SCERT-Sikkim
"Empowering Society through Education"
Department of Education, Govt. of Sikkim

Azim Premji University

Assessment Framework – Paper I & Paper II

Sikkim Teacher Eligibility Test

Foreword

Teachers are fundamental in fulfilling the aims and objectives of an education system. Their role in understanding the learner and providing appropriate participatory experiences is the basis of every classroom learning. In the process, the need for every teacher to develop and execute competencies that integrate knowledge and application is both significant and focal. Keeping this in mind and in alignment with the recommendations of National Education Policy (NEP) 2020 for Teacher Eligibility Test (TET) to be strengthened by inculcating better test material, both in terms of content and pedagogy, the State Council of Education Research and Training (SCERT) Sikkim has undertaken this initiative to revamp the Sikkim Teacher Eligibility Test (STET).

The state has been conducting STET using the Central Teacher Eligibility Test (CTET) syllabus since 2013. With the new NEP guidelines, a need was felt to revise the existing syllabus and contextualize it to the state requirements. There was also a need to streamline the test development process by following certain academically rigorous and standardized practices. As a result, comprehensive assessment frameworks and item banks were also developed in alignment to well-established processes in test development.

This work is a result of the contribution of teacher educators of Sikkim who have been involved in a series of interactions and planned workshops during the year. Azim Premji University provided the academic support for planning, conceptualizing, and executing capacity building workshops and in creating resource materials that can be used to improve the quality of STET in subsequent years.

The SCERT Sikkim thanks all members who have contributed to the development of the document. We hope this document will enable all stakeholders in working towards fulfilling our goal of quality education through a more responsive approach to the current demands of the educational system.

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Preface

Recruiting well-qualified and passionate teachers into the school system plays an important role in ensuring a better quality of education imparted. Hence, the recruitment process needs to be carefully designed and implemented. The National Education Policy (NEP) 2020 highlights the need to strengthen the Teacher Eligibility Test (TET) conducted at both, the state as well as the central level to 'inculcate better test material, both in terms of content and pedagogy'. In the context of the state of Sikkim, the need to revamp and strengthen the State Teacher Eligibility Test (STET) was an imperative need. The State Council of Education Research and Training (SCERT), Sikkim recognised the need for the setting up of a quality test development process to ensure a fair, inclusive and meaningful selection of candidates to enter the teaching profession. Azim Premji University supported SCERT in the process of restructuring STET to better suit their shared vision of improving the quality of teacher recruitment in the state.

The entire approach to STET restructuring was undertaken in a phased manner. In the first phase, an exhaustive review of existing STET tools and processes was undertaken. This helped identify specific areas of concern that could be hindering the test quality. One of the core areas of concern was the need for improving the quality of the test instruments. This could be done through a better alignment of content and skills that are taught in Teacher Education Institutions (TEIs) in the state and what is being tested through TET. The second phase involved updating the STET syllabus in alignment with the current TEI curriculum used across the state. A working committee with around 50 subject matter experts (SMEs) from SCERT, DIETs and private TEIs within the state was constituted for this purpose with SMEs from Azim Premji University supporting the respective subject groups. Each of these groups further developed subject-wise assessment frameworks detailing specific competencies that could be tested in TET. This was part of the third phase. In the fourth and final phase, the group developed sample assessment items in alignment with the specific competencies listed in the framework. These model items would serve as exemplars for future TET instruments.

This document on assessment framework lists out assessable competencies that can be used in a test of this nature. It intends to support test designers develop quality testing tools following certain globally accepted standards for test development. Competency-based test development will help in testing a range of knowledge, skills, and dispositions of candidates at varying levels of cognitive complexities. Such a competency-based approach to test development would also help Teacher Education Institutions (TEIs) to move towards a more competency-oriented pedagogy in their classrooms. It would further aid prospective candidates in their individual test preparation. The frameworks developed for both Paper I and Paper II subjects are informed by Azim Premji University's work with Central Board of Secondary Education (CBSE), Central Teacher Eligibility Test (CTET) unit. These are adapted versions of the CBSE frameworks that is appropriately contextualised to meet the STET requirements.

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We are grateful to the team of subject experts from Azim Premji University Bengaluru for their continuous guidance and academic support to the working committee members.

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We also thank the Education Department of Sikkim for its continuous support and commitment to the project.

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Assessment Framework –

Paper I

Introduction

Teacher Eligibility Test (TET) being an immediate outcome of the Right to Education (RTE) Act 2009, was launched to recruit quality teachers into the education system. With the advent of RTE, the need to systematically recruit well-qualified teachers into the country's public school system became all the more significant. In accordance with the provisions of sub-section (1) of Section 23 of the RTE Act, the National Council for Teacher Education (NCTE) vide Notification dated 23rd August 2010 and 29th December 2011 laid down the minimum qualifications for a prospective candidate to be eligible for appointment as a teacher for grades I to VIII. The rationale behind introducing TET as the minimum eligibility criteria for teacher appointment stems primarily from the need to bring national level benchmarks in recruiting teacher quality. 'It provides prospective candidates a level playing ground despite the diverse quality of teacher education programs across the country' (Central Board of Secondary Education, 2021). It also serves as a necessary impetus for teacher education institutions (TEIs) to work towards improving their performance standards so that potential candidates are able to meet the set quality expectations.

At present, TETs are conducted both at the national as well as the state level. The Central Teacher Eligibility Test (CTET) is conducted twice every year by the Central Board of Secondary Education (CBSE). Similarly, state level TETs are conducted by the respective State Council of Education Research and Training (SCERT). The state of Sikkim has been conducting state-level TET, known as Sikkim Teacher Eligibility Test (STET), since the year 2013. In alignment with the NCTE and CBSE guidelines, STET is designed to assess a candidate's proficiency to teach at the primary and the elementary level using written tests- Paper I and Paper II, respectively. Paper I is meant for candidates who intend to teach at the primary level (grades I to V). The paper is divided into five main sections – Child Development and Pedagogy (CDP), Language I, Language II, Mathematics, and Environmental Studies (EVS). In each of the sections, candidates are tested on their content knowledge up to secondary level curriculum. Apart from this, candidates are also tested on their understanding of teaching the subject or the pedagogic knowledge of the areas. The overall paper carries 150 marks (30 marks per section) with appropriate distribution of content knowledge and pedagogic content knowledge questions across subject sections. All questions are designed in a multiple-choice objective format carrying one (1) mark each.

At the primary stage, attaining foundational literacy and numeracy is of utmost importance as reiterated by the National Education Policy (NEP), 2020. Apart from mathematics and languages, EVS is also introduced in grades III-V. 'The objective at this stage is to nurture the curiosity of the child about the world and to have the child engaged in exploratory and hands-on activities for acquiring the basic cognitive and psychomotor skills through observation, classification, inference etc.' (Central Board of Secondary Education, 2021). The National Curriculum Framework (2005) further stresses the need for an integrated approach without strict disciplinary boundaries at this stage. As such, teachers

teaching at the primary stage should demonstrate well-rounded academic proficiency in all the subjects. They should also be well-aware of age-appropriate pedagogic strategies that are aligned to the nature of the subject and its teaching. While having a comprehensive understanding of children and their extended environment is necessary at all stages of teaching-learning, it becomes all the more crucial at the primary level. A teacher who is equipped with the required knowledge in all these areas, is likely to become effective facilitator in nurturing and enhancing essential knowledge, skills, and dispositions of children at the primary level.

Principles of Developing the Assessment Framework[1]

The assessment framework for STET Paper I is based on the latest STET syllabus of 2021-22, released by SCERT, Sikkim. Some of the principles for developing the framework are listed below.

a. The assessment framework consists of five sections as per the STET syllabus – CDP, mathematics, EVS and language I and II. Since a teacher at the primary level is expected to teach all subjects, the framework gives equal weightage to all the subjects taught at this level – this is drawn from the STET syllabus that allocates 30 marks to each of the five sections.

b. Within each subject section, content domains are drawn from the state-level curriculum of both school and teacher education. Within each subject section, the framework focuses on assessing understanding the nature and objectives of teaching the subject, pedagogic content knowledge, relevance of the subject in the school curriculum and dimensions of teaching it.

c. The content domains are further broken down into measurable competencies. These competencies are rooted in the nature and goals of teaching a subject in school education and the foundational principles of the teacher education curriculum that are expected of a beginner teacher.

    i. The competencies reflect a range of cognitive levels mapped to the revised Bloom's Taxonomy of educational objectives.

    ii. Within the content knowledge section of each subject, the competencies focus on conceptual understanding of core concepts taught at the primary level, such as number system, plants and animals, comprehension skills, etc.

    iii. Within the pedagogy section of each subject, the competencies focus on the understanding of nature, goals, and objectives of teaching the subject in school and pedagogic content knowledge which includes competencies, such as the ability to plan teaching-learning experiences, identification of methods and strategies for developing conceptual clarity, usage of teaching-learning aids, assessment methodologies specific to the core concepts, etc.

    iv. The competencies listed in this framework are also restricted to only those that can be tested in a paper-pencil format.

[1] Adapted from Central Board of Secondary Education. (2021). *Competency Framework Paper I: Central Teacher Eligibility Test.* New Delhi: Central Board of Secondary Education.

Subject-wise Competency List

Child Development and Pedagogy

Cognitive Domains[2]

The competencies test the range of cognitive levels, namely, *Remember, Understand, Apply, Analyse* and *Evaluate*. Since STET is proposed as a paper-pencil test with all items being MCQ, the cognitive domain *Create* has not been included. These domains are defined largely based on the Revised Bloom's Taxonomy by Anderson and Krathwohl. These have been slightly customised, keeping in mind the CDP knowledge required to teach. Though a comprehensive list of competencies is prepared, it is not an exhaustive list. The competencies may be tweaked, and more competencies may be designed for the given syllabus.

Remember: This cognitive domain includes questions based on recalling facts, the ability to define different approaches and concepts of child development, list elements and features of inclusive education (IE), and label different approaches of learning and pedagogy.

Understand: Questions under this cognitive domain check for the understanding of features of different concepts and by comparing different approaches of CDP, summarise key themes related to IE; interpret content from learning and pedagogy.

Apply: In this cognitive domain, the emphasis is on the application of knowledge and understanding of concepts for problem-solving. It encompasses the ability to apply child development concepts to real-world situations; make use of theory to identify appropriate next steps; select an appropriate pedagogical technique to address the gaps in learners' needs; select and utilise different learning models.

Analyse: In this cognitive domain, the questions assess identification and assimilation of different viewpoints; citing of evidence to support a claim; identifying and addressing misconceptions; using reasoning to develop explanations, draw conclusions, make decisions; and extend their knowledge to new situations, as well as application of acquired knowledge to solve problems in new and unfamiliar contexts.

Evaluate: This cognitive domain focuses on the ability to judge the merit and validity of concepts and principles in certain situations, views about certain observations during a child's development, appropriate learning methods, and pedagogical approaches. This domain requires candidates to evaluate conclusions reached by others on their understanding of relevant theories and concepts.

[2] Adapted from Central Board of Secondary Education. (2021). *Competency Framework Paper I: Central Teacher Eligibility Test.* New Delhi: Central Board of Secondary Education.

Competencies

Content Domain	***Topics***	***Competencies***
I. Child Development		
1. Concept and principles of development and its relationship with learning	a. Principles of growth and development b. Factors influencing growth and development c. Domains of development and milestones in early and middle childhood i. Gross and fine motor skills ii. Cognitive development iii. Social development iv. Emotional development	1. Identifies the principles of development. 2. Lists the different domains of development in primary school. 3. Identifies the unique characteristics of primary school children. 4. Identifies interlinkages among different domains of development. 5. Classifies domains of development as physical, cognitive, social, language and emotional development based on a given context. 6. Deduces relationship between learning and different domains of development. 7. Classifies the different principles of child development. 8. Relates the correct principle of development to a given situation. 9. Explains the relevance of principles of child development in planning teaching-learning experiences. 10. Applies principles of development in the teaching-learning process. 11. Provides examples of the relationship between learning and different domains of development. 12. Makes use of activities to enhance the all-round development of children. 13. Selects developmentally appropriate activities for children in primary grades. 14. Recognises the influence of socio-cultural factors in learning and development. 15. Identifies the different components of heredity influencing development and learning. 16. Relates the linkages between heredity and environment in development, e.g., onset of puberty is in genes, but nutrition also has a role to play. 17. Analyses the arguments around the debate of heredity v/s environment. 18. Justifies the role of teacher in social, cognitive, emotional, and motor development of children in early and middle childhood.
2. Development of speech and language	a. Language development in different ages b. Factors influencing language development c. Uses of language	19. Defines different terms like receptive language, expressive language, babbling etc. that occur during language development. 20. Recalls theories of language development. 21. Interprets the meaning of receptive language, expressive language, babbling etc. 22. Identifies the different factors affecting language development in early childhood. 23. Explains the factors influencing language development in early childhood. 24. Infers how children learn a language in early years. 25. Sequences the milestones of language development in early childhood.

Content Domain	*Topics*	*Competencies*
		26. Estimates the importance of language development in early childhood. 27. Infers the relationship between the development of language in children and its relationship with cognitive abilities/thinking.
3. Socialisation processes: The social world and children (teachers, parents, peers)	a. Parenting: Family and adult-child relationship; child-rearing practices; impact of separation from parents, and children in institutionalised settings b. Schooling: Peer influence, school culture, relationship with teacher, relationships with peers, competition and cooperation, competition and conflict, aggression and bullying during childhood c. Early childhood care and education: Definition; objectives and principles of ECCE; different approaches to early childhood education, planning and management of an ECCE curriculum; foundational literacy and numeracy	28. Defines socialisation in the context of primary school children. 29. Describes the process of socialisation. 30. Identifies the different socio-cultural factors influencing the socialisation of primary school children, e.g., parents, family, teachers, school, and peers. 31. Describes agencies of socialisation. 32. Analyses how school and classroom processes contribute to socialisation, e.g., curriculum, textbooks, school culture, relationships between teachers and students, assigning tasks, etc. 33. Justifies how socialisation occurs through formal and informal institutions, like school, family etc. 34. Determines how to foster a positive school culture/climate. 35. Analyses the importance of school culture. 36. Labels parenting styles with the help of their characteristics. 37. Explains how different parenting styles influence the development of children. 38. Critiques the different parenting styles. 39. Defines characteristics of different types of bullying. 40. Identifies instances of bullying in a given classroom setting. 41. Determines the relationship of bullying with the socio-emotional well-being of children. 42. Makes use of appropriate ways to prevent bullying in schools. 43. Defines Early Childhood Care and Education (ECCE). 44. Interprets the objectives and principles of ECCE. 45. Illustrates the different approaches to early childhood education. 46. Applies the objectives and principles of ECCE for its smooth functioning. 47. Suggests appropriate methods to develop foundational literacy and numeracy.
4. Theoretical constructs and critical perspectives	a. Piaget's stages of cognitive development b. Kohlberg's theory (moral development)	48. Recalls Piaget's stages of cognitive development. 49. Defines moral development in childhood. 50. Defines the main constructs of Piaget's cognitive development – assimilation, accommodation, and equilibrium. 51. States Kohlberg's theory of moral development. 52. States the characteristics of Piaget's stages of cognitive development. 53. Explains the features of the different stages of cognitive development as theorised by Piaget with a special focus on the age group of 3-10 years. 54. Contrasts between stages of Piaget's cognitive development.

