (3hr)6hrs

	Drawing different types of lines	Define line State types of line and its applications Ensure to maintain cleanliness and neatness of drawing Ensure proper handling of drawing instruments	Theory &Practical (5hr)8hrs
	Drawing letters and numbers	Define lettering and numbering. Classify letters style. List the types of letters. Define freehand lettering. List the size of letters. State the rules for lettering and numbering. Ensure to maintain cleanliness and neatness of drawing. Ensure proper handling of drawing instruments	Theory &Practical (3hr)6hrs
	Providing dimensions	Define dimension. State the types of dimensions. Explain the system of dimensions. State the terminologies of dimensions. State the rules for dimensioning. Ensure to maintain cleanliness and neatness of drawing. Ensure proper handling of drawing instruments.	Theory &Practical (4hr)8hrs

Computer Hardware and Networking   **Class IX**

Chapter	Scope		Weighting (Distribute instructional hrs)	Actual hrs (Practical/ Theory)
	Topics/ Subtopics	**Learning objectives**		
chapter 2	Preparing for effective data backup and recovery	i. State the importance of preparing for data backup and recovery. ii. Describe vital things that must be considered before backup. iii. Segregate data. iv. Prepare for effective data backup and recovery.	1	1.5
chapter 3	Backing-up data	• Define data backup • Explain the importance of data backup. • Explain types of data backup • List types of backup storage media. • Differentiate between device driver backup and data backup. • Restore data. • Backup data	14	18
	Installing windows OS (Operating System)	i. State the functions of Operating System. ii. List types of Operating System. iii. Identify versions and service pack of windows. iv. State the purpose of product key. v. Examine methods of installation. vi. Explain key to enter the BIOS. vii. Change Boot Priority in BIOS program. viii. Install Windows OS.	30	30
	Installing inbuilt device drivers	i. List function of device manager. ii. Interpret signs of device driver fault. iii. Examine ways to install device drivers. iv. Update device driver. v. Install inbuilt driver.	12	16

	Installing application software	i. State the functions of application software. ii. List types of application software. iii. Differentiate between trial and licensed version. iv. Define function of 'Setup' file, 'ReadMe' file and 'Serial Key' v. Generate product key to activate	12	23
	Formatting HHD (after installation of OS)	i. List files systems to format HDD/storage media. ii. Difference between FAT and NTFS file system. iii. Illustrate reasons for formatting. iv. List Types of formatting. v. Format Hard Disk Drive.	6	8
	Customizing disk partition	i. State the function of Disk Management tools. ii. List advantages of partitioning HDD from disk management. iii. Indicate ways to browse disk management window. iv. Browse "disk management tools". v. Customize disk partition.	4	6
	Configuring software	i. Define control panel. ii. Describe control panel options. iii. Determine ways to browse control panel. iv. Configure Software.	5	5
chapter 4	Identifying tools, materials and equipment for computer maintenance	i. Classify tools, materials and equipment for computer maintenance. ii. Explain Electrostatic-Sensitive Device (ESD) equipment. iii. Explain Safe-working of ESD. iv. Explain precautionary ESD signs and symbols. v. Identify tools, materials and equipment for computer maintenance.	4	4

Fixing motherboard	i. Define motherboard. ii. Label the components of motherboard. iii. Classify the types of motherboard. iv. Label system case. v. List the types of system case. vi. State the functions of stand-off. vii. Fix Motherboard	10	10
Mount CPU	i. Define CPU. ii. Explain CPU frequency iii. Categorize types of CPU. iv. Interpret CPU alignment. v. List types of socket. vi. Describe effect of binding pins. vii. Mount CPU	10	10
Mount CPU fan	i. Define CPU fan. ii. Explain purpose of locking CPU fan. iii. Explain computer cooling mechanisms and its function. iv. Mount CPU fan.	6	8
Fixing RAM	i. List types of computer memory. ii. Explain difference between RAM and ROM. iii. Classify types and size of RAM iv. Fix RAM	10	10
Installing Add-on cards	i. State types of expansion slot. ii. List types of PCI card used. iii. State purpose for adding card. iv. Install Add-on cards.	8	8

Furniture Making Class IX

Chapter	Scope		Weighting (Distribute instructional hrs)	Actual hrs (Practical/ Theory)
	Topics/ Subtopics	**Learning objectives**		
chapter 2	sharpening plane and chisel blade	i. Define blade. ii. List types of plane. iii. Identify the parts of the plane. iv. Identify the types of plane blade. v. State the function of the plane and its parts. vi. Explain the purpose of soaking oil stone in water. vii. State the purpose of maintaining sharpening angle range. viii. State the purpose of applying oil on the blade. ix. State the purpose of setting plane blade. x. Sharpen blade.	15	10
	Grinding saw blade	i. State the function of a grinding machine. ii. List the safety precautions. iii. State the function of a safety guard. iv. Explain the working principle of grinding machine. v. Grind hand tools.	6	3
	Making handle			
	Sharpening augur bit			
	sharpening knife			
	Changing circular saw blade	i. State the function of the machine. ii. List the parts of circular saw machine. iii. State the types of saw blade. iv. Operate circular saw machine. v. Change circular saw machine.	6	3
	Replacing jigsaw blade	i. State the function of jig saw machine. ii. Label the parts of jigsaw machine. iii. Operate jigsaw machine. iv. Replace jig saw blade	6	2.5

	Replacing router bit	i. State the function of router machine. ii. State the types of router bit. iii. Use router machine. iv. Replace router bit.	6	2.5
chapter 3	Performing cross cut	i. Define crosscut saw. ii. State the application of sawing. iii. State the purpose of cross cutting. iv. Perform cross cut.	12	7
	Performing rip cut	i. State the function of rip cut saw. ii. State the application of rip cut saw. iii. Perform rip cutting.	9	5.5
	Planning work piece	i. Define plane. ii. List types of marking tools. iii. Sate the preventive measures for distortion of work piece. iv. Explain the grain and textures of wood. v. Plane workpiece.	33	32.5
	Chiseling work piece	i. State the functions of a chisel. ii. Identify the different types of chisels. iii. Perform chiseling.	22	20
	Drilling hole	i. Define drill bit ii. List the sizes of drill bit iii. State the purpose of drilling iv. Explain the types of boring tools v. Drill hole	8	3.5
	Standing work piece	i. Define sanding. ii. State the purposes of sanding. iii. Explain types of sandpaper. iv. Explain the types of sandpaper grits. v. State methods of sanding. vi. State the function of the portable power sanding machine vii. Use portable power sanding machine. viii. Sand workpiece.	9	5.5

Electrical   **Class IX**

Chapter	Scope		Weighting (Distribute instructional hrs)
	Topics/ Subtopics	**Learning objectives**	
I Practicing Occupational Health and Safety	1.1 Applying principles of 5S	i. Define 5S ii. State the purpose of 5S iii. Explain the principle of 5S iv. Define OHS v. State the importance of OHS vi. Explain the rights of employee vii. State the main causes of accidents viii. State the safety rules	Theory-1hr Practical-1hr
	1.2 Using PPE	i. Define PPE ii. State the importance of PPE iii. List the categories of PPE iv. Ensure to use appropriate PPE v. Ensure safe disposal of damaged PPE vi. Ensure not to use defective and damaged PPE	T-1hr P-1hr

	1.3 Maintaining workplace and personal safety	i. Define safety precaution.
		ii. List the different types of safety measures.
		      Explain workshop and personal safety.
		iii. State the importance of maintaining workplace and personal safety.
		      Explain the importance of safety signs and symbols.
		      Explain the emergency exit.
		iv. Describe the layout of the workshop.
		v. Maintain work place and personal safety.
			T-1hr P-2hr

	1.4 Maintaining tools and equipment safety	i. Explain tools and equipment safety. ii. State the importance of maintaining tools and equipment safety. iii. List the do's and don'ts of tools and equipment. iv. Maintain tools and equipment safety.	T-1hr P-1hr

	1.5 Using fire extinguisher	i. Define fire extinguisher.
		ii. Label the parts of fire extinguisher.
		        iv. Explain the types of fire.
		        v. iv. List types of fire extinguishers.
		               v. State the method of combating/extinguishing fires.
		vi. Use fire extinguisher.
			T-1hr P-1hr

2. Applying basic electrical theory	2.1: Testing conductors, semiconductor and insulator	i. Define conductor, insulator and semiconductor. ii. Explain the properties of conductor, insulator and semiconductor. iii. Differentiate amongst conductors, insulators and semiconductors. iv. Use multimeter. v. Test conductors, semiconductor and insulator.	T-6hr P-3hr
	2.2: Performing instruments reading	i. List the types of measuring instruments. ii. State the functions of measuring instruments. iii. List signs & symbols of measuring instruments. iv. Explain the errors in the measuring instruments. v. Perform instrument reading. vi. Define resistance, voltage, current, power, frequency and energy. vii. State the unit of unit of electrical quantities. viii. Measure resistance, voltage, current, power, frequency and energy.	T-20hr P-17hr
	2.3: Verifying Faraday's law of electromagnetic induction	i. List the types of magnets. ii. State the properties of magnet. iii. State the properties of magnetic lines of force. iv. List the factors affecting the strength of magnet. v. Describe the basic concept of magnetism and electromagnetism. vi. State the application of Fleming's right hand rule. vii. State the application of Fleming's left hand rule. viii. Verify Faraday's Law of electromagnetic induction.	T-6hr P-6hr
3. Verifying Dc circuits	3.1: Determining the value of resistor using colour coding chart	i. Define resistor. ii. List the types of resistors. iii.Explain the systems of colour coding band of resistor. iv. Explain the properties of resistor. v. Determine the value of resistor using colour code chart.	T-2hr P-4hr