Content Domain	*Topics*	*Competencies*
		55. Classifies levels and stages of Kohlberg's moral development. 56. Explains the educational implications of Kohlberg's theory of moral development in the classroom. 57. Applies Piaget's stages of cognitive development to the learning and development of children. 58. Applies Piagetian concept of conservation in designing learning experiences. 59. Identifies the learning experiences to be given to children in specific Piagetian stages. 60. Relates the nature of moral reasoning of a child with their age/grade according to Kohlberg. 61. Selects age and stage appropriate activities to strengthen learning and development in children. 62. Explains the teacher's role in enabling children to learn in an age-appropriate manner.
5. Acts and Policies	a. National Policy on Education (1968, 1986), National Curriculum Framework 2005, National Education Policy 2020. b. Right of Children to Free and Compulsory Education Act, 2009.	63. Describes the usage of policies in teaching-learning processes. 64. Identifies relevant acts and policies to refer to in a specific situation. 65. Relates the correct act or policy to a given situation.
II. Concept of Inclusive Education		
1. Meaning and importance of Inclusive Education	a. Historical and contemporary perspectives on inclusive education b. Acts and policies: Rehabilitation Council of India Act (1992), Integrated Education for Disabled Children (IEDC), RPWD (2016), NEP 2020 (with special focus on inclusive education)	66. Defines inclusion in a school setting. 67. Selects the values of IE from a set of given alternatives. 68. Identifies the different historical and contemporary perspectives of IE. 69. Evaluates the importance of IE in a classroom context. 70. Identifies appropriate acts and policies on inclusion in a given context. 71. Applies the appropriate acts and policies on inclusion in a situation.
2. Addressing Individual differences among learners from diverse backgrounds	a. Understanding differences based on diversity of language, caste, gender, community, religion etc. b. Understanding challenges of socio-economically disadvantaged groups- regional, linguistic, and ethnic groups c. Gender as a social construct; gender roles, gender bias and educational practice d. Socio-cultural variations in language: Bilingual/multilingual children, linguistic variations, implications for a multicultural classroom	72. Selects the various strategies that address individual differences among learners. 73. Illustrates a sensitive attitude towards the diverse learning needs of children from different linguistic, socioeconomic, cultural, and religious backgrounds. 74. Identifies learning and socio-emotional needs of children from disadvantaged and marginalised sections of society. 75. Identifies individual differences among students during teaching-learning activities. 76. Analyses the diverse needs of students and addresses them through the teaching-learning process. 77. Identifies the risks of physical, sexual, and emotional abuse that young children face across different settings. 78. Identifies ways of reducing physical, sexual, and emotional risks in the school setting. 79. Assesses the role of teachers to deal with individual differences in school settings.
3. Addressing needs of children with different abilities	a. Learning disabilities: Meaning, characteristics and	80. Selects the various strategies that address individual differences among learners. 81. Identifies the importance of IE in a given scenario.

Content Domain	*Topics*	*Competencies*
	identification of children with learning disabilities b. Approaches and techniques for helping learning-disabled children. c. Children with Disabilities: Types, role of teacher while dealing with Children with Special Needs (CWSN)/divyang children d. Gifted Learners: Meaning, characteristics and identification of gifted children	82. Identifies reasons for the need for close collaboration between teachers, parents, and the community in making the learning experience of children with disabilities enriching. 83. Identifies individual differences among students during learning and teaching by teachers. 84. Identifies some common disabilities that can be seen in young children, such as hearing, visual, speech impairment; learning disabilities; Attention Deficit Hyperactivity Disorder; locomotor disabilities. 85. Lists suitable TLM/ICT (Information and Communications Technology) to use for children with specific disabilities in the classroom. 86. Defines giftedness based on a given caselet. 87. Distinguishes between academic achievement, giftedness, intelligence, and creativity. 88. Identifies desirable classroom practices to work with children who may be gifted/possess exceptional talents. 89. Displays sensitivity to socio-emotional needs of children who are gifted. 90. Analyses examples of modification of content, teaching, and assessment to suit the individual learning needs of children with disability.
4. Child labour and child abuse	a. Acts and policies, challenges, and their implications on child development (physical, sexual, emotional, verbal) (POCSO Act, Child labour Act, State Council for Protection of Child Rights	91. Lists acts and policies under child labour**.** 92. Identifies the implications of child labour in society. 93. Identifies the negative implications of physical, emotional, neglect and sexual abuse on children.
III. Learning and Pedagogy		
1. How children think and learn	a. Theories of learning and their educational implications i. Learning: Concept and type of learning (Gagne's Classification) Gagne's hierarchical theory of learning ii. Behavioural or stimulus: Response connection theory; Pavlov's classical conditioning learning, Thorndike trial and error learning, Skinner's operant conditioning learning iii. Bandura and Walter's social learning theory iv. Vygotsky's theory; concept of Zone of Proximal Development (ZPD) b. Bloom's Taxonomy of cognitive domains c. Factors contributing to learning- Personal, social, and environmental	94. Identifies the four principles of learning stated by UNESCO. 95. Lists the types of modelling stimuli outlined by Bandura. 96. Selects the role of Zone of Proximal Development (ZPD) in a given context. 97. States the factors affecting the development of concepts in childhood. 98. Defines the meaning, concept, and nature of thinking. 99. Explains the factors affecting learning. 100. Identifies assumptions related to learning that are common to cognitive theories. 101. Illustrates Gagne's outcome of learning in a given context. 102. Classifies Gagne's eight basic types of hierarchical learning in a given context. 103. Infers the meaning of scaffolding through a given caselet. 104. Explains the meaning of concept formation in a given scenario. 105. Compares thinking and learning in a given context. 106. Summarises Bruner's concept attainment model. 107. Applies Vygotsky's concepts of the ZPD in the classroom with the development of skills in children.

Content Domain	*Topics*	*Competencies*
	d. Concept formation i. Meaning of concept ii. Mental processes in concept formation iii. Factors affecting development of concepts in childhood iv. Bruner's model of concept learning v. Piaget's views on concept formation e. Thinking and reasoning i. Concept and nature of thinking ii. Linkages between thinking and learning	108. Matches assessment methods to assess learning on a variety of cognitive levels (Bloom's Taxonomy). 109. Assesses the key tenets of social learning theory as outlined by Bandura and Walter. 110. Summarises Bandura's social learning theory from a set of alternatives. 111. Justifies why punishment is not very effective for eliminating undesirable behaviour based on a given caselet. 112. Identifies appropriate context to offer effective praise in a given scenario. 113. Identifies the multiple risk factors involved with the learning and development of children from poor families/difficult backgrounds. 114. Evaluates different learning opportunities available in a classroom or school situation to use Bloom's Taxonomy in order to create a variety of learning experiences. 115. Defines concepts based on a given scenario. 116. Lists strategies to help students understand concepts. 117. Defines problem-solving based on a given context. 118. Sequences the steps in problem-solving. 119. Justifies reasons why problem-solving is hampered in a given caselet. 120. Analyses examples of near and far transfer in a given scenario. 121. Reasons out how errors are a part of the developmental process of learning.
2. Basic processes of teaching and learning: Children's strategies of learning (transfer of learning etc.); learning as a social activity; social context of learning	a. Learning process: Learning concept, characteristics, principles, types, domains b. Transfer of learning: Meaning, types, theories, and educational implication c. Approaches of teaching and learning: Project method, discussions, problem-solving method etc. d. Play – meaning, characteristics, and types e. Play and its functions: Linkages with the physical, social, emotional, cognitive, language and motor development of children; socio-economic differences in children's play	122. Explains reasons for establishing effective classroom procedures and routines. 123. Lists principles of classroom organisation. 124. Identifies strategies to support individual and group work in classrooms. 125. Lists strategies to deal with commonly observed difficult behaviours in classrooms. 126. Analyses how to establish and maintain effective rules in a given scenario. 127. Identifies the different types of play, based on a given situation. 128. Recalls the meaning and importance of play from a set of given alternatives. 129. Lists the characteristics of play. 130. Selects how play resolves the socio-economic and cross-cultural differences in children. 131. Explains the laws/principles of learning in a given scenario. 132. Identifies different types of learning in a given context. 133. Applies laws of learning in the education process to ensure successful learning experiences. 134. Defines direct teaching and constructivism based on a given scenario. 135. Compares differences between meaningful learning and rote learning. 136. Contrasts constructivist learning with direct instruction in a given scenario. 137. Relates the development of thinking and language to the culture and social history of the learner.

Content Domain	*Topics*	*Competencies*
		138. Makes use of previous knowledge of children for further learning. 139. Differentiates between inductive and deductive reasoning in a given context. 140. Identifies strategies to hold children's attention in a classroom context. 141. Identifies factors inside and outside school that highlight learning as a social activity. 142. Constructs/matches play activities based on the age, aptitude, and interest of the child. 143. Incorporates theme-based activities based on a given caselet. 144. Explains the linkages of play with the physical, social, emotional, cognitive, language and motor development of children.
3. Assessment and learning	a. Different ways of recording and interpreting data: Measures of central tendency- mean, median and mode, anecdotal records, observation, checklists, portfolio etc. b. Approaches to assessment: Formative and summative assessment c. Characteristics of good assessment: Validity, reliability, fairness, objectivity etc.	145. Identifies the objectives of types of observational methods. 146. States the processes/steps of conducting naturalistic observation, interviews, reflective journals about children, anecdotal records. 147. Explains the different types of observational methods. 148. Makes use of various observational techniques to record the development and progress of learners in order to collect information about an existing social problem. 149. Distinguishes between different types of observational methods. 150. Compares the advantages and disadvantages of various observational techniques. 151. Defines assessment *for, of* and *as* learning. 152. Differentiates between different approaches of assessment based on contextual situations.

Language I and Language II

Cognitive Domains[3]

The competencies test the range of cognitive levels, namely, *Remember, Understand, Apply, Analyse* and *Evaluate*. Since STET is proposed as a paper-pen test with all items being MCQ, the cognitive domain *Create* has not been included. These domains are defined largely on the Revised Bloom's Taxonomy by Anderson and Krathwohl. These have been slightly customised, keeping in mind the linguistic knowledge required for teaching. Though a comprehensive list of competencies is prepared, it is not an exhaustive list. The competencies may be tweaked, and more competencies may be designed for the given syllabus.

Remember: It includes recall, the ability to list and define grammatical categories, identify linguistic or literary elements in different texts and tests the knowledge of literature, different approaches to teaching and recent advances in assessment.

Understand: This domain includes understanding of features, elements of language and literature, illustrating through examples, classifying them, and comparing different approaches to language teaching.

Apply: It encompasses the ability to use the understanding of language, how children learn; the underlying structure of language and literary elements in different genres, registers, contexts, and texts. It includes the ability to choose an appropriate illustration of a structure, text, or approach to teaching and understanding in a variety of contexts and across the curriculum. The questions assess the ability to choose appropriate strategies to solve a problem and display linguistic or literary sensibility and appreciation in various forms.

Analyse: This includes breaking information into parts, identifying motives and causes, making inferences and finding evidence to support generalisations. In the context of evaluating teachers' knowledge of content, this will also include identification of reasons for a particular way of thinking of a child about grammar or literature.

Evaluate: This domain includes selecting and defending opinions, making judgments about approaches, validity of ideas or quality of work, based on a set criterion. In the context of evaluating teachers' knowledge of content, this includes choosing appropriate examples, making a choice of one approach over another and also choosing the best possible explanation for a particular response.

[3] Adapted from Central Board of Secondary Education. (2021). *Competency Framework Paper I: Central Teacher Eligibility Test.* New Delhi: Central Board of Secondary Education.

Competencies

Content Domain	***Topic***	***Competencies***
I. Content		
1. Reading comprehension	a. Skills of reading i. Understanding subskills of reading: Skimming and scanning ii. Understanding strategies of reading: Prediction, visualisation, summarisation etc. iii. Higher Order Thinking Skills (HOTS): Inferences, conclusions, assumptions, textual evidence, cause-effect, point of view etc. b. Grammar knowledge i. Functional and communicative grammar in everyday contexts ii. Adjectives, adverbs, prepositions, determiners, modals, tenses, clauses, subject-verb concord, commands and requests, statements, and questions c. Vocabulary i. Vocabulary in unseen texts (prose, poem, non-fiction, and authentic literature like newspaper reports and articles) ii. Synonyms and antonyms, shades of meaning, semantic gradients, e.g., big, huge, gigantic iii. Figures of speech: Metaphor, symbol, image, rhyme scheme, alliteration, onomatopoeia etc.	1. Analyses an unseen passage by selecting the correct option (summary of text/predicting future events/inferring deeper meaning/evaluating theme or character). 2. Applies the skill of scanning and skimming by locating specific information from an unseen passage. 3. Applies the strategies of reading, e.g., inference and analysis of an unseen text by making appropriate selections. 4. Analyses an unseen text to identify cause and effect, point of view, narrative style, evidence of claims etc. 5. Applies grammar knowledge by filling in the appropriate tenses, verb phrases, prepositional phrases etc. in an unseen text from a selection. 6. Applies grammar knowledge by editing an unseen text/replacing the incorrect verbal phrase, modals, clauses, prepositions, and determiners with the correct form from a given list. 7. Arranges parts of a sentence/sentences into a paragraph in the correct order to make a meaningful sentence/paragraph from a given selection. 8. Parses parts of a sentence into its different parts of speech by selecting correct labels. 9. Changes the part of speech of an underlined word as directed from a given list. 10. Locates the error (in question formation, determiners, verbs, adjectives, or adverbs) in a part of a sentence. 11. Edits the tense/punctuation/ agreement of verb etc., in a given sentence for a given context to remove ambiguity. 12. Replaces the error in punctuation/tense/ usage in an unseen text by selecting appropriate replacement from a given list. 13. Matches synonyms and antonyms or shades of meaning in an unseen text by selecting alternatives. 14. Edits/reorganises a list of semantic gradients, e.g., big, huge, gigantic, by selecting correct options. 15. Analyses a poem, prose selection, or authentic text to identify the use of a given figure of speech. 16. Selects the appropriate meaning of a word in a particular context from a given dictionary entry. 17. Replaces the underlined words with the antonyms or synonyms of the words to suit the context in an unseen passage or text.
2. Responding to literature	a. Interpretation of plot, character, setting and intention b. Critical thinking in unseen texts c. Gender, inclusion, and stereotypes	18. Interprets character, plot, setting etc. in an unseen text. 19. Analyses a passage/picture to select/match an example of gender inclusion/stereotyping/marginalised voices in a text or poem. 20. Infers assumptions/motives of a character in an unknown text selection from given alternatives.

Content Domain	*Topic*	*Competencies*
		21. Analyses character by selecting an appropriate description from a given list. 22. Analyses a poem/text critically by selecting appropriate answers to higher-level thinking questions. 23. Matches the literary devices used in a selection of prose/poetry to labels in a given list. 24. Identifies flat and round characters or points of view (narration) in an unseen text by selecting from a given list.
3. Language policies and languages in school education	a. Goals of a language curriculum and their relation to pedagogical processes and TLMs b. 'Three Language Formula' and its effect on languages in school education c. Language Policy of Sikkim and pedagogical issues related to its implementation d. Latest policies related to languages and language education at the State and national level	25. Identifies the definition of the three-language formula from the given statements. 26. Evaluates existing pedagogical issues related to language policy implementation in Sikkim/other states. 27. Identifies the goals of a language curriculum in the extract of a specific syllabus. 28. Analyses the lacunae of a language policy of a given state after examining its features. 29. Evaluates an appropriate addition to the language policy of a given state.
II. Pedagogical Processes		
1. Language diversity and multilingual contexts	a. Perspectives i. Perspectives on multilingual approach and language inclusion ii. Perspectives on Cummins' theory of language interdependence iii. Perspectives and classroom processes of multilingual pedagogy iv. Code-mixing and code-switching b. Pedagogy i. Language diversity and multilingualism as a resource for learning school languages ii. Simultaneous translation and creative translation as teaching strategies	30. Infers the application of Cummins' Interdependence theory by selecting from given classroom scenarios or statements. 31. Distinguishes between code-mixing and code-switching as pedagogical strategies of multilingualism from given examples. 32. Evaluates statements that exemplify language inclusion in the classroom. 33. Distinguishes between strategies of simultaneous translation and creative translation from a given list of strategies. 34. Analyses a case study/examples of classroom processes to select a multilingual approach appropriate to the context.
2. Challenges in the teaching of English as the medium of instruction / Challenges in the teaching of regional languages as a subject	a. Social and pedagogical challenges facing the language teacher i. English as a medium where the environment of English is not available/ Teaching of regional languages where classes are not homogenous. ii. Syllabus requirements and the textbook	35. Analyses and selects classroom processes for teaching English as a medium where the environment of English is not available. 36. Matches classroom processes suitable for mixed-ability or homogeneous groups of learners. 37. Identifies language learning strategies useful for large classes from a given list. 38. Justifies the need for resources, stories, and authentic materials along with the textbook in a language classroom by selecting an appropriate statement from a list.

Content Domain	*Topic*	*Competencies*
	iii. Mixed-ability groups and large classes iv. Aspirations of parents v. Analysing the oral and written responses of learners (response analysis) to identify what they know and what are the gap areas vi. Understanding the meaning of mistakes in a developmental continuum b. Development of the language teacher as a professional i. Language proficiency and competence ii. Knowledge of new pedagogies iii. Connect with professional community iv. Opportunities for professional development	39. Proposes solutions to the challenges teachers face in including children's languages in the classroom by selecting from a list. 40. Analyses teachers' needs and selects professional development courses. 41. Classifies pedagogies/methods/approaches by matching them with their main tenets or focus.
3. Language across the curriculum	a. Perspectives i. Language as a school subject and as a means of learning and communication ii. Language as an instrument for abstract thought and knowledge acquisition (language abilities that facilitate the learning of other subjects) b. Pedagogy i. TLMs and non-fiction or storybooks on concepts ii. Classroom processes for Language Across Curriculum (LAC)	42. Distinguishes between language as a school subject and a means of communication by examining different learning outcomes/ classroom processes. 43. Defines language as a means of learning other subjects and as a means of communication by selecting from a list of statements. 44. Lists the properties of LAC from given inputs. 45. Classifies classroom processes for developing language as a skill and developing language as a tool for critical thinking. 46. Identifies TLMs/non-fiction/storybooks for vocabulary development in LAC. 47. Evaluates classroom processes for LAC from a given selection.
4. Language acquisition and language learning	a. Perspectives i. Perspectives on the difference between acquisition and learning and the stages of language learning ii. Principles of second language acquisition and their application in pedagogical processes and TLMs: The Natural Approach (Krashen and Terrell); Pedagogy of Comprehensible Input (Krashen); Language Interdependence Hypothesis (Cummins) and Bilingual Approach- Basic Interpersonal	48. Classifies examples of classroom processes/features/examples of children's language/extracts from lesson plan as belonging to language acquisition or learning. 49. Interprets evidence of Chomsky's LAD in the pedagogical processes/ case studies of children's language. 50. Evaluates the appropriate approach for second language acquisition by children in a given scenario or context of language learning. 51. Infers the evidence of Affective Filter, Monitor (Krashen's hypotheses) by selecting from caselets/learner reflections of second language learning. 52. Distinguishes between different approaches by examining examples of classroom processes. 53. Identifies the full form of LAD and LASS from given statements.

Content Domain	*Topic*	*Competencies*
	Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP) iii. Theories of language acquisition (Chomsky- Language Acquisition Device (LAD) and Bruner- Language Acquisition Support System (LASS) and their application in pedagogical processes b. Pedagogy i. Emergent literacy and language learning in school ii. Role of home languages in learning	54. Classifies classroom processes/strategies as those that stem from a belief in LAD and those that stem from a belief in LASS. 55. Selects a statement which shows how LAD and LASS are complementary processes. 56. Organises evidence in the natural order of learning grammatical concepts. 57. Evaluates the role of the home language in learning in a given scenario. 58. Evaluates a classroom process/TLM/teacher reflection which emerges from an understanding of the need to move from BICS to CALP.
5. Approaches to language teaching at the primary level	a. Perspectives and pedagogy i. Perspectives and pedagogy of whole language and task-based communicative approaches to language teaching at the primary stage ii. Input-rich communicational environment in the classroom iii. Comprehensible input iv. Meaningful contexts for language learning through integration of skills v. 'Silent Period' phase and approaches like Total Physical Response (TPR) b. Pedagogical processes i. Lesson planning and assessment under whole language and task-based communicative approaches ii. Promoting role of parents and community in foundational literacy iii. Experiential learning through art, stories, poetry, rhymes, games, toys, songs, or activity-based in-home language/mother-tongue focusing on rich local traditions (integrating art, sport, ICT, storytelling, toys, games, puzzles, etc.) iv. Storytelling and children's literature v. Creating a print-rich environment vi. Listening to; telling and writing stories, poems, songs, and rhymes vii. Sharing experiences	59. Evaluates the effect of an input-rich communicational environment on the language development of a child. 60. Evaluates the role of comprehensible input in language learning by selecting appropriate illustrations of classroom processes/teacher notes. 61. Analyses statements giving an appropriate relationship between approaches, like TPR and the silent period. 62. Classifies classroom processes or lesson plans which are based on the whole-language approach and phonics approach. 63. Lists the components of the whole-language approach by selecting from a set of statements. 64. Analyses and selects a statement which explains why the whole-language approach is based on comprehensible input. 65. Classifies extracts from lesson plans under the whole-language and task-based communicative approaches. 66. Defines the role of parents and community in promoting foundational literacy by selecting from given statements. 67. Selects books for a particular grade and/or level from a given set of storybooks and their descriptions. 68. Illustrates the role of storytelling in language learning by selecting statements from a given list. 69. Identifies a classroom process which uses word walls to teach vocabulary. 70. Analyses the role of a print-rich environment for language learning by selecting the most appropriate classroom process from the given scenarios. 71. Justifies the importance of picture reading/ picture talk by selecting the most appropriate statement. 72. Justifies the importance of student talk in early language learning by selecting the most appropriate statement. 73. Distinguishes between the roles that storytelling and story-reading play in the classroom by classifying the processes given. 74. Identifies strategies/processes for gifted and special ability children – dyslexia, dysgraphia, auditory processing disorder, language processing disorder, visual perceptual deficit etc.

Content Domain	*Topic*	*Competencies*
	viii. Drama/theatre and role play ix. Picture reading/talk, shared reading x. Activities based on reading and writing corners xi. Use of classroom wall (word wall) xii. Experience-based writing c. Inclusive pedagogy i. Children in different circumstances ii. Gifted and special ability children: Dyslexia, dysgraphia, auditory processing disorder, language processing disorder, visual perceptual deficit etc. iii. Learning, TLMs and adaptive assessment	75. Analyses processes for inclusion of special-ability children in a specific scenario by selecting from a list of classroom processes. 76. Analyses strategies which help the creation of adaptive assessment for mixed ability groups in the classroom by selecting from a list. 77. Matches suitable TLMs to caselets on listening, speaking, reading, or writing difficulties.
6. Curricular materials and planning	a. Principles i. Print-rich environment: Types of materials, their need, use for different stages of learning ii. Principles and application of TLM design and use, e.g., flexibility, dynamism, inclusion, gender sensitivity, contextuality, age-appropriateness, attractiveness and language-teaching and assessment potential, and their application b. Dynamic nature of TLMs and their interactive use in learning language i. Cultural resources like stories, folk art, and literature ii. Learner-created and learner-chosen texts iii. Collaboratively developed TLMs (both by the teacher and learners) iv. Authentic literature v. Multimedia resources c. TLM essentials i. Curriculum, syllabus, textbooks, LOs and lesson plans ii. Print-rich environment: Types of materials, their need, use for different stages of learning	78. Identifies classroom processes that use print-rich materials for different learning outcomes from a given list. 79. Identifies the principles of TLM design in a given scenario. 80. Matches use of authentic material/learner-created texts/games/nature walks with classroom processes. 81. Evaluates an extract/picture/task in a textbook based on given criteria, e.g., inclusion of children's languages/gender stereotypes/representation of voices/bias. 82. Justifies the use of cultural resources, like stories, folk art, and literature by selecting statements from a list. 83. Justifies a collaboratively developed TLM in a given scenario. 84. Evaluates statements that suggest a modification in TLMs used in the classroom based on given criteria.

Content Domain	*Topic*	*Competencies*
	d. Types of TLMs and their interactive use in learning language i. Local/cultural resources like stories, songs, folk art, literature, indigenous toys, and traditional games ii. Authentic material iii. Learner-created and learner-chosen texts, reading corners and library iv. Collaboratively developed TLMs with low-/no-cost material (both by the teacher, learners, and the community) v. Art, sport, and ICT integrated material	
7. Assessing language	a. Perspectives on assessment i. Assessment as part of the teaching process ii. Assessment 'for' and 'as' learning (formative) and 'of' learning (summative) b. Relationship between assessment and the teaching process i. Tailor-made, adaptive assessment ii. Recording, tracking and reporting learner progress iii. Providing qualitative feedback and developing holistic progress reports iv. Testing with reference to cognitive domains v. Cognitive alignment of LOs to assessment c. Continuous and comprehensive assessment in language teaching i. Assessment 'for' and 'as' learning (formative): Assessment of oracy and literacy skills	85. Defines assessment *as*/*for*/*of* learning by selecting from a set of statements. 86. Distinguishes between formative and summative assessment by matching the labels with the processes of assessment. 87. Evaluates assessment processes to match with types of assessment: assessment for learning, assessment of learning or assessment as learning. 88. Distinguishes assessment processes for whole-language/task-based communicative approaches from traditional approaches. 89. Evaluates records of learner progress to suggest changes. 90. Classifies a set of questions on a given text to match them to different cognitive domains. 91. Identifies question types for assessment of different skills in language learning by selecting from a list. 92. Analyses examples of adaptive assessment to select one for a specific special ability in a given grade. 93. Lists features of a holistic progress report of language. 94. Analyses a given response by a student and selects appropriate qualitative feedback suitable to the case. 95. Analyses the response of a child by selecting the statement that summarises her progress. 96. Classifies examples of holistic and analytical tools of assessment, e.g., from a selection of checklists, rubrics, paper-pencil tests, quizzes, and portfolios.
8. Teaching literature at the primary stage	a. Teaching poetry, prose, drama or fiction for enjoyment, appreciation, and development of imagination b. Elements of literature: Style, format, layout, structure and theme of prose, poem, or non-fiction	97. Matches different outcomes of teaching poetry or prose with extracts from lesson plans. 98. Distinguishes between pedagogical strategies to teach drama/prose/poetry in traditional or constructivist approach. 99. Analyses a teaching plan which focuses on character or style in a text. 100. Matches types of texts (descriptive, narrative, expository and argumentative) with their labels.

Content Domain	*Topic*	*Competencies*
	c. Types of text: Descriptive, narrative, expository and argumentative d. Authentic literature (newspaper reports, posters etc.)	101. Matches caselets using authentic literature with a list of learning outcomes. 102. Identifies the language teaching potential of a text (character/theme/ figures of speech etc.).
9. Critical perspectives on the teaching of grammar at the primary stage	a. Principles i. Rules and definitions not 'taught' ii. Grammar through active engagement with language iii. Inductive method with opportunities for discovery of rules through communicative tasks iv. Discovery of rules as reflecting on academic language, an intellectually engaging activity in its own right v. Formal grammar introduced after basic linguistic competence is acquired b. Pedagogy i. Strategies of teaching grammar and vocabulary through exposure to spoken and written inputs and discovering their use/function, instead of explicit grammar instruction at the primary stage ii. Components of grammar and vocabulary, e.g., nouns, pronouns, adjectives, adverbs, prepositions, singulars and plurals, gender, articles, conjunctions, determiners, possessives, punctuation marks, verbs, and tense forms (simple present and present continuous, simple past and past continuous, expressing future), question words etc.	103. Illustrates with examples how rules are not taught but caught by selecting statements from a list. 104. Identifies pedagogical processes which support the learning of grammar through active engagement with language in a given scenario. 105. Examines different statements on the teaching of grammar to distinguish between traditional and constructivist approaches. 106. Analyses and selects a strategy of teaching grammar and vocabulary through exposure to spoken and written inputs based on given criteria. 107. Classifies tasks which support the acquisition of grammar and those which support the deliberate learning of grammar. 108. Matches processes, e.g., TPR, labelling, and word webs, to the grammatical concept they teach.
10. Critical perspectives on remedial teaching	a. What is remedial teaching? i. What needs to be remedied – learner, teacher or TLMs? ii. When where why and how of remedial teaching iii. The acquisition-learning continuum versus the remedial teaching approach	109. Identifies a remedial measure for a given learning gap in a given scenario. 110. Classifies examples of inclusive and adaptive lesson planning versus remedial teaching. 111. Studies a case study to justify whether it requires better planning or change of TLM or assessment criteria instead of remedial teaching. 112. Analyses the oral and written responses of learners (response analysis) to identify gap areas.

Content Domain	*Topic*	*Competencies*
	iv. Inclusive and adaptive lesson planning or remedial teaching? b. Awareness of remediation strategies to support language learning i. Inclusive and adaptive lesson planning ii. Specific remediation programmes and bridge courses iii. Analysing the oral and written responses of learners (response analysis) to identify what they know and what are the gap areas iv. Any other classroom/school-level intervention, e.g., action research or a library programme	113. Distinguishes between an adaptive and remedial lesson plan by studying its components.

Mathematics

Cognitive Domains[4]

The competencies test the range of cognitive levels, namely, *Remember, Understand, Apply, Analyse,* and *Evaluate*. As STET is proposed to be a paper-pencil test with all items being MCQ, the cognitive domain *Create* has not been included. These domains are defined largely on the basis of revised Bloom's Taxonomy by Anderson and Krathwohl. However, these have been slightly customised keeping in mind the mathematical knowledge required for teaching. Though a comprehensive list of competencies is prepared, it is not an exhaustive list. The competencies may be tweaked, and more competencies may be designed for the given syllabus.

***Remember*:** It includes recall of mathematical facts, properties, theorems, and definitions of terminologies, recognition of mathematical objects, such as shapes, numbers, expressions, or quantities required for mathematical understanding.

Understand: This domain includes understanding of facts and ideas by organising, comparing, translating, interpreting, and providing explanations for certain phenomena or properties. Understanding of concepts helps to extend mathematical knowledge to judge the validity of mathematical statements and also to make mathematical representations. This helps teachers to make a choice of a process to solve a problem, retrieve the mathematical information from a given situation, derive formulas, explain mathematical concepts, interpret the students' response and also identify preconceptions and common misconceptions.

Apply: This domain encompasses the ability to use mathematical knowledge and understanding in a variety of contexts within the domain of mathematics and also in real life in a completely new situation. By *Apply*, we mean the ability to choose the appropriate strategy to solve a problem, display mathematical information in various forms and generate equivalent representations of mathematical entities or ideas. This domain will also include application of formulas to solve problems, use of theorems with known proofs to prove other propositions, interpretations and inferences from given data. It will also include the ability to use different pedagogical approaches to teach primary level concepts, address misconceptions and design assessment strategies which are mapped with defined learning outcomes.

Analyse: This will include breaking information into parts, identifying motives and causes, making inferences and finding evidence to support generalisations. In the context of evaluating teachers' knowledge of content, this will also include the identification of reasons for a particular way of thinking of a child.

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Evaluate: This domain includes presenting and defending opinions, making judgements about information, and the validity of ideas or quality of work based on a set of criteria. In the context of evaluating teachers' knowledge of content, this will include choosing appropriate examples, making a choice of one approach over the other and choosing the best possible explanation for a particular response.