	3.2: Verifying Ohm's law	i. State Ohm's law. ii. Explain relation between voltage, current and resistance. iii. State the application and limitations of Ohm's law. iv. Verify Ohm's law.	T-3hr P-5hr
	3.3: Verifying characteristics of series of ciruit	i. Define series circuit. ii. Explain the characteristics of series circuit. iii. Calculate the value of resistance and voltage in series circuit. Iv. Verify characteristics of series circuit.	T-2hr P-4hr
	3.4: Verifying characteristics of parallel circuit	i. Define parallel circuit. ii. Explain the characteristics of parallel circuit. iii. Calculate the value of resistance and current in parallel circuit. iv. Verify characteristics of parallel circuit.	T-2hr P-4hr
	3.5: Verifying characteristics of series parallel circuit	i. State the application of series parallel circuit. ii. Differentiate between series and parallel circuit. iii. Verify characteristics of series parallel circuit.	T-1hr P-4hr
	3.6: Verifying Kirchhoff's law	i. State Kirchhoff's current and voltage law. ii. State the application of Kirchhoff's law. iii. Explain sign-convention in applying Kirchhoff's law. iv. Verify Kirchhoff's law.	T-3hr P-5hr
	3.7: Verifying characteristics of cells connected in serie	i. Define cell. ii. State the types of cells. iii. Differentiate between primary and secondary cells. iv. Explain cells connected in series and parallel. v. Verify characteristics of cells connected in series and parallel.	T-2hr P-4hr
4 Verifying AC circuits	4.1: Verifying characteristics of AC and DC	i. Explain the generation of electricity. ii. Explain characteristics of AC and DC. iii. List the advantages of AC over DC. v. State the application of Cathode Ray Oscilloscope (CRO). v. Explain the operation of CRO. vi. Use CRO vii. Verify characteristics of AC and DC.	T-3hr P-5hr
			Total hour= 132 hrs

Welding   **Class IX**

Chapter	Scope		Weighting (Distribute instructional hrs)
	Topics/ Subtopics	**Learning objectives**	
I. Practicing Occupational Health and Safety	Apply principle of 5S	Define 5S State the purpose of 5S Explain the principle of 5S Define OHS State the importance of OHS Explain the rights of employee State the main causes of accidents State the safety rules	Theory: 3 hours Practical: 4 hours Theory: 2 hours Practical: 3 hours
	Using PPE	Define PPE State the importance of PPE List the categories of PPE Ensure to use appropriate PPE Ensure safe disposal of damaged PPE Ensure not to use defective and damaged PPE	Theory: 1 hour Practical: 0 hour Theory: 1 hour Practical: 0 hour
	Maintaining workplace and personal safety	Define safety precaution List the different types of safety Explain workshop and personal saftey State the importance of maintaining a workshop and personal safety Explain the importance of safety signs and symbols Explain the emergency exit Describe the layout of the workshop	Theory: 1 hour Practical: 2 hours Theory: 1 hour Practical: 2 hours
	Maintaining tools and equipment safety	Explain tools and equipment safety State the importance of maintaining tools and equipment safety List the do's and don'ts of tools and equipment Ensure all the tools are in workable condition	Theory: 4 hours Practical: 3 hours Theory: 4 hour Practical: 3 hours

	Using fire extinguisher	Define fire extinguisher Label the parts of a fire extinguisher Exlpain types/classes of fire List the types of fire extinguishers State the methods of combating/ extinguishing fires	Theory: 3 hours Practical: 4 hours Theory: 3 hours Practical: 2 hours
II. Setup arc welding	Perform the basic electrical connection	Define voltage, current, resistance and their units Identify the conductor, insulator and parallel circuits Explain the differences between AC & DC current Explain the electrical phases Explain the capacity and the functions of MCB	Theory: 2 hours Practical: 4 hours Theory: 1 hour Practical: 3 hours
	Set up the arc welding machine	Define Arc welding Describe the arc welding machine List different types of welding machine Explain arc welding accessories and their functions Explain the working principle of the welding machine State the current carrying capacity of welding machine	Theory: 2 hours Practical: 10 hours Theory: 2 hour Practical: 6 hours
	Test operation of welding machine	Define electrical terms Explain all safety measures associated with the test operation of the welding machine	Theory: 2 hours Practical: 10 hours Theory: 2 hours Practical: 6 hours
III. Carry outarc welding	Prepare base metal	Explain basic metallurgy Explain the types of edge preparation and its purpose State the types of file, their functions and classification Identify the types of a hacksaw and their functions Describe high-speed cutter Describe angle-grinder	Theory: 4 hours Practical: 20 hours Theory: 3 hours Practical: 12 hours
	Align the workpiece	Demonstrate the technique to align base metal Explain the distortion preventive measures	Theory: 1 hour Practical: 5 hours Theory: 1 hour Practical: 4 hours

	Maintain arc length	Explain the striking of an arc Explain the types of striking method Define arc length Explain different types of arc length and its effect Explain the current setting and its importance	Theory: 4 hours Practical: 23 hours Theory: 3 hours Practical: 15 hours
	Maintain electrode angle	Explain electrode angle and its importance State the types and coding of the electrode Identify welding symbols and its application	Theory: 4 hours Practical: 24 hours Theory: 3 hours Practical: 17 hours

Interpreting Engineering Drawing

Draw basic signs, symbols and dimensions	Use drawing instruments	Define engineering drawing State the purposes of engineering drawing List the types of drawing instruments State uses of drawing instruments List type and size of drawing papers	Theory: 3 hours Practical: 4 hours Theory: 1 hour Practical: 2 hours
	Layout drawing sheet	Define layout List terminology used for layouts Define title block Explain the purposes of the title block	Theory: 3 hours Practical: 4 hours Theory: 1 hour Practical: 2 hours
	Interpret Engineering Sign, Symbols and abbreviation	Define sign and symbol Draw civil signs and symbols Define abbreviation List the abbreviation used in dimensioning List the abbreviation used in drawing List the abbreviation used for the units of length	Theory: 3 hours Practical: 5 hours Theory: 1 hour Practical: 2 hours
	Draw different types of lines	Define line State types of lines and its application	Theory: 3 hours Practical: 10 hours Theory: 1 hour Practical: 2 hours
	Draw letters and numbers	Define lettering and numbering Classify letters style List the types of letters Define freehand lettering List the sizes of letter State the rules for lettering and numbering	Theory: 2 hours Practical: 2 hours Theory: 1 hour Practical: 2 hours
	Provide dimensions	Define dimension State the types of dimensions Explain the system of dimensioning State the terminologies of dimensions	Theory: 2 hours Practical: 2 hours Theory: 1 hour Practical: 2 hours

Plumbing   **Class IX**

Chapter	Scope		Weighting (Distribute instructional hrs)
	Topics/ Subtopics	**Learning objectives**	
I. Practicing Occupational Health and Safety	Applying principles of 5S	Define 5S Define OHS State the importance of OHS Explain the rights of employee State the main causes of accidents State the safety rules	Theory= 12 mins for each topic (12*8=96mins/1hr36mins) Practical=12hrs
	Using PPE	Define PPE State the importance of PPE List the categories of PPE Ensure to use appropriate PPE Ensure safe disposal of damaged PPE Ensure not to use defective and damaged PPE	Theory=15mins for each topic(15*7=110. 25mins/1hr50mins) Practical=12hrs
	Maintaining workplace safety	Define safety precaution List the different types of safety Explain workshop and personal safety State the importance of maintaining work place and personal safety Explain the importance of safety signs and symbols Explain the emergency exit Describe the layout of the workshop Maintain work place and personal safety	Theory=12 mins for each topic (12*8=96mins/1hr36mins) Practical=12Hrs
	Maintaining tools and equipment safety	Explain the tools and equipment Safety State the importance of maintaining tools and equipment safety List do`s and don`ts of tools and equipment Maintain tools and equipment safety	Theory=34.37mins for each topic(1. hr49mins) Practical=12hrs

	Using fire extinguisher	Define fire extinguisher Label the parts of fire extinguisher Explain the type of Fire List the type of fire extinguisher State the methods of combating/extinguishing fires Use fire extinguisher	Theory =17.20 mins for each topic (1hr41mins) Practical=12hrs
ll. Installing pipes and fittings	Identifying water pipes and fitting	Define pipe Explain the type of internal pipe and their uses Explain the types of internal fitting and there uses State the advantages and disadvantages of a different pipe Identify pipes and fittings	Theory=2hr, Practical = 12hrs
	Identify tools and equipment	Define tools and equipment Explain types of tools and their uses Explain types of equipment and their uses Identify tools and equipment	Theory=2hr, Practical = 12hrs
	Estimating materials	Define estimation and costing Explain the importance of estimating and costing Explain the different method of estimation List the data required for estimation Estimate the materials	Theory= 3hrs, Practical= 11hrs
	Cutting pipes	Define marking tools Explain the purpose of marking tools Identify types of marking tools Define cutting tools Explain types of cutting tools and their function Explain the importance of position while cutting pipe Differentiate between pipe cutter and hacksaw Set hacksaw blade in forward direction for proper cutting Label parts of cutting tools	Theory=3hrs, Practical=16hrs
		Total 139.5	