Competencies

Content Domain	***Topics***	***Competencies***
I. School Mathematics (content and learning)		
1. Number (numerical aptitude and its teaching)	a. Pre-number concept b. Operations on whole numbers, integers, fractions, decimals, rational numbers (meaning, representation, algorithm, word problem), BODMAS c. Playing with numbers (square, square root, cube, cube root, HCF and LCM, triangular numbers, magic squares/triangles) d. Ratio and Proportion (Direct and Inverse Variation) e. Percentage, Profit and Loss/Discount f. Simple Interest/Compound Interest/Value Added Tax (VAT)/ Goods and Services Tax (GST) g. Exponents h. Simple word problems related to all the above concepts i. Counting principles j. Convention and rule of reading and writing numbers	1. Identifies pre-number concepts. 2. Connects the importance of pre–number concepts to counting/spatial understanding/ patterns. 3. Identifies different stages of counting principles. 4. Applies counting principles in teaching counting. 5. Analyses learning gap using counting principles. 6. Explains the characteristics of different sets of numbers (whole numbers, integers, and rational numbers) and compares them. 7. Solves problems using the four operations on different sets of numbers (whole numbers, integers, and rational numbers). 8. Selects appropriate material/graphics to represent different sets of numbers. 9. Examines different number operations to make sense of algorithms for number operations. 10. Illustrates the properties of associativity, commutative and distributivity of number operations over the set of rational numbers. 11. Uses appropriate material to represent number operations and associated algorithms. 12. Demonstrates (with or without manipulatives/visuals) how to simplify and explain or solve a word problem. 13. Applies operations in real life in finding ratios, profit, loss, discounts and interests. 14. Identifies patterns in numbers and generalises. 15. Utilises understanding of patterns in exponents and special numbers in modelling or solving problems. 16. Analyses proportional relationships and solves problems or draws conclusions.
2. Geometry (shapes and spatial understanding)	a. Understanding and identifying attributes of square, rectangle, circle, triangle, parallelogram, rhombus, cube, cuboid, cylinder, sphere, and cone b. Faces, edges, and vertices of 3-D shapes (Euler's Formula), classification of triangles and quadrilaterals c. Properties of lines and angles d. Visualisation: Nets of solids, map-reading, location with	17. Explains properties of 2D and 3D shapes. 18. Applies the understanding of mathematical register related to simple 2D and 3D shapes 19. Uses relationship between edges, corners, and faces of solid shapes. 20. Connects the use of a shape in daily life contexts to its attributes. 21. Interprets the corresponding effect of transformations (reflection and rotation). 22. Identifies 3D shapes from the given nets and vice-versa. 23. Uses (finds unknowns, reasons, justifies) properties of lines and angles.

Content Domain	*Topics*	*Competencies*
	respect to a reference point, perspective e. Construction of angles, angle bisector, perpendicular bisector, quadrilaterals, triangles, parallel lines f. Symmetry - lines, rotational g. Van Hiele's levels of geometric thinking	24. Constructs arguments to prove a geometric statement regarding lines, angles, triangles and quadrilaterals. 25. Deciphers route maps. 26. Justifies steps of constructions of angles, parallel lines, triangles and circles. 27. Maps Van Hiele's levels of geometric thinking in a given situation. 28. Uses Van Hiele's levels of geometric thinking to analyse a learning gap. 29. Applies theory on levels of geometric thinking in pedagogical practice. 30. Justifies steps of constructions of angles, parallel lines triangles and circles.
3. Pattern and Algebra	a. Terms, factors, and coefficients; monomials, binomials, and trinomials; operations on algebraic expressions; factorisation using identities b. Simple linear equations c. Patterns in numbers and shapes d. Progression from arithmetic to algebra	31. Demonstrates understanding of the language of algebra. 32. Simplifies given algebraic expressions. 33. Organises pedagogical practice using appropriate material to teach primary school concepts and procedures in algebra. 34. Forms simple linear equations with integer coefficients. 35. Solves simple linear equations with integer coefficients. 36. Selects context to match a given simple linear equation. 37. Identifies the rule for a given pattern. 38. Extends given patterns.
4. Measurement and Mensuration	a. Identification of attributes b. Use of language appropriate to attributes c. Relationship between attributes (length to area, volume to weight) d. Concepts – length, weight, capacity/volume, money, time, perimeter, area, and volume. e. Process of measuring; use of measuring tools and appropriate units (non-standard and standard) f. Applying formula for measurement of perimeter and area g. Estimation of measurements h. Developmental stages of measurement	39. Identifies length, surface area and volume of solids (cube, cuboid, cylinder and cone.) 40. Compares the surface area and volume of solids (cubes and cuboids or cylinders and cones.) 41. Uses appropriate language to describe, compare or measure the attributes of length, weight, area, money, time, and volume. 42. Selects measures of length, distance, capacity/volume, weight, and time in daily life contexts. 43. Adds and subtracts measures related to length, capacity, weight, money, and time. 44. Verifies calculations in bill amounts. 45. Explains the relationship between volume and weight of objects. 46. Selects appropriate standard and non-standard units of measurement. 47. Uses conversion of units to solve problems. 48. Explains the use of measuring tools. 49. Identifies errors in the use of measuring tools or units of measurement. 50. Selects a situation in which perimeter needs to be calculated. 51. Selects a situation in which an area needs to be calculated. 52. Recalls the formula for area and volume of a cube, cuboid, cylinder, sphere, and cone. 53. Applies strategies and formulas to calculate perimeter and area (mathematical/contextual). 54. Estimates measurements in a given context. 55. Explains the relationship between area and perimeter of a rectangle, square, or triangle.

Content Domain	*Topics*	*Competencies*
		56. Explains changes in area or perimeter when the attributes change. 57. Defines length, weight, surface area and volume. 58. Explains changes in surface area and volume of a solid (cube, cuboid, cylinder, or cone) when the attributes change. 59. Describes and applies strategy to estimate lengths, areas, and capacities in real life situations. 60. Explains strategies for estimation. 61. Identifies developmental stage of measurement in given context.
5. Data handling and Probability	a. Reading and making inferences from data b. Data representation: Pictographs, tables, bar graphs, pie charts c. Mean, median, mode d. Simple probability problems	62. Presents data in tables, pictograph, bar graph and pie chart. 63. Interprets data in pictograph, bar graph and pie chart. 64. Finds representative values for simple ungrouped data sets 65. Identifies simple probabilities in daily events (impossible, less likely, may be, most likely, certain). 66. Expresses probability of simple events as fractions.
II. Perspectives and pedagogical content knowledge		
1. Nature and understanding of mathematics	a. Nature of mathematics: Hierarchy; abstraction; deductive nature; math as patterns in numbers and shapes b. Role of intuition and logic in mathematics	67. Demonstrates understanding of different aspects of the nature of mathematics. 68. Connects concepts and procedures in mathematics with the nature of mathematics. 69. Organises pedagogical practice to reflect the nature of mathematics. 70. Solves simple puzzles/riddles using logical reasoning.
2. Language of mathematics	a. Mathematics as language-precise and concise b. Mathematics register: Vocabulary c. Relationship with spoken language d. Symbols in mathematics	71. Represents the mathematics embedded in a context using mathematical symbols or vice-versa. 72. Deciphers meaning of math vocabulary in the given primary school math context. 73. Chooses precise and concise mathematical expressions from a given selection.
3. Place of mathematics in school curriculum	a. Aims and objectives of teaching mathematics at the primary level and its correlation with other subjects b. Curriculum of mathematics at different stages of schooling c. Social aspect, applications of maths	74. Recalls aims and objectives of teaching mathematics at the primary level. 75. Connects aims and objectives of teaching mathematics at the elementary level to aims and objectives of teaching other subjects. 76. Makes appropriate teaching objectives that match the aims of teaching mathematics at the primary level. 77. Justifies the inclusion of different concepts in primary school mathematics. 78. Selects pedagogy to match the aims and objectives of teaching mathematics at the primary level. 79. Examines social practices, current events, or available local data for connections to elementary school mathematics. 80. Analyses existing curriculum. 81. Chooses options for a new curriculum.

Content Domain	*Topics*	*Competencies*
4. Community mathematics	a. Knowing mathematicians: Appreciating the contribution made by Indian and other mathematicians b. Use of mathematics in daily life c. Ethnomathematics: Mathematics in one's cultural tradition (attire, home, food items, religious practices, indigenous games)	82. Recalls names of mathematicians and their contributions to mathematics. 83. Identifies mathematical concepts and operations in primary school mathematics connected with daily life experiences. 84. Selects pedagogical practice to connect primary mathematical concepts to children's daily life experiences. 85. Examines social practices, current events, or available local data for connections to primary school mathematics.
5. Approaches to teaching and learning mathematics	a. How children learn mathematics: Concept formation, learning trajectories, principles of child development and learning; learning by memorisation, imitation, drill and practice, instrumental and relational understanding b. Errors and misconceptions c. Theories of mathematics education (Piaget, Vygotsky, Bruner, Skemp) d. Strategies and Methods – experiential learning (activity-based learning, play-way method); inductive and deductive method; analytic and synthetic method; heuristic method e. Problem-solving in mathematics f. Extended learning (connecting classroom learning to the outside world) g. Social aspects – applications of mathematics	86. Recalls the principles of child development and learning. 87. Identifies principles of child development and learning in primary school from selected examples. 88. Selects strategies which reflect inclusiveness and child-centric pedagogy. 89. Identifies the specific learning difficulties of students. 90. Recalls the factors affecting development of concepts in childhood. 91. Organises the phases of the process of concept formation. 92. Selects pedagogical strategies for formation of primary school mathematics concepts. 93. Sequences pedagogical practice to reflect understanding of learning trajectories in primary school mathematics concepts. 94. Matches different strategies of learning to appropriate concepts in primary school mathematics. 95. Identifies pros and cons of different methods of learning. 96. Evaluates the benefits of using drill and practice. 97. Distinguishes between instrumental and relational understanding in the primary school from selected examples. 98. Identifies procedural and conceptual errors. 99. Identifies students' misconceptions in learning mathematics. 100. Distinguishes between the errors and misconceptions in mathematics. 101. Selects strategies to address errors and misconceptions demonstrated in primary students' work. 102. Sequences the steps involved in problem-solving in mathematics. 103. Justifies the importance of problem-solving skills. 104. Selects strategies and material to develop problem-solving skills at the primary level. 105. Identifies theories of mathematics education from selected pedagogical examples in primary school mathematics. 106. Examines the implications of theories of mathematics proposed by Piaget, Bruner, Vygotsky and Skemp. 107. Distinguishes between different strategies and methods used in experiential learning in primary school. 108. Selects an appropriate method of experiential learning based on primary school maths concept to be taught or practiced.

Content Domain	*Topics*	*Competencies*
6. Understanding resources for teaching mathematics	a. Perspectives on use of TLMs and their place in learning math b. Role of assignments, - investigations, projects, games, and puzzles c. Textbook and worksheets d. Mathematics lab, mathematics mela e. Space and objects around the child	109. Identifies strengths and limitations of different teaching learning materials based on learning trajectory and pedagogical context. 110. Matches different types of primary school assignments with the development of conceptual understanding and building of process skills in students. 111. Chooses good samples of primary textbooks and worksheets. 112. Uses appropriate material and examples to teach abstract conventions, rules and concepts. 113. Identifies uses of primary school materials from the maths lab. 114. Chooses samples of primary school exhibits for maths *melas*.
7. Assessment	a. Purpose of Assessment: Diagnostic, effectiveness of pedagogy, assessment for/of/as learning b. Readiness of student – assessment of content and skills c. Types of Assessment – formative and tools; summative and tools d. Open- and close-ended questions and problems e. Assessment of conceptual understanding and mathematical reasoning abilities	115. Recalls purposes of assessment. 116. Matches primary school assessment samples with purposes of assessment. 117. Differentiates among *for/of/as* learning from given samples of primary school assessment. 118. Selects appropriate primary school assessment samples to identify readiness of students to tackle new concepts in different content domains and/or use new process skills. 119. Analyses error patterns, e.g., in operations on numbers, logical flow of reasoning in geometrical proofs, student's error in measurement process, pattern recognition and data representation. 120. Differentiates between close-ended and open-ended primary school maths questions. 121. Modifies a close ended primary school maths question to make it open ended or vice-versa. 122. Selects primary school maths questions which assess conceptual understanding and/or reasoning abilities. 123. Identifies primary school maths questions which assess the mathematical abilities of communication, reasoning, communication, visualisation, etc.

Environmental Studies

Cognitive Domains[5]

The competencies assessed for EVS range across cognitive levels of *Remember, Understand, Apply, Analyse,* and *Evaluate*. As STET is proposed to be a paper-pencil test with all items being MCQ, the

[5] Adapted from Central Board of Secondary Education. (2021). *Competency Framework Paper I: Central Teacher Eligibility Test.* New Delhi: Central Board of Secondary Education.

cognitive domain *Create* is not to be tested. These domains are defined largely based on revised Bloom's Taxonomy by Anderson and Krathwohl. However, these have been adapted keeping in mind the knowledge required to teach Environmental Studies to primary grades. Though a comprehensive list of competencies is prepared, it is not an exhaustive list. The competencies may be tweaked, and more competencies may be designed for the given syllabus.

***Remember*:** This includes questions based on recalling facts, listing events sequentially, naming key ideas and principles in EVS, labelling of maps and diagrams, locating geographical features, minute observation of physical and social environment and experiments conducted.

Understand: Assessment for this domain consists of questions that identify similarities and differences (in food habits, types of houses based on the geographical terrain, various forms of vehicles used for transportation etc.), classify observable and functional similarities, give descriptions of and reasons for specific events (harvest festivals, birth of a child in a family, various games and sports, etc.), natural and social phenomena (disasters, like floods, earthquakes; migration to cities for a livelihood etc.), compare, contrast, and classify information to demonstrate understanding of the underlying EVS concept or principle, interpret different sources to reconstruct historical accounts, read and interpret information in weather data, as well as legend and scale in maps and globe. Assessment of this domain includes source and perspective-based explanation of statements of facts, relationships, or concepts.

Apply: In this cognitive domain, the emphasis is application of knowledge and understanding of concepts (directions given in a map), events, phenomena, and relationships (modifying a family tree based on birth of a child in the family) in a new and concrete situation. It includes the use of knowledge from a range of observations and sources to develop and suggest solutions to a problem.

Analyse: Assessment in this domain are around organising information, distinguishing between relevant and irrelevant sources, gathering and analysing evidence (observations, sources, oral, written, audio, material and visual), identifying different viewpoints, citing evidence to support a claim and clear misconceptions, use reasoning to develop explanations, draw conclusions, make decisions, and extend their knowledge to new situations (challenges faced in teaching and learning in a classroom). It also includes applying acquired knowledge to solve problems in new and unfamiliar contexts.

Evaluate: This cognitive domain focuses on the ability to judge the merit and validity of a statement (newspaper articles about an event), views about an observation event (video clippings of an event supported with guided questions), sources based on evidence (construction and re-construction of knowledge based on experience) and perspective-based reason. Candidates are tested on these and are asked to consider the advantages and disadvantages of selected evidence to justify and evaluate their inferences.

Competencies

Content Domain	*Topics*	*Competencies*
I. Content and Learning		
1. Family and friends	a. Family, relationships, and community i. Family tree: Members to include non-family members; animals ii. Similar/distinct characteristics of family members iii. Changing families: Addition to family due to birth, marriage, adoption iv. Roles played by family members: Sharing the chores at home; work done by family members outside the home; questioning stereotypes and nurturing sensitivity v. Awareness of children towards their own safety from strangers vi. Community and its need: Samaj, khetalas; role of members of a community vii. Local and popular games in Sikkim: Their rules; role of games in a child's life b. Plants and animals i. Uses of the parts of plants like leaves, stem, roots, flowers, seeds ii. Organic farming: Challenges faced by farmers, conservation of forest cover iii. Festivals related to trees and plants iv. Animals at home and in the forests; caring for animals; invasion of wild animals in human habitats, their reasons; the presence of wildlife sanctuaries v. Traditional and vanishing livelihoods, like beekeeping, circus, snake charmers etc.	1. Applies the concept of a family tree to include non-family members and animals. 2. Distinguishes common physical (hereditary) features among members and relatives of the family. 3. Explains the diversity in family structures. 4. Distinguishes between diverse customs and practices in a family, e.g., marriage, birth, death, etc. 5. Analyses change in family structure due to inclusions in the family. 6. Examines reasons for shifting from one village/town/city to another (transfer, migration). 7. Explains the distribution of work in the family based on gender and age. 8. Examines sensitivity towards the old people and differently-abled individuals in the family. 9. Explains the importance of safety measures for children from abusing strangers and elders. 10. Explains the contribution of the various arms of the society that lead to the smooth functioning of everyday needs (samaj, khetalas). 11. Identifies the rules of various games and their importance. 12. Discusses the rules of local and popular games in Sikkim. 13. Evaluates the inclusions of girls and boys in team games-gender disparity in sports- class/caste and physical barriers. 14. Explains the uses of roots, leaves and flowers based in a habitat, e.g., providing nutrition, bearing fruit, holding the soil, and preventing soil erosion. 15. Explains the importance of organic farming and the difficulties faced by the farmers. 16. Outlines the various government schemes that contribute to the conservation of forests. 17. Analyses the impact of forest depletion. 18. Identifies festivals that celebrate trees to highlight their importance. 19. Explains how tree worshipping and traditional forest worshipping festivals are practices towards environment conservation. 20. Recognises different indigenous practices/festivals of tree worshipping in the various parts of the country. 21. Explains the role performed by the animals at home. 22. Distinguishes the decreasing population of different animals in the forest. 23. Explains the basic requirements of care for animals at home. 24. Justifies that feeding wild animals is not good practice. 25. Determines the causes of increasing incidence of invasion of wild animals in human habitats 26. Locates different wildlife sanctuaries in the state. 27. Enumerates traditional and vanishing livelihoods skills of the local people. 28. Supports the importance of revitalising the vanishing *jari-butti* men in the locality.