Tailoring **Class IX**

Chapter	Scope		Weighting (Distribute instructional hrs)	Actual hrs (Practical/ Theory
	Topics/ subtopics	**Learning objectives**		
འཕུལ་ཚས་ ཉམས་ བཅོས་འབད་ནི།	འཕུལ་ཆེམ་ལག་ལེན་ འཐབ་ནི།	འཕུལ་ཆེམ་གྱི་སྐོར་ལས་ཤེས་ཆུགས། འཕུལ་ཆེམ་གྱི་འཁོར་ལོ་དང་ ཀང་ཁྲབ་རྒྱབ་ཆུགས། སྐུད་པ་དཀྱིས (ཐང་གི་)གུ་སྐུད་པ་དཀྱི་ཆུགས། སྐུད་པ་དཀྱིས (ཐང་གི་)སྐུད་ཚང་ནང་བཙུགས་ཆུགས། སྐུད་ཚང་འཕུལ་ཆེམ་གུ་བཙུགས་ཆུགས། འཕུལ་ཆེམ་གུ་ལྷག་སྐུད་བརྒྱ་ཆུགས། འོག་སྐུད་འཕུལ་སྟེགས་གུ་སྟོན་ཆུགས། འཕུལ་ཆེམ་ལག་ལེན་འཐབ་ཆུགས།	༡	༦༦
	འཕུལ་ཁབ་སྟོམ་སྒྲིག་ འབད་ཐངས།	འཕུལ་ཁབ་ཀྱི་སྐོར་ལས་ཤེས་ཆུགས། འཕུལ་ཆེམ་གུ་ཁབ་རྒྱབ་མདུན་མ་འཛོལ་བ་བཙུགས་ཆུགས། འཕུལ་ཁབ་སྟོམ་སྒྲིག་འབད་ཆུགས།	༡	༣༣
	འཕུལ་ཐག་ཐད་འཕྱང་ བཀལ་ནི།	འཕུལ་ཐག་ཕྱང་བཀལ་དགོ་པའི་དགོས་པ་ཤེས་ཆུགས། འཕུལ་ཆེམ་གྱི་འཁོར་ལོ་གོང་འོག་གཉིས་ཐད་ཕྱང་ཆུགས། འཕུལ་ཐག་ཐད་ཕྱང་བཀལ་ཆུགས	༠.༣	༥.༥
	འཕུལ་གཟེར་བསྐམ་ ནི་དང་ཕྱེ་ནི།	འཕུལ་གཟེར་གྱི་དཔྱེ་བ་ཕྱེ་ཆུགས། འཕུལ་གཟེར་བསྐམ་ཕྱོད་ཤེས་ཆུགས།	༠.༣	༥.༥

ཁ་སྐྱིག་འབད་ནི།	དགྱེར་ཚད་ལེན་ནི།	ཚད་ལེན་གྱི་དགོས་པ་བཤད་ཚུགས།	༣	༤.༥
		འཇལ་ཐག་ལག་ལེན་འཐབ་ཐངས།		
		ས་སྨྱུག་ལག་ལེན་འཐབ་ཐངས།		
		གཞི་ཏེན་ཚིས་ཁ་བཤད་ཚུགས།		
		རྒྱུ་ཚད་དང་རིང་ཚད་ལེན་ཚུགས།		
		ཚད་ཐིགས་བཀལ་ཐངས་བཤད་ཚུགས།		
		འབྲེལ་བ་དང་གོ་བརྡ་སྤྲོད་ཚུགས།		
		ཐིག་ཚད་ཐོབ་ཐངས་དང་འཁྲིལ་ལེན་ཚུགས།		
		རྒྱུ་ཆས་ཚད་འཛིན་སྤྲེ་ལག་ལེན་འཐབ་ཚུགས།		
		དགྱེར་ཚད་ལེན་ཚུགས།		
	དགྱེར་གི་དུམ་བཟོ་ནི།	དུམ་གྱི་སྐོར་ལས་བཤད་ཚུགས།	༡	༣
		ཚོང་མགྲོན་པའི་དུམ་ཚད་ལངས་ཏིང་བལྟ་ཚུགས།		
		དུམ་ཚད་ཏིང་བལྟ་ཚུགས།		
		དགྱེར་གི་དུམ་བཟོ་ཚུགས།		
	དགྱེར་གི་ཁ་སྦྱིག་ནི།	ཁ་སྦྱིག་ཐངས་གལ་ཆེ་ཚུལ་བཤད་ཚུགས།	༠	༢
		ཁ་མགུ་མཐུག་བལྟ་ཚུགས།		
		དགྱེར་གི་ཁ་སྦྱིག་ནི།		
	དགྱེར་མ་བཟོ་ནི།	མ་གི་གོ་དོན་བཤད་ཚུགས།	༠.༣	༤
		མ་གི་དབྱེ་བ་ཕྱེ་ཚུགས།		
		རྒྱུ་ཚད་དང་ རིང་ཚད་འཇལ་ཚུགས།		
		དགྱེར་མ་བཟོ་ཚུགས།		

	འཛར་ད་ནི།	འཛར་ད་ནིའི་གོ་རིམ་བཤད་ཆུགས།	0.3	༢
		འཛར་ཚོས་གཞི་ཐོབ་ལམ་བཤད་ཆུགས།		
		འཛར་གི་ཆད་གཞི་རོས་འཛིན་འབད་ཆུགས།		
		དབུར་སྟེ་རྒྱབ་སྟེ་འཛར་བསླབ་ཁུལ་བརོ་ནི་དང་ཐིག་འཐེན་ཐངས།		
		འཛར་གི་ཕྱི་ནང་བལྟ་ཆུགས།		
		གྱིམ་ཙི་ལག་ལེན་འཐབ་ཐངས།		
		འཛར་མཐུད་ཆུགས།		
		འཛར་ད་ཆུགས།		
		Total	132	

Chapter	Scope		Weighting (Distribute instructional hrs)
	Topics/ Subtopics	**Learning objectives**	
ལྱ་གི་འཕོད་བསྟེན་དང་ཉེན་སྲུང་ ལག་ལེན་འཐབ་ནི།	5S གི་རྩ་དོན་ལག་ལེན་ འཐབ་ནི།	5s གི་དགོས་པ་བཤད་ཚུགས། 5sགི་རྩ་དོན་སོར་ལས་བཤད་པ་རྒྱབ་ཚུགས། 5sསྐྱོ་བ་དང་གཅིག་སྐྱིལ་ཐོག་ལས་ལག་ལེན་འཐབ་དགོ།	Theory &Practical (1 hours) 1.5hr
	ལྱ་གི་འཕོད་བསྟེན་དང་ ཉེན་སྲུང་ལག་ལེན་འཐབ་ ནི།	ལྱ་གི་འཕོད་བསྟེན་དང་ཉེན་སྲུང་གི་དགོས་པ་བཤད་ཚུགས། ལྱ་གི་འཕོད་བསྟེན་དང་ཉེན་སྲུང་གི་གལ་ཆན་ ཚུ་བཤད་ཚུགས། གི་འཕོད་བསྟེན་དང་ཉེན་སྲུང་གི་གཉི་བར་ན་ཐོབ་དབར་སོར་ལས་བཤད་ཚུགས། ལྱ་གི་ འཕོད་བསྟེན་དང་ཉེན་སྲུང་གི་གལ་ཆན་བཀྲི་འདྲི་འབད་དགོ་ལ་བཤད་ཚུགས། ལྱ་གི་འཕོད་བསྟེན་དང་ ཉེན་སྲུང་ལག་ལེན་འཐབ་དགོ།	Theory &Practical (1 hours) 1.5hr
	རང་གི་ཉེན་སྲུང་གི་མགོ་ ཚས་ལག་ལེན་འཐབ་ནི།	རང་གི་ཉེན་སྲུང་གི་མགོ་ཚས་སོར་ལས་འགྱེལ་བཀད་རྒྱབ་ཚུགས། རང་གི་ཉེན་སྲུང་གི་མགོ་ཚས་ལག་ཆེས་ ཨིནམ་བཀད་ཚུགས། རང་གི་ཉེན་སྲུང་གི་མགོ་ཚས་དོས་འདོན་འབད་ཚུགས། གནས་སངས་དང་འཕྲིལ་རང་ གི་ཉེན་སྲུང་གི་མགོ་ཚས་ལག་ལེན་འཐབ་དགོ།	Theory &Practical (1 hours) 2hr
	སྨན་ཙ་མེ་ཏོག།	སྨན་ཙ་མེ་ཏོག་གི་སོར་ལས་འགྱེལ་བཀད་རྒྱབ་ཚུགས། སྨན་ཙ་མེ་ཏོག་གི་དབྱེ་བ་བཀད་ཚུགས། སྨན་ཚེ་ ཏོག་གི་རེ་མོའི་ཐོབ་ལམ་བཀད་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྐྱིལ་ཐོག་ལས་ལྩ་འབད་དགོ། ཅིང་སངས་ས་ འབད་ལག་ལེན་ཐབས་དགོ།	Theory &Practical (3.5 hours) 3.5hr
	གསལ་སྨ་མེ་ཏོག།	གསལ་སྨ་མེ་ཏོག་གི་དབྱེ་བ་བཀད་ཚུགས། གསལ་སྨ་མེ་ཏོག་གི་འགྱེལ་བཀད་རྒྱབ་ཚུགས། གསལ་སྨ་མེ་ཏོག་གི་ རེ་མོའི་ཐོབ་ལམ་བཀད་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྐྱིལ་ཐོག་ལས་ལྩ་འབད་དགོ།	Theory &Practical (5.5 hours) 5.5hr
	མཐོང་གསལ་མེ་ཏོག།།།	མཐོང་གསལ་མེ་ཏོག་གི་དབྱེ་བ་བཀད་ཚུགས། མཐོང་གསལ་མེ་ཏོག་གི་འགྱེལ་བཀད་རྒྱབ་ཚུགས། མཐོང་ གསལ་རེ་མོའི་ཐོབ་ལམ་བཀད་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྐྱིལ་ཐོག་ལས་ལྩ་འབད་དགོ།	Theory &Practical (5.5hours) 5.5hr
	ལྷགས་པ།	ལྷགས་པ་གི་དབྱེ་བ་བཀད་ཚུགས། ལྷགས་པ་གི་འགྱེལ་བཀད་རྒྱབ་ཚུགས། ལྷགས་པ་ཨེ་ མོའི་ཐོབ་ལམ་བཀད་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྐྱིལ་ཐོག་ལས་ལྩ་འབད་དགོ།	Theory &Practical (3.5 hours)5.5 hr