Content Domain	*Topics*	*Competencies*
2. Food and Water	a. Food i. Importance of food; types of food (vegetables, fruits, pulses, rice, cereals etc); food for young/old people, for animals; food habits (varies in different states); cooking and gender/caste roles in a family ii. Prevention of wastage of food (during festivals, in hotels) iii. Sharing of food (eating in communities, during festivals); cultural diversity in foods associated with special occasions like festivals, family celebrations/ ceremonies etc. iv. Raw and cooked food; ways of preserving food (fermentation, making pickles) v. Storage of food (like seeds); adulteration of food vi. Access to food through markets vii. Transporting the produce to the market; farming as a livelihood; local vegetables and fruits b. Water i. Sources of water (dhara); uses of water (for drinking, agriculture); storage of water; shortage of water ii. Government policies (Mid-day meal, Dhara Vikas Initiative) iii. Waterborne diseases; issues of gender, caste and class that determine how water relates to illness	29. Differentiates food for young/old people and for animals. 30. Distinguishes various food habits in different states of the country. 31. Explains the stereotypes of roles in a family with regard to gender. 32. Describes the most effective ways of preventing food wastage. 33. Outlines concerns of food spoilage and wastage of food. 34. Identifies cultural diversity in foods associated with special occasions. 35. Explains the role of communities in the sharing of food. 36. States reasons for community eating, e.g., midday meal scheme in government schools, harvest/religious celebrations, ceremonies for different occasions. 37. Lists merits and demerits of eating raw and cooked food. 38. Analyses the need for drying, fermenting, and pickling as methods of preservation of food. 39. Analyses the effects of food adulteration and the need for consumer awareness. 40. Identifies with the need for preserving and storing seeds of good quality for later use. 41. Describes the various ways in which food adulterants enter our daily life. 42. Outlines the journey of food from field to market to home. 43. Draws linkages between the crops grown and food habits. 44. Explains how farming is a source of livelihood. 45. Describes the need to grow local vegetables and fruits. 46. Applies knowledge of sources of water (*dhara*) to distinguish its uses (for drinking, agriculture). 47. Examines different reasons for the shortage of water. 48. Justifies the need for storage of water. 49. Recommends ways of using water, given it is a scarce resource, the struggle for acquiring it, avoiding wastage of water, recycling of water and water harvesting. 50. Explains the various government policies with respect to water management and water conservation. 51. Explains the causes and give examples of different types of waterborne diseases. 52. Describes the different issues related to illness caused by waterborne diseases.
3. Clothing and Shelter	a. Artisans and artisanal work i. Clothes and fabric based on work, climate, and culture ii. Traditional knowledge of weavers/artisans of Sikkim iii. Importance of artisanal work, its preservation and hardships faced by artisans. iv. Support to the artisans from the government agencies b. Shelter i. Architectural significance and scientific explanation for	53. Identifies the design of the clothes and fabric based on work, climate, and culture. 54. Describes the choices made by people of fabric/clothes based on work, climate, and culture. 55. Analyses the traditional knowledge of weavers/artisans of Sikkim. 56. Applies knowledge of work done by traditional weavers/artisans of Sikkim in preserving the culture of the state. 57. Illustrates the importance of artisanal work. 58. Explains the need for preservation of traditional artisanal work and hardships faced by artisans.

Content Domain	*Topics*	*Competencies*
	different types of houses in Sikkim and other parts of our country in terms of raw materials used, structure, climate etc. ii. Need and right for a home iii. Effect of natural calamities (earthquake, floods, landslides etc.) on settlements iv. Shelter during emergencies and role of government during calamities c. Migration i. Reasons for migration and their cause and effects ii. Nomadic/mobile communities: Seasonal migration	59. Lists the different government agencies that provide support to the artisans. 60. Explains the features of different types of houses. 61. Distinguishes between different types of houses in terms of raw materials used, structure, climate etc. 62. Describes the need for and right to a home. 63. Assesses the effectiveness of the government's role during calamities. 64. Explains the role of the government during relief operations and support extended. 65. Describes the need for rehabilitation of the affected citizens after a natural calamity. 66. Explains migration and draws out the difference between migration and transfer. 67. Lists out possible causes for migration. 68. Analyses the effects of migration on the communities that need to move from their homes to unknown places. 69. Explains the reasons for seasonal migration of communities.
4. Travel and Places	a. Travel and transport i. Travel through ages ii. Purpose, time, distance, and cost in light of travel iii. Various means of transport (local to global) iv. Developing children's understanding of maps – a basic two-dimensional representation; aerial views of a certain locality v. Challenges faced by differently-abled people during travel and initiatives undertaken by government and other agencies b. Lives and livelihood of people i. Lives in higher altitude- people, plants, and animals of Sikkim ii. Services available: Tourism industry (ecotourism, village tourism, homestay, hotel industry, trekking, tourist guide, etc.), schools, hospital, post office, local hospitality, business, etc. c. Festivals and its significance i. Festivals related to the seasons, nature, and phases of the moon ii. Diverse ways of celebrating them and their effects on environment d. Heritage, historical and other important places of Sikkim	70. Identifies the changing pattern (past to present) of modes of travel. 71. Explains the changing pattern of modes of travel. 72. Justifies the need for selecting the particular modes of travelling 73. Analyses the time, distance, and cost for selecting a particular mode of travelling. 74. Identifies similarities and differences in various modes of transportation used. 75. Compares the changing patterns in the modes of transportation. 76. Justifies the mode of transportation used in specific areas. 77. Reads and interprets information on scale in maps and globe. 78. Identifies the different types of maps. 79. Interprets the aerial view of a certain locality. 80. Explains the challenges faced by differently-abled people during travel. 81. Describes the initiatives taken by the government and other agencies to help the differently-abled people during travel. 82. Identifies the signs on signboards for differently-abled people while travelling. 83. Applies the knowledge of government initiatives to help the differently-abled people. 84. Describes the lives of people living in higher altitudes. 85. Explains the characteristics of plants and animals found at higher altitudes in Sikkim. 86. Justifies the need for protecting animals and plants found at higher altitudes in Sikkim. 87. Analyses the role of the tourism industry in the economic growth of the state/country. 88. Describes factors responsible for the availability of livelihood in the tourism sector in both rural and urban areas.

Content Domain	*Topics*	*Competencies*
	i. Significance of important places of Sikkim ii. Initiatives taken by local citizens and government for upkeep of the environment iii. Rules and regulations of visiting Sikkim	89. Establishes linkages between tourism industry and livelihood. 90. Analyses the role and functions of different institutions in daily life. 91. Classifies the festivals related to seasons, nature, and phases of the moon. 92. Explains the social and cultural importance of various festivals. 93. Analyses the consequences of celebrating festivals on the environment. 94. Suggests methods of celebrating festivals without affecting the environment. 95. Describes the role of celebrating festivals related to nature in the conservation and protection of the environment. 96. Explains the social, economic, and cultural significance of important places of Sikkim. 97. Outlines the initiatives taken by the local citizens and government for the upkeep of the environment. 98. Lists the rules and regulations for visiting different places in Sikkim. 99. Justifies the need for rules and regulations while visiting Sikkim.
II. Pedagogical Issues/ Concepts		
1. Nature and objectives of EVS	a. Meaning and nature of EVS i. Developing awareness and sensitivity to the environment ii. Motivating people for active participation in environmental protection and conservation of natural resources iii. Understanding and connecting our environment depending on the various components of environment (biotic, abiotic, and human-made) iv. Develop a multidisciplinary perspective for understanding of our environmental issues/problems and appreciate the impacts and integrity of our daily activities b. Objectives of teaching EVS i. To train children to locate and comprehend relationships between the natural, social, and cultural environment.	100. Recognises a sense of responsibility and solidarity as a foundation for conservation and improvement of the environment. 101. Outlines an awareness of environmental issues. 102. Justifies the need for developing awareness and sensitivity towards the environment. 103. Describes a set of values for environmental protection. 104. Applies the knowledge of sensitivity to natural, physical, and human resources in the immediate environment. 105. Defines the types and uses of renewable and non-renewable resources. 106. Defines the interdependence of biotic, abiotic, and human-made components of the environment. 107. Outlines the dependence of human beings on the various components of the environment (biotic, abiotic, and human-made). 108. Applies the knowledge to connect with the natural and human-made environment. 109. Applies the knowledge in maintaining a multidisciplinary perspective to understanding our environmental issues/problems and appreciate the impact/s of our daily activities on its integrity. 110. Explains the importance of understanding the environmental issues/problems and understanding their impact on our day-to-day activities. 111. Applies the knowledge, values, attitudes, and practical skills to participate responsibly and effectively in anticipating and solving social problems. 112. Compares the relationship between the natural, social, and cultural environment.

Content Domain	*Topics*	*Competencies*
	ii. To develop understanding-based observation and illustration drawn from lived experiences and physical, biological, social, and cultural aspects of life, rather than abstractions. iii. To nurture the curiosity and creativity of the child, particularly in relation to the natural environment. iv. To engage the child in exploratory and hands-on activities to acquire basic cognitive and psychomotor skills through observations, classification, inference, etc. v. To be able to critically address gender concerns and issues of marginalisation and oppression with values of equality and justice, and respect for human dignity and rights.	113. Applies the knowledge to train children to locate and comprehend relationships between the natural, social, and cultural environment. 114. Describes an understanding of the importance of observations and illustrations drawn from lived experiences rather than on abstractions. 115. Applies the knowledge in developing the curiosity and creativity of children to protect and conserve the natural environment. 116. Applies the knowledge to develop required curiosity among the students for the realisation of environmental problems so that they would be inspired to work for the solution of such problems. 117. Recognises the importance of engaging children in exploratory and hands-on activities to acquire basic cognitive and psychomotor skills through observations, classification, inference, etc. 118. Explains the need to foster awareness in the students about gender concerns, issues of marginalisation and oppression with values of equality and justice, and respect for human dignity and rights. 119. Justifies the need for learning the values of equality and justice, and respect for human dignity and rights.
2. Integrated and thematic approach	a. Strategies/Methods of teaching EVS: In order to achieve the LOs at the primary stage the methods of teaching of EVS should be interactive and child-centric by using the following strategies: i. Field visit ii. Project iii. Experimentation iv. Storytelling v. Survey vi. Picture or graphical interpretation vii. Interview viii. Group work ix. Group presentation	120. Identifies a variety of appropriate and contemporary learner-centred approaches and methods for teaching EVS at the primary stage. 121. Selects appropriate teaching-learning methods according to the content and previous knowledge of the students. 122. Explains the emphasis of NCF 2005 on constructivist, student-centred and experiential philosophies of education and learning. 123. Explains the need to engage every student in the teaching- learning process, contextualising, and integrating the contents and themes such as safety, hygiene, animals, plants, or food. 124. Recognises field trip as one of the learner-centred methods of teaching EVS which provides opportunities to students for joyful learning away from their normal classroom environment. 125. Identifies topics or contents for which field visits can be organised (a walk around the school garden; visit to local historical monument or agricultural field; a trip to a museum, factory, post office or market, etc.) to provide space for the development of several skills including observation, investigation, collection and analysis of data, critical thinking, problem-solving, etc. 126. Identifies the project method as a collaborative approach for teaching EVS which involves a series and variety of activities and executed in the real-life context. 127. Explains the project method as a teaching-learning method which enables teachers to develop number of competencies and skills among the students such as research, observation, analysis, interpretation, problem solving, resource management, planning and execution.

Content Domain	*Topics*	*Competencies*
		128. Identifies experiments as an efficient method of teaching EVS which includes enquiry, observation, inferring and testing of hypothesis. 129. Explains that story telling with narration of stories involving animals, places, those based on personal experiences or other people's experiences can be a very informative, effective, and entertaining method to teach the concepts of EVS, developing curiosity and awareness among the students. 130. Describes survey method as a technique of gathering information or data by asking questions and interviewing people. 131. Recognises pictures and graphical interpretations as instructional tools that visually organise and present information. 132. Distinguishes concept maps, flow charts, Venn diagrams, etc., as pictorial, and graphical organisers that help children organise the information in a comprehensive manner and make connections between the existing knowledge and the new knowledge. 133. Identifies group work as an interactive and collaborative method which enhances the skills of cooperation, leadership, responsibility, socialisation, expression, etc. among the learners. 134. Describes group presentation as a method to encourage children discuss, express, and share their ideas and solve problems on any themes and issues.
3. Teaching learning resources (low cost/no cost / improvised)	a. Community (society as a laboratory), e.g., mall, market, post office, hospital, tailor, farmer, bank, agricultural land etc. b. Physical objects like chart paper, waste materials etc. c. ICT integration/digital resources d. Textbooks, storybooks and literature e. Culture and heritage, e.g., places of worship, historical places, etc.	135. Recognises values and concepts of an environment to develop skills and attitudes to understand inter-relationship between human, culture, and biophysical surroundings. 136. Appreciates that each person is important in the society and contributes individually to different areas which help to reconstruct knowledge, values, and skills. 137. Explains that each institute has its own unique mandate and vision which eventually contributes to the development and the economy of the society. 138. Explains the role of local, national, and international newspapers to provide daily updates and burning issues all over the world. 139. Elucidates facts and opinions about relevant environmental themes, discussing on an environment with the help of different channels, radio programmes (*Gyan Bharati, Vividh Bharati*), websites and portals. 140. Explains that school is a resource for enhancing the teaching-learning process which share resources like storybooks, literature, expertise, and experiences among the children. 141. Assesses that all the materials which are already used like chart paper, bottles duster, plastic bags, wrappers etc. can be recycled and reused for sustainable development.

Content Domain	*Topics*	*Competencies*
4. Assessment	a. Indicators of assessment in EVS b. School-based assessment (focused on competency development rather than content memorisation) i. Picture reading ii. Experimentation iii. Project work iv. Drawing and craftwork c. Approaches to assessment of the EVS skills i. Assessment 'of' learning (summative) ii. Assessment 'for' and 'as' learning (formative) d. Types of assessment based on organisation or arrangement: i. Group assessment ii. Self-assessment iii. Peer assessment iv. Teacher assessment e. Assessment tools and technique i. Rubrics ii. Observation iii. Written and oral test iv. Checklist	142. States the objectives of the various indicators of assessment in EVS in the teaching learning process. 143. Identifies the features of school-based assessment with the focus on competency development. 144. Explains the necessity of assessment in the teaching learning process. 145. Distinguishes between formative and summative assessments. 146. Differentiates between assessments of, for and as learning. 147. Assesses the significance of different processes of ensuring student's learning. 148. Distinguishes between self and group assessment. 149. Identifies the assessment techniques to engage every learner in the teaching learning process. 150. Identifies the techniques which requires skill demonstration like creating drawings, materials etc. 151. Identifies the techniques which are involved in oral/written assessment. 152. Explains the nature of assessment tools to determine whether learning outcomes have been achieved. 153. Chooses the features of assessment tools which help in developing quality assessment tools. 154. Chooses the most significant tools which will be the most appropriate for applying the observation technique. 155. Assesses the effectiveness of written and oral test in the learning outcome of the students.