ཨེ་ཏིག་རིགས་ཀྱི་རེ་ཨོ་འབྲིས་ནི།	པདྨ་གོ་ཕྲམ	པདྨ་མགོ་ཕྲ་མ་གི་དབྱེ་བ་བཤད་ཚུགས། པདྨ་མགོ་ཕྲ་མ་གི་འགྲེལ་བཤད་རྒྱབ་ཚུགས། པདྨ་མགོ་ཕྲ་མ་རེ་མོའི་ཐོབ་ལམ་བཤད་ཚུགས། སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་དགོ	Theory &Practical (5.5 hours) 5.5hr
	ཕྱོས་རེ་གི་རེ་ཨོ་འབྲིས་ནི།	ཕྱོས་རེ་གི་དབྱེ་བ་བཤད་ཚུགས། ཕྱོས་རེ་གི་འགྲེལ་བཤད་རྒྱབ་ཚུགས། རེ་མོའི་ཐོབ་ལམ་བཤད་ཚུགས། སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་དགོ	Theory &Practical (3.5hours) 3.5hr
	ཁྲ་ཚོམ་གི་རེ་ཨོ་འབྲིས་ནི།	ཁྲ་ཚོམ་གྱི་དབྱེ་བ་བཤད་ཚུགས། ཁྲ་ཚོམ་གྱི་འགྲེལ་བཤད་རྒྱབ་ཚུགས། ཁྲ་ཚོམ་གྱི་རེ་མོའི་ཐོབ་ལམ་བཤད་ཚུགས། སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་དགོ	Theory &Practical (3.5 hours) 3.5hr
	གྱང་ཀ་གི་རེ་ཨོ་འབྲིས་ནི།	གྱང་ཀ་གི་དབྱེ་བ་བཤད་ཚུགས། གྱང་ཀ་གི་འགྲེལ་བཤད་རྒྱབ་ཚུགས། གྱང་ཀ་གི་རེ་མོའི་ཐོབ་ལམ་བཤད་ཚུགས། སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་དགོ	Theory &Practical (5.5hours) 5.5hr
	ལོ་འདབ་གི་རེ་ཨོ་འབྲིས་ནི།	ལོ་འདབ་ཀྱི་ དབྱེ་བ་བཤད་ཚུགས། ལོ་འདབ་ཀྱི་འགྲེལ་བཤད་རྒྱབ་ཚུགས། ལོ་འདབ་ཀྱི་རེ་མོའི་ཐོབ་ལམ་བཤད་ཚུགས། སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་དགོ	Theory &Practical 8.5hr
	གུ་གུ་ལི་གི་རེ་ཨོ་འབྲི་ནི།	གུག་ལི་གི་ དབྱེ་བ་བཤད་ཚུགས། གུག་ལི་གི་འགྲེལ་བཤད་རྒྱབ་ཚུགས། གུག་ལི་གི་རེ་མོའི་ཐོབ་ལས་བཤད་ཚུགས། སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་དགོ	Theory &Practical 5.5hr
	སྦྲབ་ཅུང་གི་རེ་ཨོ་འབྲི་ནི།	སྦྲབ་ཅུང་གི་དབྱེ་བ་བཤད་ཚུགས། སྦྲབ་ཅུང་གི་འགྲེལ་བཤད་རྒྱབ་ཚུགས། སྦྲབ་ཅུང་གི་ཐོབ་ལམ་བཤད་ཚུགས། སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་དགོ	Theory &Practical 3.5hr
	ཨེ་ཏིག་གི་རེ་མོ་ཡོངས་ ཚོགས་འབྲི་ནི།	ཨེ་ཏིག་གི་དབྱེ་བ་བཤད་ཚུགས། ཨེ་ཏིག་གི་འགྲེལ་བཤད་རྒྱབ་ཚུགས། ཨེ་ཏིག་གི་རེ་མོ་འབྲི་ཝའི་ས་སྒོ་བཤད་ཚུགས། སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་དགོ	Theory &Practical (16.5hours) 18.5hr
	པ་ཏུ་མགོ་གསུམ་མ་འབྲི་ནི།	པ་ཏུ་མགོ་གསུམ་ངོས་འཛིན་འབད་ཚུགས། པ་ཏུ་མགོ་གསུམ་འགྲེལ་བཤད་རྒྱབ་ཚུགས། པ་ཏུ་མགོ་གསུམ་རེ་མོ་འབྲི་ཝའི་ས་སྒོ་བཤད་ཚུགས།། སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་ཚུགས།	Theory &Practical (6.5 hours) 6.5hr
	པ་ཏུ་བདུན་མ་འབྲི་ནི།	པ་ཏུ་གི་བདུན་མ་ངོས་འཛིན་འབད་ཚུགས། པ་ཏུ་བདུན་མ་འགྲེལ་བཤད་རྒྱབ་ཚུགས། པ་ཏུ་ཡོ་བདུན་མ་འབྲི་ཝའི་ས་སྒོ་ཐོབ་ལས་བཤད་ཚུགས། སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་དགོ	Theory &Practical (12.5 hours) 12.5hr
	ནོར་འཛིན་པ་ཏུ་འབྲི་ནི།	ནོར་འཛིན་པ་ཏུ་གི་དབྱེ་བ་བཤད་ཚུགས། ནོར་འཛིན་པ་ཏུ་གི་འགྲེལ་བཤད་རྒྱབ་ཚུགས། ནོར་འཛིན་པ་ཏུ་འབྲི་ཝའི་ས་སོ་ཐོབ་ལམ་བཤད་ཚུགས།སྦོ་བ་དང་གཞིག་སྐྱེལ་ཐོག་ལས་ལྭ་འབད་དགོ	Theory &Practical (18.5hours)18.5 1hr