Approach to Blueprint

Blueprint is a planning document that helps map a balanced distribution of questions testing multiple competencies across content domains. Prior to every test development process, it is necessary to develop a fresh blueprint. While specific distributions might vary in every cycle, certain broad criteria could remain fixed as follows:

Content distribution	• Subject-wise stipulated distribution of content and pedagogy questions as per syllabus
Cognitive level distribution	• 50% questions pitched at 'remember' and 'understand' cognitive level • 50% questions pitched at 'apply', 'analyse', and 'evaluate' cognitive level
Difficulty level distribution	• 30% questions pitched at low difficulty level • 40% questions pitched at moderate difficulty level

	• 30% questions pitched at high difficulty level

Template for Blueprint

Content domain		***Cognitive Level***					***Total***
		Remember	***Understand***	***Apply***	***Analyze***	***Evaluate***	
Knowledge of Subject Matter							
Pedagogical content knowledge							
TOTAL							

Note*: All are multiple-choice items of one (1) mark each.*

Distribution of difficulty level: Easy – , Moderate – , Difficult–

Assessment Framework –

Paper II

Introduction

Teacher Eligibility Test (TET) being an immediate outcome of the Right to Education (RTE) Act 2009, was launched to recruit quality teachers into the education system. With the advent of RTE, the need to systematically recruit well-qualified teachers into the country's public school system became all the more significant. In accordance with the provisions of sub-section (1) of Section 23 of the RTE Act, the National Council for Teacher Education (NCTE) vide Notification dated 23rd August 2010 and 29th December 2011 laid down the minimum qualifications for a candidate to be eligible for appointment as a teacher for grades I to VIII. The rationale behind introducing TET as the minimum eligibility criteria for teacher appointment stems primarily from the need to bring national level benchmarks in recruiting teacher quality. 'It provides prospective candidates a level playing ground despite the diverse quality of teacher education programs across the country' (Central Board of Secondary Education, 2021). It also serves as a necessary impetus for teacher education institutions (TEIs) to work towards improving their performance standards so that potential candidates are able to meet the set quality expectations.

At present, TETs are conducted both at the national as well as the state level. The Central Teacher Eligibility Test (CTET) is conducted twice every year by the Central Board of Secondary Education (CBSE). Similarly, state level TETs are conducted by the respective State Council of Education Research and Training (SCERT). The state of Sikkim has been conducting state-level TET, known as Sikkim Teacher Eligibility Test (STET), since the year 2013. In alignment with the NCTE and CBSE guidelines, STET is designed to assess a candidate's proficiency to teach at the primary and the elementary level using written tests- Paper I and Paper II, respectively. Paper I is meant for candidates who intend to teach at the primary level (grades I to V). The paper is divided into five main sections – Child Development and Pedagogy (CDP), Language I, Language II, Mathematics, and Environmental Studies (EVS). In each of the sections, candidates are tested on their content knowledge up to secondary level curriculum. Apart from this, candidates are also tested on their understanding of teaching the subject or the pedagogic knowledge of the areas. The overall paper carries 150 marks (30 marks per section) with appropriate distribution of content knowledge and pedagogic content knowledge questions across subject sections. All questions are designed in a multiple-choice objective format carrying one (1) mark each.

At the elementary stage, there is a gradual progression towards a more disciplinary understanding of subjects as recommended by the National Curriculum Framework (2005). As such, a beginner teacher is expected to demonstrate strong disciplinary understanding with conceptual depth; deep knowledge of the methods through which children learn these subjects; and an overall vision and perspective on the role of each subject in the school education curriculum (Central Board of Secondary Education, 2021). The National Education Policy (NEP), 2020 emphasises the role of experiential learning during this stage. There is also a lot of emphasis on holistic learning and nurturing critical thinking skills among

children. In such a context, it becomes important for a beginner teacher to be well aware of 'current education thinking with respect to theories of child development, particularly relevant for students aged 11-14 years, the current paradigm of education, discourses around inclusivity, constructivism and competency-based education' (Central Board of Secondary Education, 2021). A teacher who is equipped with the required knowledge in all these areas is likely to become an effective facilitator in nurturing and enhancing essential knowledge, skills, and dispositions of children at the elementary level.

Principles of Developing the Assessment Framework[6]

The assessment framework for STET Paper II is based on the latest STET syllabus of 2021-22, released by SCERT, Sikkim. Some of the principles for developing the framework are listed below.

a. The assessment framework consists of four sections as per the STET syllabus – Child Development and Pedagogy, Language I and II, as common sections of 30 marks each and optional sections of maths/ science and social science of 60 marks. Since a teacher at the elementary level is expected to master disciplinary understanding of core subjects, in the optional section, the framework gives equal weightage to the sub-disciplines, e.g., history, geography and social and political life in social science and physics, chemistry and biology in science.

b. Within each subject section, content domains are drawn from the state-level curriculum of both school and teacher education. Within each subject section, the framework focuses on assessing understanding the nature and objectives of teaching the subject, pedagogic content knowledge, relevance of the subject in the school curriculum and dimensions of teaching it.

c. The content domains are further broken down into measurable competencies. These competencies are rooted in the nature and goals of teaching a subject in school education and the foundational principles of the teacher education curriculum that are expected of a beginner teacher.

    i. The competencies reflect a range of cognitive levels mapped to the revised Bloom's Taxonomy of educational objectives.

    ii. Within the content knowledge section of each subject, the competencies focus on conceptual understanding of core concepts taught at the primary level, such as number system, plants and animals, comprehension skills, etc.

[6] Adapted from Central Board of Secondary Education. (2021). *Competency Framework Paper II: Central Teacher Eligibility Test.* New Delhi: Central Board of Secondary Education.

iii. Within the pedagogy section of each subject, the competencies focus on the understanding of nature, goals, and objectives of teaching the subject in school and pedagogic content knowledge which includes competencies, such as the ability to plan teaching-learning experiences, identification of methods and strategies for developing conceptual clarity, usage of teaching-learning aids, assessment methodologies specific to the core concepts, etc.

iv. The competencies listed in this framework are also restricted to only those that can be tested in a paper-pencil format.

Subject-wise Competency List

Child Development & Pedagogy

Cognitive Domains[7]

The competencies test the range of cognitive levels, namely, *Remember, Understand, Apply, Analyse* and *Evaluate*. Since STET is proposed as a paper-pencil test with all items being MCQ, the cognitive domain *Create* has not been included. These domains are defined largely based on the Revised Bloom's Taxonomy by Anderson and Krathwohl. These have been slightly customised, keeping in mind the CDP knowledge required to teach. Though a comprehensive list of competencies is prepared, it is not an exhaustive list. The competencies may be tweaked, and more competencies may be designed for the given syllabus.

Remember: This cognitive domain includes questions based on recalling facts, the ability to define different approaches and concepts of child development, list elements and features of inclusive education (IE), and label different approaches of learning and pedagogy.

Understand: Questions under this cognitive domain check for the understanding of features of different concepts and by comparing different approaches of CDP, summarise key themes related to IE; interpret content from learning and pedagogy.

Apply: In this cognitive domain, the emphasis is on the application of knowledge and understanding of concepts for problem-solving. It encompasses the ability to apply child development concepts to real-world situations; make use of theory to identify appropriate next steps; select an appropriate pedagogical technique to address the gaps in learners' needs; select and utilise different learning models.

Analyse: In this cognitive domain, the questions assess identification and assimilation of different viewpoints; citing of evidence to support a claim; identifying and addressing misconceptions; using

[7] Adapted from Central Board of Secondary Education. (2021). *Competency Framework Paper II: Central Teacher Eligibility Test.* New Delhi: Central Board of Secondary Education.

reasoning to develop explanations, draw conclusions, make decisions; and extend their knowledge to new situations, as well as application of acquired knowledge to solve problems in new and unfamiliar contexts.

Evaluate: This cognitive domain focuses on the ability to judge the merit and validity of concepts and principles in certain situations, views about certain observations during a child's development, appropriate learning methods, and pedagogical approaches. This domain requires candidates to evaluate conclusions reached by others on their understanding of relevant theories and concepts.

. *Competencies*

Content	***Topics***	***Competencies***
I. Child Development		
1. Concept and principles of development and its relationship with learning	a. Principles of growth and development b. Factors influencing development: Heredity and environment c. Domains of development and milestones in early childhood, middle childhood, and adolescence i. Gross and fine motor skills ii. Cognitive development iii. Social development iv. Emotional development v. Language development	1. States the stages of child development. 2. Lists the principles of development. 3. Defines development on the basis of the principles of development. 4. Relates the different internal and external factors influencing development. 5. Compares growth and development. 6. Explains factors of Individual development in terms of heredity and environment. 7. Classifies the different types of activities to develop gross motor skills and fine motor skills. 8. Elaborates on the importance of different domains of development. 9. Explains how development in one domain, e.g., physical, or emotional, can affect the development in other domains. 10. Analyses the relationship between different principles of development. 11. Explains the factors influencing a child's development. 12. Identifies the relationship between internal and external factors that influence a child's development. 13. Analyses the relevance of cognitive development in the context of growth and development. 14. Categorises different types of activities for development in various domains – physical, social, emotional, linguistic, and cognitive. 15. Analyses the effects of different domains in the all-round development of an individual.
2. Socialisation processes	a. Concept and nature of socialisation b. Agencies and processes of socialisation c. Socio-economic status and its impact on learner's development d. Impact of culture – social class, ethnicity	16. Defines socialisation of primary school children. 17. Describes the process of socialisation. 18. Contrasts between primary socialisation and secondary socialisation. 19. Identifies the importance of cultural context in the holistic development of a child. 20. Identifies the different socio-cultural factors influencing the socialisation of primary school children, e.g., parents, family, teachers, school, and peers. 21. Describes agencies of socialisation.

Content	*Topics*	*Competencies*
		22. Explains how the process of socialisation influences the development of primary school children. 23. Analyses how school and classroom processes contribute to socialisation, e.g., curriculum, textbooks, school culture, relationships between teachers and students, assigning tasks, etc. 24. Justifies how socialisation occurs through formal institutions, like schools, family, peers etc. 25. Determines how positive school culture can be encouraged and negative culture, discouraged. 26. Analyses the importance of school culture. 27. Analyses the relationship between education and socialisation in shaping the structure of society. 28. Explains the role of school culture in the holistic development of children. 29. Analyses the role of teachers in the process of socialisation. 30. Analyses how education and culture are intimately and integrally connected. 31. Evaluates the impact of mass media on the socialisation of a child. 32. Makes use of cultural diversity in planning the teaching-learning process. 33. Justifies the statement that 'human infants are born without any culture' in the light of the socialisation process.
3. Piaget, Kohlberg and Erikson: constructs, critical perspectives and its educational implications-	a. Piaget's Cognitive Development theory b. Kohlberg's Moral Development theory c. Erikson's Psycho-Social Development theory	34. Defines cognitive structures. 35. States cognitive functioning. 36. States the stages of Kohlberg's moral development theory. 37. Explains Piaget's theory of cognitive development. 38. Recalls the stages of Erikson's psycho-social theory. 39. Differentiates between the conflict and growth associated with each stage of Erikson's psychosocial development theory. 40. Applies Piaget's theory of cognitive development in the teaching-learning process. 41. Applies Piagetian concept of abstract thinking in designing learning experiences. 42. Identifies the learning experiences to be given to children at specific Piagetian stages. 43. Identifies the mechanisms responsible for the development of our cognitive structures. 44. Explains the role of schema in Piaget's cognitive theory. 45. Applies Erikson's psycho-social theory in the teaching and learning process. 46. Classifies different stages of Erikson's psychosocial development theory according to their chronological age from a given scenario. 47. Analyses the relationship between each stage of Erikson's psycho-social theory and learning. 48. Evaluates the impact of Piaget's theory of cognitive development on the contemporary development of psychology. 49. Relates the nature of moral reasoning of a child with their age according to Kohlberg.

Content	*Topics*	*Competencies*
		50. Selects age and stage appropriate activities to strengthen learning and development in children. 51. Explains the teacher's role in enabling children to learn in age- and stage-appropriate manner. 52. Interprets levels and stages of moral development in simple terms.
4. Intelligence	a. Concept, definition, and nature of intelligence b. Understanding learners from the perspective of multiple intelligences c. Gardner 's theory of multiple intelligences: Construct and critical perspectives d. The changing concept of intelligence e. Effect of heredity and environment f. Measuring intelligence	53. Defines types of Intelligence. 54. Describes current perspectives on the meaning of intelligence. 55. Lists the limitations of intelligence tests. 56. Identifies intelligence as an interaction of heredity and environment. 57. Identifies the implications of using measures like Intelligence Quotient (IQ) tests to predict academic success. 58. Identifies the implications of the use of measures of intelligence to label/group students. 59. Distinguishes between the construct of intelligence as an inherited, fixed trait and that of intelligence as a learned set of skills and knowledge. 60. Defines the term 'multiple intelligence' developed by Gardner. 61. Lists types of intelligence according to Howard Gardner. 62. Analyses the changing perspectives on multiple intelligences. 63. Explains individual differences among learners on the basis of multi-dimensional intelligence. 64. Evaluates the critical perspectives of Gardner's theory of multiple intelligence. 65. Justifies Gardner's theory with respect to multiple intelligence in different children.
5. Gender as a social construct: gender roles, gender bias and educational practices	a. Social construction of gender i. Differences between gender and sex ii. Gender socialisation and gender roles iii. Gender discrimination at different levels of institutions (institutions related to social, cultural, religious, economic, political, and educational settings) iv. Third gender and transgender: Types of gender identities b. Gender issues in curriculum: i. Gender concerns related to access, enrolment, retention, participation, and overall achievement ii. Role of curriculum, textbooks, classroom practices and school culture in promoting gender equality	66. States the meaning of gender. 67. Illustrates how gender roles are constructed. 68. Recognises situations displaying gender disparity in classrooms or school. 69. Identifies a gender-bias statement or dialogue in a conversation. 70. Contrasts between sex and gender. 71. Finds a gender-neutral response to a conflict situation specific to children in elementary grades. 72. Determines the reasons behind gender disparity in society. 73. Identifies gender identities from a given scenario. 74. Infers gender discrimination in social, cultural, and educational settings. 75. Defines the meaning of the third gender. 76. Infers gendered representations in curricular materials, like textbooks, worksheets and school and classroom processes (images, sexism in language etc.). 77. Selects appropriate strategies to promote gender equality in the school curriculum. 78. Justifies concerns related to retention and enrolment for overall achievement.

Content	*Topics*	*Competencies*
6. Acts and Policies	a. National Policy on Education (1968, 1986), National Curriculum Framework 2005, National Education Policy 2020 b. Right of Children to Free and Compulsory Education Act, 2009	79. Describes the usage of policies in teaching-learning processes. 80. Identifies relevant acts and policies to refer to in a specific situation. 81. Relates the correct act or policy to a given situation.
II. Concept of Inclusive Education		
1. Meaning, need, and importance of inclusive education	a. Transition from segregation to inclusion b. Acts and policies: Rehabilitation Council of India (RCI), Integrated Education for Disabled Children (IEDC), and Rights of Persons with Disability (RPWD) 2016, National Trust Act 1999. NEP, 2020 with regards to inclusive education c. Role of teachers working in inclusive settings and resource teacher/ educator in facilitating inclusive education	82. Identifies Constitutional laws on IE. 83. Selects policies on IE based on a given context. 84. Lists the role of teachers working in an inclusive setting. 85. Identifies the importance of IE for all children. 86. Examines the role of teachers working in an inclusive setting. 87. Evaluates the process of transition from segregation to inclusion.
2. Individual differences among learners from diverse backgrounds	a. Understanding differences based on diversity of language, caste, gender, community, religion etc. b. Understanding challenges of socio-economically disadvantaged groups-regional, linguistic, and ethnic groups c. Constitutional provisions, educational schemes, policies and programmes for scheduled tribes, scheduled castes and other backward sections d. Inclusive strategies and education for children with diverse needs	88. Lists out various schemes and policies for Scheduled Tribe, Scheduled Caste, and other backward sections of the societies. 89. Identifies learning and socio-emotional needs of children from disadvantaged and marginalised sections of society. 90. Displays a sensitive attitude towards the diverse learning needs of children from different linguistic, socioeconomic, cultural, and religious backgrounds. 91. Identifies the risks of physical, sexual, and emotional abuse that girls and boys in the middle and adolescent age groups face. 92. Recognises that the social and emotional needs of young children are different from those of adolescents. 93. Identifies individual differences among learners during the teaching-learning process. 94. Examines the various inclusive strategies for children with diverse needs. 95. Chooses various ways to engage with learners from diverse backgrounds. 96. Provides illustrative examples of content, assessment, and pedagogy modification to suit the diverse learning needs of children in a classroom. 97. Recognises the need for educating girls and boys about diversity and inclusivity (having a conversation/conducting awareness sessions) in the classroom.
3. Addressing the needs of children with different abilities	a. Concept of disability, impairment, and handicap b. Types of impairment/ disabilities	98. Defines disability. 99. Identifies some common disabilities that can be seen in children (hearing, visual, speech impairment, learning and locomotor disabilities etc.).

Content	*Topics*	*Competencies*
	i. Blindness and low vision ii. Hearing Impairment iii. Mental retardation iv. Leprosy cured v. Neurological and motor disabilities vi. Autism Spectrum Disorder vii. Multiple disabilities c. Learning Disabilities (LD): i. Meaning, types, characteristics ii. Identification of children with learning disabilities iii. Approaches and techniques for teaching children with learning disabilities	100. Defines inclusion. 101. Addresses issues related to impairment and handicap that arises in a classroom setting 102. Classifies the types of disabilities they could come across in a school setting. 103. Identifies the types of disabilities of learners in the context of their diverse backgrounds. 104. Examines the role of teachers in helping children with diverse needs. 105. Assesses the techniques for teaching children with learning disabilities. 106. Provides examples of modification of content, teaching and assessment to suit the individual learning needs of children with disability. 107. Lists suitable TLMs/Information and Communication Technology (ICT) for use with children with specific disabilities in the classroom (sensory, locomotor, LD). 108. Provides reasons for the need for close collaboration between teachers, parents, and the community in making the learning experience of children with disabilities enriching.
4. Mental and physical well-being	a. Meaning, characteristics and significance of mental health b. Factors influencing mental health c. Ways to promote positive mental health in schools d. Health and physical education: essential qualities, planning, community participation e. National Health Policy-2002	109. Identifies the meaning and characteristics of mental health. 110. Defines physical health and education as listed in the National Health Policy 2020. 111. Classifies the understanding of concepts and strategies applicable to learning and performance of physical activities. 112. Distinguishes between academic achievement, giftedness, intelligence and creativity. 113. Identifies desirable classroom practices to work with children who may be gifted/possess exceptional talents. 114. Displays sensitivity to socio-emotional needs of children who are gifted. 115. Identifies the importance of community engagement in the overall health and physical education of the community. 116. Compares various ways to promote health and physical education in a school setting. 117. Explains the significance of health and physical education. 118. Interprets the importance of the National Health Policy 2017.
III. Learning and Pedagogy		
1. How children think and learn	a. Learning process i. Learning – concept, characteristics, principles, types, domains ii. Transfer of learning-concept, types, theory of transfer of learning (theory of mental discipline, apperception, identical elements, and	119. Identifies principles of learning. 120. Identifies types and domains of learning. 121. Illustrates transfer of learning & its educational implications. 122. Relates the meaning of constructivism & learning in a given context. 123. Selects the meaning of stimulus-response connection theory based on a caselet. 124. Identifies Pavlov's classical conditioning learning & its educational practices.

Content	*Topics*	*Competencies*
	generalisation) and its educational implications iii. Constructivism and learning – types and principles of constructivism b. Theories of learning & their educational implications i. Behavioural or stimulus-response connection theory – Pavlov's classical conditioning learning; Thorndike's trial and error learning, Skinner's operant conditioning learning) ii. Gestalt theory – (Kohler's insightful learning, Tolman's sign learning) iii. Gagne's hierarchical theory of learning iv. Bandura's social learning theory c. Factors contributing to learning- cognition, emotions, heredity, and environment	125. Demonstrates the Thorndike trial & error learning in a given context. 126. Illustrates Skinner's operant conditioning learning in relation to classroom learning. 127. Analyses Kohler's insightful learning in a given scenario. 128. Simplifies Tolman's sign learning for better understanding in a classroom setting. 129. Identifies Gagne's hierarchical theory of learning. 130. Examines Albert Bandura's social learning theory and its educational implications. 131. Relates cognition and emotions with learning. 132. Determines how heredity and environment contributes towards learning. 133. Identifies the types and principles of constructivism in learning. 134. Examine Kohler's insightful learning & its educational implications. 135. Identifies multiple risk factors involved with learning and development for pre-adolescents from poor families/difficult backgrounds. 136. Lists the cognitive changes that take place during adolescence. 137. Defines academic emotions in a given scenario. 138. Gives reasons why anxiety interferes with achievement. 139. Identifies the strategies to provide a conducive environment to think and learn without fear. 140. Illustrates the benefits of joy, gratitude, interest and curiosity in a school or classroom setting. 141. Identifies risk factors that are responsible for stress among pre-adolescents inside and outside the classroom. 142. Relates the ideas of performance and learning. 143. Summarises regulation of negative emotions in particular. 144. Selects reasons for pre-adolescents anxiety/fear related to peer relationships. 145. Identifies appropriate context to offer effective praise to adolescent learners. 146. Justifies why dialogue and conversations are critical to develop positive relationship with an adolescent.
2. Basic processes of teaching and learning: Children's strategies of learning; learning as a social activity; social context of learning; child as a problem solver and a scientific investigator.	a. Different types of instruction i. Teacher-controlled instruction – lecture, demonstration, inductive-deductive, discussion, team teaching ii. Learner controlled instruction – programmed instruction, computer-assisted, personalised system, project method, problem-solving method	147. Compares differences between meaningful learning and rote learning 148. Defines direct teaching and constructivism in a given scenario. 149. Contrasts constructivist learning with direct instruction in a given context. 150. Relates the development of thinking and language to culture and social history of learner 151. Identifies factors inside and outside school that highlight learning as a social activity. 152. Summarises Bandura's social learning theory from a set of alternatives. 153. Analyses how learning is a social activity. 154. Recalls the concept of team teaching in the classroom. 155. Elaborates the meaning of demonstration and discussion in a given scenario.

Content	*Topics*	*Competencies*
		156. Highlights the importance of project methods in a given context. 157. Identifies children's scientific temperament and children as a scientific investigator in a given context. 158. Compares the different types of personality in a given scenario. 159. Applies programmed instruction as a learning method. 160. Analyses the characteristics and traits of personality. 161. Examines understanding children's errors as significant steps in the learning process. 162. Justifies teacher-controlled instruction and learner-controlled instruction. 163. Assesses learner-controlled instructions (e.g., programmed instruction, computer assisted, personalised system, project method, problem-solving method etc.) of teaching in a given scenario. 164. Defines demonstration/modelling as one of the effective tools of teaching and learning.
3. Personality types	a. Definition, types, characteristics, and traits b. Freud's psychoanalytic theory	165. Defines personality. 166. Illustrates examples for different personality types. 167. Identifies the personality development that takes place during adolescence. 168. Identifies children's notions/beliefs about ability. 169. Identifies different personality traits. 170. Identify emotions and social contexts that may begin to influence pre-adolescent personality types that influence adolescent decision making. 171. Lists teaching strategies according to different personality types in a given scenario. 172. Describes how to establish and maintain effective rules. 173. Explains reasons for establishing effective classroom procedures and routines. 174. Lists principles of classroom organisation in a given context. 175. Identifies strategies to support individual and group work in classrooms. 176. Identifies approaches that facilitate cooperation amongst students. 177. Lists strategies to deal with commonly observed difficult behaviours in the classroom. 178. Explains the three structural elements of personality according to Freud. 179. Interprets a behaviour based on Freud's psychoanalytic theory.

Content	*Topics*	*Competencies*
4. Assessment and Learning	a. Statistics- data organisation, frequency distribution, graphical representation, central tendency, variation, normal distribution, percentile rank, correlation, and their interpretation b. Feedback as an essential component of formative assessment c. Principles of constructing objective, short answer, essay, and interpretative type questions d. Characteristics of good test: Reliability, validity, objectivity, and usability	180. Defines assessment for, of and as learning. 181. Differentiates between assessment of and for learning based on contextual situations. 182. Explains the importance of comprehensiveness and continuity of assessment. 183. Infers child's learning status and progress from a range of tools. 184. Illustrates how feedback is to be given to parents and learners. 185. Explains how other teachers and parents can be involved in planning and implementing interventions based on assessment data. 186. Explains the importance of reliability and validity in assessment tools and processes. 187. Identifies challenges in practice of continuous and comprehensive assessment. 188. Identifies assessment resources that test learners' higher order thinking skills. 189. Identifies assessment resources that assess the cognitive, psychomotor, and affective domains. 190. Identifies tools and processes that can be used for comprehensive and continuous assessment (e.g., portfolio, box file, self and peer assessment, anecdotal records, rubrics, checklist, reflective writing, etc.). 191. Makes use of assessment data to give timely and constructive feedback. 192. Makes use of assessment data to improve planning and transaction of the teaching-learning processes. 193. Distinguishes between the nature of school-based assessment and standardised assessments. 194. Infers from a graphical representation of assessment data. 195. Interprets assessment data for a given set of children. 196. Distinguishes between the nature of school-based assessment and board examinations. 197. Evaluates the implications of labelling learners based on assessment data. 198. Adapts assessment and evaluation to meet the needs of learners with disability.

Language I & Language II

Cognitive Domains[8]

The competencies test the range of cognitive levels, namely, *Remember, Understand, Apply, Analyse* and *Evaluate*. Since STET is proposed as a paper-pen test with all items being MCQ, the cognitive domain *Create* has not been included. These domains are defined largely on the Revised Bloom's Taxonomy by Anderson and Krathwohl. These have been slightly customised, keeping in mind the linguistic knowledge required for teaching. Though a comprehensive list of competencies is prepared, it is not an exhaustive list. The competencies may be tweaked, and more competencies may be designed for the given syllabus.

Remember: It includes recall, the ability to list and define grammatical categories, identify linguistic or literary elements in different texts and tests the knowledge of literature, different approaches to teaching and recent advances in assessment.

Understand: This domain includes understanding of features, elements of language and literature, illustrating through examples, classifying them, and comparing different approaches to language teaching.

Apply: It encompasses the ability to use the understanding of language, how children learn; the underlying structure of language and literary elements in different genres, registers, contexts, and texts. It includes the ability to choose an appropriate illustration of a structure, text, or approach to teaching and understanding in a variety of contexts and across the curriculum. The questions assess the ability to choose appropriate strategies to solve a problem and display linguistic or literary sensibility and appreciation in various forms.

Analyse: This includes breaking information into parts, identifying motives and causes, making inferences and finding evidence to support generalisations. In the context of evaluating teachers' knowledge of content, this will also include identification of reasons for a particular way of thinking of a child about grammar or literature.

Evaluate: This domain includes selecting and defending opinions, making judgments about approaches, validity of ideas or quality of work, based on a set criterion. In the context of evaluating teachers' knowledge of content, this includes choosing appropriate examples, making a choice of one approach over another and also choosing the best possible explanation for a particular response.

Competencies

[8] Adapted from Central Board of Secondary Education. (2021). *Competency Framework Paper II: Central Teacher Eligibility Test.* New Delhi: Central Board of Secondary Education.

Content Domain	*Topic*	*Competencies*
I. Content		
1. Reading comprehension	a. Skills of reading i. Understanding subskills of reading: Skimming and scanning ii. Understanding strategies of reading: Prediction, visualisation, summarisation etc. iii. Higher order thinking skills: Inferences, conclusions, assumptions, textual evidence, cause-effect, point of view etc. iv. Interpretation of chart, diagram, graph etc. b. Grammar knowledge i. Functional and communicative grammar in everyday contexts ii. Adjectives, adverbs, prepositions, determiners, modals, tenses, clauses, reporting, passive voice, subject-verb concord, commands and requests, statements, and questions c. Vocabulary i. Vocabulary in unseen texts, e.g., prose, poem, non-fiction and authentic literature like newspaper reports and articles ii. Synonyms and antonyms, word formation, shades of meaning, semantic gradients, e.g., big, huge, gigantic etc. iii. Figures of speech: Metaphor, symbol, image, rhyme scheme, alliteration, onomatopoeia etc.	1. Locates specific facts, evidence, or information presented in an unseen text from a list. 2. Identifies the most appropriate summary or interpretation of the unseen text from a list. 3. Identifies the main idea or purpose of the unseen text from a list. 4. Infers from an unseen text by matching textual clues. 5. Interprets actions, events, and characters in an unseen text. 6. Analyses by selecting the type of narration from a list (first person, second person, third person, omniscient). 7. Applies appropriate grammatical rules in a text. 8. Edits an unseen sentence or paragraph by identifying errors from a list of options. 9. Identifies the type of clause in an underlined sentence from an unseen text. 10. Matches statements in the active voice with those in the passive voice from a list. 11. Identifies a sentence from the unseen text that is in active or passive voice. 12. Uses the reported (indirect) form of a given direct speech from an unseen text or vice versa. 13. Sequences the events of the unseen text from a list of options. 14. Identifies the appropriate meaning of a word used in the unseen text from a list of options/dictionary entries. 15. Recognises a sentence which has a synonym/antonym of a word from the unseen text. 16. Applies the appropriate figure of speech in a sentence from the unseen text. 17. Edits a sentence using an appropriate strategy for word formation (prefixes, suffixes, compound words, converting verbs to nouns or vice versa etc.). 18. Organises the list of semantic gradients in the correct sequence by selecting from a list.
2. Responding to literature	a. Interpretation of plot, character, setting, intention, theme, mood, tone etc. b. Critical thinking in unseen texts c. Gender, inclusion, stereotypes, bias, symbols and images, voice	19. Evaluates a character from the unseen text by selecting the accurate sketch or description of the character. 20. Evaluates the appropriate theme, mood, image, or tone in the unseen text. 21. Matches examples of theme, mood, image, and tone from the unseen text with their appropriate labels. 22. Evaluates the social issues(s) highlighted in the unseen text by selecting from a list. 23. Evaluates social issues or instances of bias, exclusion, insensitivity, stereotypes, etc., in the unseen text. 24. Evaluates the representation of voices of different social groups in an unseen text.