	ཤིང་ལོ་པ་ཏུ་འབྲི་ནི།	ཤིང་ལོ་པ་ཏུ་གི་འབྲི་བ་བཤད་ཚུགས། ཤིང་ལོ་པ་ཏུ་གི་འབྲེལ་བཤད་རྒྱབ་ཚུགས། ཤིང་ལོ་པ་ཏུ་འབྲི་མཐུ་ས་མོ་ཐོབ་ལམ་བཤད་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྦྲེལ་ཐོག་ལས་ལཱ་འབད་དགོ།	Theory &Practical (8.5 hours) 10.5hr
	ཆུབའི་ཚོན་བཞི་སྤྲོར་ནི།	ས་ཚོན་གྱི་དོས་འཇོན་འབད་ཚུགས། ས་ཚོན་སྤྲོར་ཐངས་ཀྱི་ལམ་ལུགས་བཤད་ཚུགས། ས་ཚོན་ནུང་བྲག་ནིའི་སྤྱིན་གི་རིགས་ལག་ལེན་འཐབ་ཚུགས། ས་ཚོན་སྲུང་ཁ་གི་ཁ་མདོག་སྤྲོར་ཐངས། སྤྲོ་བ་དང་གཅིག་སྐྱེལ་ཐོག་ལས་ལཱ་འབད་དགོ། ལཱ་གི་འཕྲོད་བསྟེན་དང་ཉེན་སྲུང་ལག་ལེན་འཐབ་ད	Theory &Practical (2.5hours) 2.5hr
ས་ཚོན་མགྲོར་ནི།	ཡན་ལག་ཚོན་སྤྲོར་ནི།	སྐྱུག་གྱི་ད་བྲི་བ་བཤད་ཚུགས། ཚོན་གྱི་སྐྱུག་སྤྲོར་ནི་ཚོན་གཞི་དང་བསྐྱར་ཆོང་བཤད་ཚུགས། ཤིང་ཚོན་ལུ་དགོ་པའི་ཚོན་སྣ་ཁ་བཤད་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྐྱེལ་ཐོག་ལས་ལཱ་འབད་དགོ།། ལཱ་གི་འཕྲོད་བསྟེན་དང་ཉེན་སྲུང་ལག་ལེན་འཐབ་དགོ	Theory &Practical (2.5hours) 2.5hr
	སྨན་ཚེ་མེ་ཏོག་དང་མཐོང་གསལ་སྨ་ཏོག་ཚོན་གཏང་ནི།	<mark>སྨན་ཚེ་མེ་ཏོག་དང་མཐོང་གསལ་སྨ་ཏོག་ཚོན་གཏང་ནི་གི་ལག་ཆས་ཚོ་འཇོན་འབད་ཚུགས་དགོ སྨན་ཚེ་མེ་ཏོག་དང་མཐོང་གསལ་སྨ་ཏོག་ཚོ་ཚོན་གཏང་སའི་ས་སྒོ་བཤད་ཚུགས། སྨན་ཚེ་མེ་ཏོག་དང་མཐོང་གསལ་སྨ་ཏོག་ཚོ་ཚོན་གྱི་ཐོབ་ཐངས་བཤད་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྐྱེལ་ཐོག་ལས་ལཱ་འབད་དགོ།།། ལཱ་གི་འཕྲོད་བསྟེན་དང་ཉེན་སྲུང་ལག་ལེན་འཐབ་དགོ</mark>	Theory &Practical 8 hours) 11hr
	གཡང་ཀ་ཚོན་བཏང་ནི།	<mark>གཡང་ཀ་ཚོན་གཏང་ནི་གི་ལག་ཆས་ཚོ་འཇོན་འབད་ཚུགས་དགོ གཡང་ཀ་ཚོན་གཏང་སའི་ས་སྒོ་བཤད་ཚུགས། གཡང་ཀ་ཚོན་གྱི་ཐོབ་ཐངས་བཤད་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྐྱེལ་ཐོག་ལས་ལཱ་འབད་དགོ།།། ལཱ་གི་འཕྲོད་བསྟེན་དང་ཉེན་སྲུང་ལག་ལེན་འཐབ་དགོ</mark>	Theory &Practical (3 hours) 3hr
	བད་མ་ཚོན་གསུམ་གདངས་གདངས་གཏང་ནི།	<mark>ཁྲ་ཚིམ་ཚོན་གསུམ་གདངས་གཏང་ནི་གི་ལག་ཆས་ཚོ་འཇོན་འབད་ཚུགས། ཁྲ་ཚིམ་ཚོན་གཏང་སའི་ས་སྒོ་བཤད་ཚུགས། ཁྲ་ཚིམ་ཚོན་གྱི་ཐོབ་ཐངས་བཤད་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྐྱེལ་ཐོག་ལས་ལཱ་འབད་དགོ།།། ལཱ་གི་འཕྲོད་བསྟེན་དང་ཉེན་སྲུང་ལག་ལེན་འཐབ་དགོ</mark>	Theory &Practical (6hours) 6hr
མེ་ཏོག་དང་པ་ཏུ་ཚུ་ཚོན་བཏང་ནི།	ཁྲ་ཚིམ་ཚོན་གསུམ་གདངས་གཏང་ནི།	<mark>ཁྲ་ཚིམ་ཚོན་གསུམ་གདངས་གཏང་ནི་གི་ལག་ཆས་ཚོ་འཇོན་འབད་ཚུགས། ཁྲ་ཚིམ་ཚོན་གཏང་སའི་ས་སྒོ་བཏང་ཚུགས། ཁྲ་ཚིམ་ཚོན་གྱི་ཐོབ་ཐངས་བཏང་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྐྱེལ་ཐོག་ལས་ལཱ་འབད་དགོ།།། ལཱ་གི་འཕྲོད་བསྟེན་དང་ཉེན་སྲུང་ལག་ལེན་འཐབ་དགོ</mark>	Theory &Practical (3 hours) 3hr
	མེ་ཏོག་ཚོན་གསུམ་གདངས་གཏང་ནི།	<mark>མེ་ཏོག་གི་ཡན་ལག་བཏང་ཚུགས། མེ་ཏོག་ཚོན་གཏང་སའི་ས་སྒོ་བཏང་ཚུགས། མེ་ཏོག་ཚོན་གྱི་ཐོབ་ཐངས་བཏང་ཚུགས། སྤྲོ་བ་དང་གཅིག་སྐྱེལ་ཐོག་ལས་ལཱ་འབད་དགོ།།། ལཱ་གི་འཕྲོད་བསྟེན་དང་ཉེན་སྲུང་ལག་ལེན་འཐབ་དགོ།།</mark>	Theory &Practical (10 hours) 12hr

| | པ་ཏུ་གསུམ་མདངས་གཏང་ནི། | པ་ཏུ་ཚོན་གཏང་ནི་གི་ དབྱེ་བ་བཤད་ཚུགས། པ་ཏུ་ཚོན་གཏང་སའི་ས་སྒོ་བཤད་ཚུགས། པ་ཏུ་ཚོན་གྱི་ཐོབ་ཐངས་བཤད་ཚུགས། པ་ཏུ་ཚོན་གཏང་ནི་གི་ལག་ཆས་ངོས་འཛིན་འབད་དགོ། ལྔ་གི་འཕྲོད་བསྟེན་དང་ཉེན་སྲུང་ལག་ལེན་འཐབ་དགོ། | Theory &Practical (6hours) 6hr |

Masonry   **Classes IX**

Chapter	Scope		Weighting (Instructional hours)		Remarks
	Topics/Subtopics	Learning objectives	Old	New	
1. Practicing Occupational Health and Safety	Applying principles of 5S	Define 5S State the purpose of 5S Explain the principle of 5S Define OHS State the importance of OHS Explain the rights of employee State the main causes of accidents State the safety rules	4	2	
	Using PPE	Define PPE State the importance of PPE List the categories of PPE Ensure to use appropriate PPE Ensure safe disposal of damaged PPE Ensure not to use defective and damaged PPE	3	2	
	Maintaining workplace safety and personal safety	Define safety precaution List the different types of safety Explain workshop and personal safety State the importance of maintaining a workplace and personal safety Explain the importance of safety signs and symbols Explain the Emergency exit Describe the layout of the workshop	4.5	3	
	Maintaining tools and equipment safety	Explain tool and equipment safety State the importance of maintaining tool and equipment safety List the do's and don'ts for tool and equipment safety	3	2	

	Using fire extinguisher	Define fire extinguisher Label the parts of fire extinguisher Explain the types of fires Explain the types of fire extinguishers State the methods of combating/extingishing fires	3.5	2	
2. Preparing for Masonry Work	Selecting masonry tools, equipment and materials	State the types of tools and their uses State the types of materials and their uses State the types of equipment and their uses Describe the importance of selecting appropriate tools, material and equipment Explain the storage of materials	7	3	
	Identifying Building Components	List the different classification of buildings Label the parts of building components List the utilities and facilities provided in the building	4	3	
	Estimating materials	Define estimating and costing State the purposes of estimation Name the types of estimation Explain two stages of detailed estimate Define Bhutan Schedule of Rate and state its uses Describe unit measurement of work Explain the unit conversion of measurement.	17	15	
	Conducting Silt content test	Define sand List the types of sand State the purpose of testing Describe the effect of silt content in the sand State the reason for using salt solution Discuss the methods of reducing silt content	4	3	
3. Preparing Mortar Mix	Preparing surface	Define mortar State the function of mortar List the uses of mortar State the types of mortar Identify the tools required for preparing the surface State the requirement of mixing platform.	3	3	

	Mixing mortar manually	State the different types of cement State the different types of mix ratio Explain the setting time of cement List the method of measuring the ingredients List the tools required for mixing Calculate the total quantity of mortar	7	5	
	Mixing mortar mechanically	Define mixture machine State the function of mixture machine Label the parts of the mixture machine Identify the types of mixture machine Operate mixtuture machine	11	7	
4. Performing brick/blocks masonry work	Carrying out foundation layout	Define foundation State the purpose of a foundation Name the different types of foundation State the requirement of the foundation Define layout and describe its purpose List the methods of layout Calculate using Pythagoras theorem to derive the 3,4,5 method State the terminologies used in a layout Explain the 3,4,5 method of foundation layout Use water level pipe	23	20	
	Conducting compressive test for bricks	Define brick masonry State the types of brick Classify different classes of bricks Label the Parts of brick State the properties of brick State the importance of soaking the bricks Explain the different types of field test for brick State the purpose of compressive strength test Operate compressive testing machine	8	6	
	Cutting bricks	List the types of bats/closure Explain the importance of soaking the brick before cutting Describe the methods of cutting the bricks	6	4	

	Laying of stretcher bond	List the types of brick bond Differentiate between the bonded and unbounded wall Describe the orientation of bricks Define stretcher bond State the application of stretcher bond Explain the technical terms for brick masonry Calculate the quantity of bricks	27	25	
V. Interpreting basic drawing	Using drawing instruments	Define Engineering Drawing State the purposes of engineering drawing List the types and uses of drawing instruments List the sizes of drawing papers.	8	4	
	Laying out drawing sheet	Define the layout of a drawing sheet Define the title block Layout drawing sheet	5	3	
	Interpreting Engineering Signs, symbols and abbreviation	Define sign and symbol Define abbreviation Draw engineering sign, symbol, and abbreviations	6	3	
	Drawing different types of lines	Define line State the types of line and its application	5	3	
	Draw letters and numbers	Define lettering and numbering Classify the styles of letters List the types of letters Define freehand lettering List the sizes of letters State the rules for lettering and numbering	9	8	
	Provide dimensioning	Define dimensioning State the types of dimensioning Explain the system of dimensioning State the terminologies of dimensions State the rules for dimensioning	7	6	
		Total	**175**	**132**	

ASSESSMENT AND EXAMINATIONS GUIDELINES

RATIONALE

The prevailing COVID-19 pandemic, like any other unforeseen calamity, has caught the world unprepared. The current global infection rate of the disease and fatalities related to it is alarming, rendering the global situation volatile. This situation has directly affected the health of the global economy as it influences a myriad of international relations, amongst which, health and education are affected the most.

Every country is doing its best not only to tackle the problems brought about by the pandemic, but also to learn the lessons and prepare for similar scenarios in future. Nations can often compromise their priorities during an emergency such as this, however, Bhutan, as history stands proof, has always accorded the highest priority for the education sector.

His Majesty the King, at the 3rd Convocation of the Royal University of Bhutan:

"if changing realities bring new ambitions and goals, it must also bring new plans and preparation. Most importantly, we have to ask ourselves, how do we build and nurture the people who will implement the plans and fulfil our goals? The answer lies in Education".

To state the obvious, the primary function of education is to prepare the youths for the succeeding generation. As such, the Ministry of Education, Royal Education Council and Bhutan Council for School Examinations and Assessment are committed in putting every means at their disposal in ensuring that every cohort of learners have access and quality of education required in acquiring the expected learning outcomes of the respective grades. Therefore, every possible avenue is explored to ensure that every student has access to learning to continue learning, and for measures to strengthen the system for the post COVID 19 pandemic, despite the dire situations as this.

With the schools closed down for a prolonged period due to the prevailing situation, the implementation of the regular curricula has not been feasible. Hence, schools have been directed to implement the adapted or prioritized curricula, and provisions for safety and psychosocial wellbeing of students are in operation.

The volatile evolving situation around the world calls for reorganization, adjustment and sacrifices of social services, facilities and national priorities. For the education sector, the prerogative is envisioning situation based learning areas, either adapted or prioritized curriculum, with a different set of objectives, modes, and techniques of assessment and examinations aligned with the standard learning outcomes for the academic year 2020.

Objectives

The guidelines on Assessment & Examinations for Education in Emergency Curriculum has been developed through consultative approach amongst the professionals from the Ministry of Education, Royal Education Council and the Bhutan Council for School Examinations and Assessment with the following objectives.

i. Guide the schools and other relevant agencies on the conduct of assessment and examinations, both home and the board examinations.

ii. Inform the stakeholders such as parents, students, education sector and tertiary education institutes about the changes in assessment and examinations, and provide monitoring and support services accordingly.

iii. Provide directives on smooth promotion and certification for progression of students to higher learning grades despite the emergency.

iv. Provide proper guidance and support for maintaining consistency of assessment modalities.

v. Facilitate continuous learning of students, including students with disabilities, so that they progress to higher grade with adequate competencies.

ASSESSMENT AND EXAMINATIONS MODALITIES

Overview of Strategic Plan for School Curriculum and Assessment for EiE Phase 2

The EiE Phase 2 envisages that the continued learning is adherence to the following.

Scenario & Situation			Curriculum	Mode	Assessment
Scenario I	Situation 1	If all schools open at the same time	Class PP – 9 & 11 Prioritized Curriculum	Regular class with safety and precautionary measures	Regular on prioritised curriculum (CFA, Tests, year-end examinations)
			Class 10 & 12 Prioritized Curriculum	Regular class with safety and precautionary measures	
	Situation 2	If schools open in a phased manner	Class PP – 9 & 11 Adapted Curriculum	**Open**: Regular class with safety and precautionary measures **Closed**: (A) PP-3: BBS, Social media (Wechat / WhatsApp / Telegram), Radio, SIM (B) Cl 4 -9 & 11: BBS, SIM, Google classroom	Class PP – 9 & 11: Conventional test / short assignment / Objective type question pattern
			Class 10 & 12 Prioritized Curriculum	Regular class with safety and precautionary measures	Board Examinations with Safety and preventive measures (25 days) on prioritized curriculum

			A) PP-3: BBS, Social media (Wechat / WhatsApp / Telegram), Radio, SIM (B) Cl 4 -9 & 11: BBS, SIM, Google classroom	Class PP – 9 & 11: Conventional test / short assignment / Objective type question pattern
Scenario II	All schools closed	Class PP – 9 & 11 Adapted Curriculum		
		Class 10 & 12 Prioritized Curriculum	Regular class in quarantine mode.	Board Examinations with Safety and preventive measures (25 days) on prioritized curriculum
NOTE:	For effective curriculum delivery as well as to provide support for psycho-social wellbeing: • Follow Ministry of Health's protocol and preventive measures. • Follow WASH advisory. • No mid-term examinations. • No trail examinations. • No co-curricular and extra-curricular activities. • Mid-term break to be used as instructional days. • Use Saturdays to adjust instructional days. • Strengthen psychosocial support including help-centres.			

School Zonation

High risk: Class and examinations with preventive measures for classes X & XII based on prioritized curriculum, and online classes for other classes based on the adapted curriculum.

Medium risk: Class and examinations with preventive measures for classes X & XII based on prioritised curriculum, and alternative class for classes PP- IX & XI based on adapted curriculum (some schools will be closed and some will be opened).

Low risk: Schools will be opened and follow adapted curriculum for classes PP- IX & XI and prioritised curriculum for classes X and XII.

To ensure equity in availing educational opportunities and services during emergencies and crisis situations, such as COVID-19 pandemic, assessment and examinations are informed and based on the Adapted Curriculum and Prioritized Curriculum.

SCENARIO I - Situation I

If all schools reopen from June 2020 onward, prioritized curriculum shall be offered for all classes.
Both home and board examinations shall be conducted on the contents of the prioritized curriculum.

A. Assessment Modalities

1. Modes & Strategies
The following shall inform the conduct of assessment:

1.1. Key Stage I – Classes PP - III

1.1.1. Schools shall follow the modality of assessment as per the CFA guidelines for classes PP – III.

1.1.2. The classes PP – III teachers shall consolidate the progress of students and report to parents/guardian as follows:

    i.   For quarter I and II in August.
    ii.   For quarter III in mid-October.
    iii.   For quarter IV and overall consolidated progress report at the end of the academic session in mid-December.

1.2. Key Stage II to V: Classes IV-XII

1.2.1. Schools to conduct assessment on the prioritised curriculum

1.2.2. Owing to the lapse in term I, term II assessment shall be considered for promotion

1.2.3. For classes XI and XII, the cumulative marks of project work for Sciences, History, Environmental Science, Accountancy and Geography shall be considered as a part of CA.

1.2.4. For class X, CA marks for all subjects shall be converted into appropriate percentage by schools and submitted to BCSEA.

1.2.5. For class XII (BHSEC and LCSC), total internal marks in relevant subjects shall be converted into appropriate percentage by schools and submitted to BCSEA.

2. Assessment Techniques and Tools
The objectivity and reliability of the conduct of the assessment shall be guided by the following.

2.1. Class tests on the prioritized curriculum by using paper and pencil for content knowledge.

2.2. Practical work and project work assessed by using rubrics, checklist and rating scale for psychomotor and affective domains.

2.3. Continuous assessment for ongoing learning by using tools like rubrics, checklist, rating scale and other subject specific tools.

3. Reporting & Recording
3.1. Schools shall record and report of students' performance based on the CFA guidelines for classes PP – III.

3.2. Teachers shall record and report on students based on the continuous assessment guidelines as outlined in respective subjects for classes IV to XII.

3.3. The aggregate scores attained by students at the end of the year in numerous assessment tasks shall contribute to promotion of students.

B. Examinations Modes and Strategies

1. Modes and Strategies

In this situation, both home and board examinations shall be conducted on the contents of the prioritized curriculum.

1.1. Home Examinations

The Home Examinations shall be informed by the following:

1.1.1 There shall be no formal examination for the Key Stage I vide letter number DSE/SPCD/ADM (1.1) /2020/209 dated 3rd March 2020. Students in the key stage I (classes PP-III) shall be promoted to the next higher level upon the fulfilment of pre-existing conditions set out in the CFA guidelines.

1.1.2. For key stages II to V, examinations shall be based on the prioritized curriculum.

1.1.3. The duration and weighting for home examinations should remain the same to ensure the validity and credibility of the results issued by schools.

1.1.4. The contents of the prioritized curriculum comprise about 65% of the regular curriculum content / learning outcomes to enable progression to the next higher level. This is based on the premise that the number of instructional days i.e., about 120 days, available for the delivery of subject contents, schools would still have about five months of contact teaching in addition to the online, TV classes, SIM and radio. It is also considering the time needed for counselling and health practices for safety of students.

1.1.5. Practical examinations for science, accountancy and computer studies shall be conducted based on the prioritized curriculum (65% content of the regular curriculum) learning outcomes.

1.1.6. There shall neither be midterm nor trial examinations conducted in order to make up for the lost instructional time.

1.2. Board Examinations

The Board Examinations shall be conducted for classes X and XII. This shall be based on the following.

1.2.1. The board examinations shall be convened as per the schedule provided by the BCSEA.

1.2.2. The board examinations or high-stake examinations shall be based on the prioritized curriculum.

1.2.3. The prioritized curriculum covers about 65% of the regular curriculum contents and learning outcomes deemed necessary to enable progression of students to the next higher level. This is based on the premise that the number of instructional days i.e., about 120 days, available for the delivery of subject contents, schools would still have about five months of contact teaching in addition to the online, TV classes, SIM and radio.

1.2.4. The duration and weighting for board examinations shall remain the same to ensure the validity and credibility of certification under the authority of BCSEA.

1.2.5. Practical examinations for BHSEC science, accountancy and computer studies shall be conducted based on the prioritized curriculum.

1.2.6. The overall result of the student and the certification shall be based on the aggregate of Internal / Continuous Assessment Marks submitted by schools and the Examination Marks.

2. Techniques and Tools

The objectivity and reliability of the conduct of the Home Examinations and Board Examinations shall be guided by the following:

2.1. Examinations and class test by using paper and pencil for content knowledge.

2.2. Practical work and project work assessed by using rubrics, checklist and rating scale for psychomotor and affective domains.

2.3. Continuous assessment for ongoing learning by using tools like rubrics, checklist, rating scale and other subject specific tools.

3. Reporting and Recording

3.1. Home examinations

3.1.1. Grading for subjects for classes PP to IX and XI by schools.

3.1.2. Grading for SUPW for classes VII to IX and XI by schools.

3.1.3. Progress report for students for classes PP to IX and XI by schools.

3.2. Board examinations

3.2.1. Continuous Assessment / Internal Marks for subjects for classes X and XII by schools.

3.2.2. Grading for SUPW for classes X and XII by schools.

3.2.3. Certification under the authority of BCSEA.

SCENARIO I – Situation 2

If schools reopen in a phased manner based on the risk-level zonation (low, medium and high), adapted curriculum shall be offered to classes PP-IX and XI, and prioritized curriculum shall be offered to classes X and XII. Assessment and examinations shall be informed by the following guidelines.

A. Assessment Modalities

If schools open phase wise, assessment shall be conducted based on the contents of the prioritized curriculum for classes X and XII, and adapted curriculum for other classes.

1. **Assessment Modes and Strategies**

   1.1 Key Stage I - V: Classes PP – IX & XI

   1.1.1. Assessed through conventional test / short assignment / objective type question pattern.
   1.1.2. For unreached and non-responsive students, *Dzongkhags* and *Thromdes* to explore alternative ways of assessment, for instance delegating mobile teachers to ensure all students are assessed and supported.
   1.1.3. Based on the prioritized curriculum for classes X & XII, schools shall plan and assign tasks to students so that they are meaningfully engaged and authentic assessment is carried out for learning progression and promotion irrespective of the zones.
   1.1.4. The delivery of instructions can be as follows:
      Open:
      Regular class with safety and precautionary measures.
      Closed:
      (A) PP-3: BBS, Social media (Wechat/WhatsApp/ Telegram), Radio, SIM.
      (B) Cl 4 -9 & 11: BBS, SIM, Google classroom.
   1.1.5. Schools shall use BBS lessons and google classroom (IV - IX & XI) for assigning tasks to students and keeping evidences of student learning based on adapted curriculum. Relevant trainings to support use of google classroom effectively shall be continuously provided.
   1.1.6. Based on the adapted curriculum for class PP-IX and XI, schools shall plan and assign tasks to students so that they are meaningfully engaged and appropriate assessment is carried out for learning progression and promotion for classes PP-IX & XI.
      For those unreached through BBS and google classroom, support shall be provided through SIM (print materials), radio broadcast, and curated content.
   1.1.7. Teachers shall assess and provide feedback on the performance of students and maintain the records based on assignment submitted by students.
   1.1.8. Promotion of a student shall be based on the record of marks obtained through records maintained by respective subject teachers on the various tasks performed by students.
   1.1.9. The following modified weighting shall be used to assess and report on students' performance:
      Conventional Test / objective type question pattern - 40%; short assignment 60% in lieu of home examinations.

2. **Assessment Techniques and Tools**
   The objectivity and reliability of the conduct of the assessment shall be guided by the following.

   2.1. Continuous assessment for ongoing learning / internal marks for Board Examinations from online platform by using tools like rubrics, checklist, rating scale and other subject specific tools.
   2.2. Teachers use appropriate tools as described in the respective subjects

3. **Reporting & Recording**

Schools shall ensure that performance of children are recorded and reported based on the "Assessment and Examinations" protocols as dictated by the evolving situation.

3.1. Teachers to maintain e-Learning log book for delivery of lessons through online mode.
3.2. Teachers of class IV-XII shall keep records on BBS lessons and Google Classroom and CFA grades generated from this platform.
3.3. Principals and DEOs to keep the proper records of delivery of lessons.

B. Examination Modalities & Strategies

1. **Modes and Strategies**
   1.1. **Home Examinations**
      1.1.1. The adapted curriculum which is theme based is implemented in this situation.
         Owing to social distancing priority, the formal examinations are not feasible on the adapted curriculum for classes PP-IX and XI
      1.1.2. Class PP – 9 & 11: Conventional test / objective type question pattern and short assignment are used for promotion of students. It is imperative for teachers to continue maintaining records of activities and assessments submitted by individual student.

   1.2. **Board Examinations**
      1.2.1. The board examinations shall be convened as per the schedule provided by the BCSEA. The examinations shall be preponed (mid-November) and the BCSE, BHSEC and LCSC XII examinations shall be held on alternate days
      1.2.2. The board examinations for classes X and XII shall be conducted on the prioritized curriculum by complying with the safety protocols set by the Ministry of Health.
      1.2.3. Practical examinations for relevant subjects shall not be conducted for class XII, as students do not have opportunity to get hands-on experience. Therefore, the theory papers for BHSEC science, accountancy and computer studies shall be assessed out of 100% weighting.
      1.2.4. The project works intended for board examinations for relevant subjects shall not be conducted.
      1.2.5. The SUPW grades for classes X and XII shall be based on classes IX and XI grades and on the current grades performance.
      1.2.6. The assessment for AgFS (class X) which is 100% from schools shall be based on the marks obtained in class IX.
      1.2.7. In absence of internal marks for class XII in AgFS, *Driglam* (LCSC) and *Luzhey & Nyencha* (LCSC) from schools, theory papers shall be assessed out of 100%.
      1.2.8. For class X, teachers concerned shall keep a record of individual student's performance on their assignments/projects, which shall be used to generate marks for continuous assessment. These marks shall be submitted to BCSEA.

1.2.9. For Media Studies (class XII), teachers concerned shall keep a record of individual student's performance on their assignments/projects which should be used to generate marks for internal assessment. These marks shall be submitted to BCSEA.

1.2.10. Board examinations shall be conducted in the centres identified by BCSEA in collaboration with *Dzongkhag* and *Thromde* Administration by complying with the safety protocols in a quarantine mode.

1.2.11. Marking workshop shall be conducted by BCSEA complying with the safety protocols set by the Ministry of Health.

2. Techniques and Tools

The objectivity and reliability of the conduct of the Home Examinations and Board Examinations shall be guided by the following.

2.1. Home examinations

2.1.1. Continuous assessment / internal marks for Home Examinations shall be based from online platform by using tools like rubrics, checklist, rating scale and other subject specific tools.

2.1.2. Short assignments for all subjects in all classes in lieu of formal examinations shall be assigned and assessed. This shall be the basis for promotion.

2.1.3. Teachers use appropriate tools as described in the respective subjects for continuous assessment for ongoing learning.

2.2. Board examinations

2.2.1. Board examinations shall be conducted through paper and pencil test in a quarantined manner following the safety protocols set by the Ministry of Health.

2.2.2. Continuous assessment / internal marks for Board Examinations shall be based on records maintained using tools like rubrics, checklist, rating scale and other subject specific tools.

2.2.3. Teachers use appropriate tools as described in the respective subjects for continuous assessment for ongoing learning.

3. Reporting and Recording

3.1. Home examinations

3.1.1. Grading of subjects for classes PP to IX and XI by schools based on the CA and short assignments in lieu of summative examinations.

3.1.2. Progress report for students for classes PP to IX and XI shall be issued by schools.

3.2. Board examinations

3.2.1. Schools shall generate and submit internal / CA marks to BCSEA.

3.2.2. Grading for SUPW for classes X and XII based on classes IX and XI by schools.

3.2.3. Certification under the authority of BCSEA.

SCENARIO II

If there is a national lockdown, all schools shall remain closed. Adapted curriculum shall be offered to classes PP-IX and XI, and prioritized curriculum shall be offered to classes X and XII. Assessment and examinations shall be informed by the following guidelines.

A. Assessment Modalities

If schools remain closed, assessment shall be conducted based on the contents of the prioritized curriculum for classes X and XII, and adapted curriculum for other classes.

1. Assessment Modes and Strategies

1.1. Key Stage I: Classes PP – III

    1.1.1. The overall consolidated progress shall be reported at the end of the year using the result sheet format provided in the CFA guidebook.

    1.1.2. For unreached and non-responsive students, *Dzongkhags* and *Thromdes* to explore alternative ways of assessment, for instance delegating mobile teachers to ensure all students are assessed and supported.

1.2. Key Stage II – V: Classes IV –XII

    1.2.1. Schools shall use google classroom (IV -IX &XI) interactively for instruction, assigning tasks to students and keeping evidences of student learning based on adapted and prioritized curriculum. Relevant trainings to support use of google classroom effectively shall be continuously provided.

    1.2.2. Based on the prioritized curriculum for classes X & XII, schools shall plan and assign tasks to students so that they are meaningfully engaged and authentic assessment shall be carried out for learning progression and promotion.

    1.2.3. Based on the adapted curriculum for class PP-IX and XI, schools shall plan and assign tasks to students so that they are meaningfully engaged and appropriate assessment is carried out for learning progression and promotion for classes PP-IX & XI.

    1.2.4. For those unreached through google classroom, support shall be provided through SIM (print materials); radio broadcast and curated content

    1.2.5. Teachers shall assess and provide feedback on the performance of students and maintain the records based on assignment submitted by students.

    1.2.6. Promotion of a student shall be based on the record of marks obtained through records maintained by respective subject teachers on the various tasks performed by students.

    1.2.7. The following modified weighting shall be used to assess and report on students' performance:
CA 40%, PW 60% in lieu of home examinations.

2. **Assessment Techniques and Tools**

The objectivity and reliability of the conduct of the assessment shall be guided by the following.

2.1. Continuous assessment for ongoing learning / internal marks for Board Examinations from online platform by using tools like rubrics, checklist, rating scale and other subject specific tools.

2.2. Teachers use appropriate tools as described in the respective subjects.

3. **Reporting & Recording**

Schools shall ensure that performance of children are recorded and reported based on the "Assessment and Examination" protocols dictated by the evolving situation.

3.1. Teachers to maintain e-Learning log book for delivery of lessons through online mode.

3.2. Teachers of class IV-XII shall keep records on BBS lessons and Google Classroom and CFA grades generated from this platform.

3.3. Principals and DEOs to keep the proper records of delivery of lessons.

B. Examination Modalities & Strategies

1. **Modes and Strategies**

1.1. **Home Examinations**

1.1.1. The adapted curriculum which is theme based is implemented in this situation.

1.1.2. For key stage I, the performance of students shall be based on instructions and assessment tasks provided through BBS lessons or other social media platforms (wechat, whatsapp, telegram etc). It is imperative for teachers to continue maintaining records of activities and assessments submitted by individual student.

1.1.3. Practical examinations for relevant subjects shall not be conducted for all levels as students do not have opportunity to get hands-on experience.

1.1.4. In lieu of home examinations, students carry out subject specific short assignment on innovative and creative ideas with write-up/essay/journal, assessed and validated based on the project work guidelines provided in respective subjects.

1.1.5. Conduct TVET theory class online and practical onsite by following quarantine protocols.

1.1.6. In lieu of home examinations for classes IV to IX and XI, promotions shall be based on the CA and short assignment

1.2. **Board Examinations**

1.2.1. The board examinations shall be convened as per the schedule provided by the BCSEA. The examinations shall be preponed (mid-November) and the BCSE, BHSEC and LCSC XII examinations will be held on alternate days

1.2.2. The board examinations for classes X and XII shall be conducted on the prioritized curriculum by complying with the safety protocols set by the Ministry of Health.

1.2.3. Practical examinations for relevant subjects shall not be conducted for class XII, as students do not have opportunity to get hands-on experience. Therefore, the theory papers for BHSEC science, accountancy and computer studies shall be assessed out of 100% weighting.

1.2.4. The project works intended for board examinations for relevant subjects shall not be conducted.

1.2.5. The SUPW grades for classes X and XII shall be based on classes IX and XI grades.

1.2.6. The assessment for AgFS (class X) which is 100% from schools shall be based on the marks obtained in class IX.

1.2.7. In absence of internal marks for class XII in AgFS, *Driglam* (LCSC) and *Luzhey & Nyencha* (LCSC) from schools, theory papers shall be assessed out of 100%.

1.2.8. For class X, teachers concerned shall keep a record of individual student's performance on their assignments/projects, which shall be used to generate marks for continuous assessment. These marks shall be submitted to BCSEA.

1.2.9. For Media Studies (class XII), teachers concerned shall keep a record of individual student's performance on their assignments/projects which should be used to generate marks for internal assessment. These marks shall be submitted to BCSEA.

1.2.10. Quarantine Board examinations shall be conducted in the centres identified by BCSEA in collaboration with *Dzongkhag* and *Thromde* Administration by complying with the safety protocols.

1.2.11. Marking workshop shall be conducted by BCSEA complying with the safety protocols set by the Ministry of Health.

2. Techniques and Tools

The objectivity and reliability of the conduct of the Home Examinations and Board Examinations shall be guided by the following.

2.1. Home examinations

2.1.1. Short assignments for all subjects in all classes in lieu of formal examinations shall be assigned and assessed. This shall be the basis for promotion.

2.1.2. Continuous assessment / internal marks for Home Examinations shall be based from online platform by using tools like rubrics, checklist, rating scale and other subject specific tools.

2.1.3. Teachers use appropriate tools as described in the respective subjects for continuous assessment for ongoing learning.

2.2. Board examinations

2.2.1. Board examinations shall be conducted through paper and pencil test in a quarantined manner following the safety protocols set by the Ministry of Health.

2.2.2. Continuous assessment / internal marks for Board Examinations shall be based on records maintained using tools like rubrics, checklist, rating scale and other subject specific tools.

2.2.3. Teachers use appropriate tools as described in the respective subjects for continuous assessment for ongoing learning.

3. Reporting and Recording

3.1. Home examinations

3.1.1. Grading of subjects for classes PP to IX and XI by schools based on the CA and alternative summative examinations by short assignment

3.1.2. Progress report for students for classes PP to IX and XI shall be issued by schools.

3.2. Board examinations

3.2.1. Schools shall generate and submit internal / CA marks to BCSEA

3.2.2. Grading for SUPW for classes X and XII based on classes IX and XI by schools.

3.2.3. Certification under the authority of BCSEA.

C. MONITORING AND EVALUATION

1. Dzongkhag /Thromde Level

1.1. The respective CDEOs/CTEOs and school principals shall make necessary adjustment to ensure that online lessons and assessment and engagement of students and all students have access to educational services and opportunities.

1.2. Localise the implementation of EiE curriculum and program and activities by instituting Dzongkhag Level Professional Forum (DLPF) coordinated by Teacher Resource Centres (TRC) to provide educational services.

1.3. The DLPF shall monitor and make arrangement to provide necessary intervention on online lessons and assessment.

1.4. For classes X and XII, respective *Dzongkhags* and *Thromdes* to identify boarding schools to accommodate students as boarders including day scholars and deliver prioritized curriculum in a quarantined manner.

1.5. Board examinations shall be implemented for affected centres in the boarding schools identified by BCSEA in consultation with *Dzongkhags / Thromdes* in a quarantined mode.

2. **Ministry of Education**
   2.1   Based on the evolving situation, the MoE shall formulate policy guidelines, advisory notes and directives for information and effective implementation of EiE curriculum, programs and activities.
   2.2   Facilitate the development and dissemination of necessary inclusive EiE materials and resources for schools.
   2.3   Explore and provide necessary interventions in making the educational services and opportunities accessible for all students with especial consideration for special needs students.
   2.4   Convert video lessons to audio format for schools with SEN and other classes in relevant subjects.

3. **Royal Education Council**
   3.1.   Design and develop EiE curriculum materials appropriate for all including learners with special needs.
   3.2.   Design and disseminate appropriate assessment protocols for EiE curriculum and its implementation.
   3.3.   Provide necessary interventions on curriculum implementation in schools. Questions on video lessons and SIM shall be strengthened and enhanced to ensure comprehensive coverage of three domains of learning objectives.
   3.4.   For uniformity, it has been decided that:
      i.   If schools reopen before August, 2020, 65% of content will be prioritized for all classes. *Note: The annual instructional hours is 900, and the total remaining hours is about 550, which is nearly equivalent to 61.11%. Given that some forms of learning occurred in EiE Phase 1, it is rounded to 65%.*
      ii. Curriculum Developers for each subject shall identify the content areas are prioritized in consultation with BCSEA and subject teachers.

4. **Bhutan Council for School Examinations and Assessment**

   4.1.   Adapt or formulate Examination Rules and Regulations and protocols for EiE curriculum based on the evolving situation.
   4.2.   Make necessary adjustment and consideration to facilitate all students to participate in assessment and examinations.
   4.3.   Inform the schools regarding assessment modality and conduct of examination and evaluation. Timetable for conduct of board examinations (classes X and XII) based on the evolving situation 1 and 2 shall be shared to all stakeholders.
   4.4.   Validate and certify the results of Examinations of EiE curriculum.

5. **Parents/Guardians**
   4.5.   Guide children in engagement on EiE online programs and activities.
   4.6.   Facilitate children in completing the assessment tasks and activities.
   4.7.   Provide feedback on their children learning and the EiE curriculum materials and programs to the schools.

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77		Rinchen Peldon	Wangsel Institute
78		Chencho Om	Wangsel Institute
79		Chencho Dem	Wangsel Institute
80		Lodey Gyeltshen	Wangsel Institute
81		Choki	Wangsel Institute
82		Dechen Tshering	Wangsel Institute
83		Kharka Bdr. Mongar	Wangsel Institute
84		Ms. Nidup	Wangsel Institute
85		Karma Tenzin	Wangsel Institute