Content Domain	*Topic*	*Competencies*
3. Language policies and languages in school education	a. Goals of a language curriculum and their relation to pedagogical processes and TLMs b. 'Three Language Formula' and its effect on languages in school education c. Language policy of Sikkim and pedagogical issues related to its implementation d. Latest policies related to languages and language education at the state and national level	25. Identifies the definition of three-language formula from given statements. 26. Evaluates the existing pedagogical issues related to the language policy implementation in Sikkim/other states. 27. Identifies the goals of a language curriculum in the extract of a specific syllabus. 28. Analyses the lacunae in a language policy of a given state after examining its features. 29. Evaluates an appropriate addition to the language policy of a given state.
II. Pedagogical Processes		
1. Language diversity and multilingual contexts	a. Perspectives i. Perspectives on multilingual approach and language inclusion ii. Perspectives on Cummins' theory of language interdependence iii. Perspectives and classroom processes of multilingual pedagogy iv. Code-mixing and code-switching b. Pedagogy i. Language diversity and multilingualism as a resource for learning school languages ii. Simultaneous translation and creative translation as teaching strategies	30. Differentiates between code-mixing and code-switching by selecting appropriate examples of children's language. 31. Identifies the relationship between L1 and L2 from a given list of statements. 32. Justifies the use of code-mixing and code-switching during storytelling. 33. Justifies language inclusion by selecting appropriate reasons from a list. 34. Analyses examples of multilingual pedagogy by selecting statements from a list. 35. Selects multilingual strategies that can be used by a teacher in a given classroom context to facilitate language learning. 36. Identifies models of multilingual pedagogy where L1 is used as a bridge for transition to L2 (or where L1 and L2 are both strengthened).
2. Challenges in the teaching of English as the medium of instruction / Challenges in the teaching of regional languages as a subject	a. Social and pedagogical challenges facing the language teacher i. English as a medium where an environment of English is not available/ Teaching of regional languages where classes are not homogenous ii. Syllabus requirements and the textbook iii. Mixed-ability groups and large classes iv. Aspirations of parents v. Analysing the oral and written responses of learners (response analysis) to identify what they know and what are the gap areas vi. Understanding the meaning of mistakes in a developmental continuum	37. Defines multilingualism by selecting from a list. 38. Identifies the specific challenge faced by a teacher in a given classroom scenario from a list (in the teaching of English/a regional language). 39. Analyses the challenges of teaching a language as the medium of instruction in a given classroom scenario. 40. Reasons how errors are a part of the developmental process of learning. 41. Suggests solutions to a language teacher for overcoming the pedagogical challenge of mixed-ability groups or large classes by selecting from a list. 42. Evaluates the parental aspirations of teaching English from an anecdote, e.g., an interaction between teacher and parent. 43. Justifies that language proficiency and/or knowledge of new pedagogy is necessary for English teachers. 44. Identifies constructive feedback that can be shared with a language teacher based on a description of their classroom teaching or lesson plan. 45. Analyses teachers' needs and selects professional development courses.

Content Domain	*Topic*	*Competencies*
	b. Development of the language teacher as a professional i. Language proficiency and competence ii. Knowledge of new pedagogies iii. Connect with professional community iv. Opportunities for professional development	
3. Language across the curriculum	a. Perspectives i. Language as a school subject and as a means of learning and communication ii. Language as an instrument for abstract thought and knowledge acquisition (language abilities that facilitate the learning of other subjects) b. Pedagogy i. Content from different subjects for development of language skills, vocabulary, and grammar ii. Classroom processes for Language Across Curriculum (LAC)	46. Defines Language Across the Curriculum (LAC) by selecting from a given list. 47. Identifies the goals or components of the LAC approach. 48. Identifies classroom processes or lesson plans from a list that is designed with a LAC perspective. 49. Identifies curricular material from given descriptions that build the learning of other subjects. 50. Identifies gaps in higher/conceptual learning due to a lack of understanding of the LAC approach. 51. Identifies content for implementing the LAC approach in a given context. 52. Classifies classroom processes for developing language as a skill and developing language as a tool for critical thinking.
4. Language acquisition and language learning	a. Perspectives i. Perspectives on the difference between acquisition and learning and the stages of language learning ii. Principles of second language acquisition and their application in pedagogical processes and TLMs: The Natural Approach (Krashen and Terrell); Pedagogy of Comprehensible Input (Krashen); Language Interdependence Hypothesis (Cummins) and Bilingual Approach- Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP) iii. Theories of language acquisition (Chomsky - Language Acquisition Device [LAD] and Bruner- Language Acquisition Support System [LASS]) and their application in pedagogical processes	53. Differentiates cases of language acquisition and language learning from given examples. 54. Matches the stages of language learning with descriptions of classroom processes. 55. Identifies the principles of L2 acquisition employed in a pedagogical process or TLM. 56. Applies the theories of language acquisition (LAD and LASS) to evaluate classroom processes. 57. Analyses whether an approach is effective in a specific classroom scenario for achieving a stated objective/outcome.

Content Domain	*Topic*	*Competencies*
	b. Pedagogy i. Principles and pedagogy of different approaches to language teaching at the elementary stage: Communicative approach, task-based language teaching, content-based instruction	
5. Approaches to language teaching at the elementary stage	a. Perspectives and pedagogy i. Perspectives and pedagogy of communicative and task-based approaches to language teaching at the elementary stage ii. Input-rich communicational environment in the classroom iii. Comprehensible input iv. Meaningful contexts for language learning through integration of skills b. Pedagogical processes i. Lesson planning and assessment under communicative and task-based approaches ii. Promoting role of parents and community in literacy development iii. Experiential learning through literature in the target language, folk art, games, songs etc. iv. Storytelling and children's literature v. Listening to, telling, and writing stories, poems, songs etc. vi. Drama/theatre and role play vii. Activities based on reading and writing corners viii. Use of classroom walls ix. Experience-based writing c. Inclusive pedagogy: i. Children in different circumstances ii. Gifted and special ability children: Dyslexia, dysgraphia, auditory processing disorder, language processing disorder, visual perceptual deficit etc. iii. Learning, TLMs and adaptive assessment	58. Matches different language teaching approaches to appropriate classroom practices. 59. Identifies examples of different approaches from given lesson plans or classroom processes. 60. Matches examples of different approaches with learning outcomes. 61. Evaluates processes which show the use of comprehensible input in elementary grades. 62. Identifies the accurate example of an input-rich communicational environment from given examples. 63. Identifies classroom processes or lesson plans demonstrating integrated development of skills based on given criteria. 64. Matches the subskills of reading with appropriate classroom processes from a selection in a given context. 65. Matches the appropriate strategies for developing different language skills with learning outcomes from a selection. 66. Identifies storytelling techniques used by a teacher in elementary grades in a given scenario. 67. Analyses the strategies of involving the community in language learning. 68. Identifies the pedagogical processes integrating drama/theatre or role play for language teaching in a given context. 69. Identifies the use of classroom library/experiences and cultural context of learners in a given classroom description. 70. Identifies the tenets or rationale of inclusive pedagogy from a selection. 71. Identifies the definition of a learning difficulty, e.g., dyslexia or dysgraphia from the given list. 72. Analyses given classroom processes or lesson plans to select the ones designed with an inclusive approach. 73. Matches classroom processes or TLM for learning difficulties, e.g., dyslexia, dysgraphia, auditory processing disorder, language processing disorder, visual perceptual deficit etc.

Content Domain	*Topic*	*Competencies*
6. Curricular materials and planning	a. Principles i. Print-rich environment: Types of materials, their need, use for different stages of learning ii. Principles and application of TLM design and use, e.g., flexibility, dynamism, inclusion, gender sensitivity, contextuality, age-appropriateness, attractiveness and language-teaching and assessment potential, and their application b. TLM essentials i. Curriculum, syllabus, textbooks, learning outcomes and lesson plans ii. Print-rich environment: Types of materials, their need, use for different stages of learning c. Types of TLMs and their interactive use in learning language i. Local/cultural resources like stories, songs, folk art, literature, indigenous toys and traditional games ii. Authentic material iii. Learner-created and learner-chosen texts, reading corners and library iv. Collaboratively developed TLMs with low-/no-cost material (both by the teacher, learners, and the community) v. Art, sport, and ICT integrated material	74. Applies principles of TLM design to select suitable TLM in a given context. 75. Identifies the appropriate use of a TLM for a given scenario. 76. Identifies a suitable print-rich environment for elementary grades. 77. Evaluates a TLM, textbook excerpt etc. based on a given review parameter or principle of TLM design. 78. Justifies the relevance of curriculum/syllabus/textbook/learning outcomes/lesson plan by selecting from a given list of statements. 79. Matches the use of TLMs with given learning outcomes or textbook extracts. 80. Identifies storybooks for elementary grades based on their brief descriptions.
7. Assessing language	a. Perspectives on assessment i. Assessment as part of the teaching process ii. Assessment 'for' and 'as' learning (formative) and 'of' learning (summative). b. Relationship between assessment and the teaching process i. Tailor-made, adaptive assessment ii. Recording, tracking and reporting learner progress	81. Defines assessment of/for/as learning by selecting statements from a given list. 82. Matches examples of assessment of/for/as learning with their corresponding labels. 83. Justifies the need for assessment of/for/as learning from a list of given statements. 84. Matches assessment questions or tasks with the language skills they assess. 85. Identifies tailor-made, adaptive assessment plans for a given scenario. 86. Identifies assessment techniques or tools that are suitable for a given scenario. 87. Matches cognitive domains with given examples of learning outcomes/questions.

Content Domain	*Topic*	*Competencies*
	iii. Providing qualitative feedback and developing holistic progress reports iv. Testing with reference to cognitive domains v. Cognitive alignment of learning outcomes to assessment	88. Analyses the purpose of recording/tracking/reporting a student's progress in language learning. 89. Selects appropriate qualitative feedback for a learner (verbal or in a progress report).
8. Teaching literature at the elementary stage	a. Teaching poetry, prose, drama or non-fiction for enjoyment, appreciation, and development of imagination b. Study of diverse texts and themes, e.g., gender and inclusion, in addition to the prescribed textbook c. Types of text: Descriptive, narrative, expository and argumentative d. Authentic literature, e.g., newspaper reports, posters etc. e. Literary analysis for beginners: Plot, character etc., figures of speech and language in literature f. Critical thinking through literature: Listening, speaking, reading, and writing g. Elements of literature: Style, format, layout, structure and theme of prose, poem, or non-fiction h. The pedagogy and assessment of different genres of literature	90. Identifies the objectives/learning outcomes of teaching literature at the elementary stage. 91. Justifies the use of authentic literature in the elementary language classroom. 92. Matches pedagogical processes of teaching different genres in a given classroom scenario. 93. Classifies types of questions for literary analysis, e.g.,Higher Order Thinking Skills (HOTS) and Lower Order Thinking Skills (LOTS) for a given literary excerpt. 94. Matches types of texts (literary, narrative, discursive, persuasive) with given examples. 95. Matches elements of literature (mood, tone, point of view, etc.) with appropriate pedagogical processes. 96. Identifies the literary excerpt that is suitable for studying a given figure of speech, theme etc.
9. Critical perspectives on the teaching of grammar at the elementary stage	a. Principles i. Rules and definitions not 'taught' ii. Grammar through active engagement with language iii. Inductive method with opportunities for discovery of rules through communicative tasks iv. Discovery of rules as reflecting on academic language, an intellectually engaging activity in its own right v. Formal grammar introduced after basic linguistic competence is acquired b. Pedagogy: i. Strategies of teaching grammar and vocabulary through exposure to spoken and written inputs and	97. Matches functional/communicative grammar practices with real-life examples. 98. Justifies the teaching of formal grammar only after basic linguistic competence is achieved. 99. Identifies the grammar teaching approach of a given classroom activity from a set of statements. 100. Identifies the grammar teaching process in a given scenario. 101. Identifies the grammatical concept taught in a given classroom process from a list. 102. Matches the grammatical concept taught with its corresponding classroom processes from a given selection.

Content Domain	*Topic*	*Competencies*
	discovering their use/function, instead of explicit grammar instruction at the elementary stage ii. Components of grammar and vocabulary, e.g., nouns, pronouns, adjectives, adverbs, prepositions, singulars and plurals, gender, articles, conjunctions, determiners, possessives, punctuation marks, verbs and tense forms (simple present and present continuous, simple past and past continuous, expressing future), question words etc.	
10. Critical perspectives on remedial teaching	a. What is remedial teaching? i. What needs to be remedied – learner, teacher or TLMs? ii. When where why and how of remedial teaching iii. The acquisition-learning continuum versus the remedial teaching approach iv. Inclusive and adaptive lesson planning or remedial teaching? b. Awareness of remediation strategies to support language learning i. Inclusive and adaptive lesson planning ii. Specific remediation programmes and bridge courses iii. Analysing the oral and written responses of learners (response analysis) to identify what they know and what are the gap areas iv. Any other classroom/school level intervention, e.g., action research or a library programme	103. Evaluates a given classroom scenario to select what needs to be remedied from a list of reasons (learner, teacher, TLM etc.). 104. Critiques remedial intervention as an approach based on given statements. 105. Studies a case to justify whether it requires better planning or change of TLM or assessment criteria instead of remedial teaching. 106. Analyses examples of oral/written responses of learners to identify gap areas based on given criteria.

Mathematics

Cognitive Domains[9]

The competencies test the range of cognitive levels, namely, *Remember, Understand, Apply, Analyse,* and *Evaluate*. As STET is proposed to be a paper-pencil test with all items being MCQ, the cognitive domain *Create* has not been included. These domains are defined largely on the basis of revised Bloom's Taxonomy by Anderson and Krathwohl. However, these have been slightly customised keeping in mind the mathematical knowledge required for teaching. Though a comprehensive list of competencies is prepared, it is not an exhaustive list. The competencies may be tweaked, and more competencies may be designed for the given syllabus.

***Remember*:** It includes recall of mathematical facts, properties, theorems, and definitions of terminologies, recognition of mathematical objects, such as shapes, numbers, expressions, or quantities required for mathematical understanding.

Understand: This domain includes understanding of facts and ideas by organising, comparing, translating, interpreting, and providing explanations for certain phenomena or properties. Understanding of concepts helps to extend mathematical knowledge to judge the validity of mathematical statements and also to make mathematical representations. This helps teachers to make a choice of a process to solve a problem, retrieve the mathematical information from a given situation, derive formulas, explain mathematical concepts, interpret the students' response and also identify preconceptions and common misconceptions.

Apply: This domain encompasses the ability to use mathematical knowledge and understanding in a variety of contexts within the domain of mathematics and also in real life in a completely new situation. By *Apply*, we mean the ability to choose the appropriate strategy to solve a problem, display mathematical information in various forms and generate equivalent representations of mathematical entities or ideas. This domain will also include application of formulas to solve problems, use of theorems with known proofs to prove other propositions, interpretations and inferences from given data. It will also include the ability to use different pedagogical approaches to teach primary level concepts, address misconceptions and design assessment strategies which are mapped with defined learning outcomes.

[9] Adapted from Central Board of Secondary Education. (2021). *Competency Framework Paper II: Central Teacher Eligibility Test.* New Delhi: Central Board of Secondary Education.

Analyse: This will include breaking information into parts, identifying motives and causes, making inferences and finding evidence to support generalisations. In the context of evaluating teachers' knowledge of content, this will also include the identification of reasons for a particular way of thinking of a child.

Evaluate: This domain includes presenting and defending opinions, making judgements about information, and the validity of ideas or quality of work based on a set of criteria. In the context of evaluating teachers' knowledge of content, this will include choosing appropriate examples, making a choice of one approach over the other and choosing the best possible explanation for a particular response.

Competencies

Content Domain	***Topics***	***Competencies***
I. School Mathematics (content and learning)		
1. Number (numerical aptitude and its teaching)	a. Operations on real numbers – meaning, representation, algorithm, word problems b. Arithmetic progressions c. BODMAS d. Ratio and Proportion (Direct and inverse variation) e. Percent – concept and its relation to fractions and decimals, profit and loss/discount f. Simple Interest/Compound Interest/Value Added Tax (VAT)/Goods and Services Tax (GST) g. Exponents – meaning, laws, simplification using laws of exponents h. Unitary method	1. Distinguishes between rational and irrational numbers. 2. Demonstrates properties and operations using appropriate material and representations in a given context. 3. Solves problems in the set of real numbers with different configurations of the basic operations. 4. Identifies patterns in numbers and generalises. 5. Solves problems in a set of real numbers using laws of exponents appropriately. 6. Demonstrates understanding of generalised meaning and proofs of laws of exponents. 7. Compares real numbers by decoding symbolic language and approximates the value of the given real numbers. 8. Formulates mathematical expressions connected to real life contexts (ratio-proportion, simple and compound interest, profit and loss, etc.) 9. Solves mathematical expressions connected to real life contexts. 10. Demonstrates (with or without manipulatives/visuals) how to simplify and explain or solve a word problem.
2. Geometry (shapes and spatial understanding)	a. Basic geometrical ideas: Lines and angles, triangles, quadrilaterals, circles, tangents and secants to a circle and their properties b. Congruence and similarity of triangles c. Geometrical constructions using ruler and compass d. Van Hiele's levels of geometric thinking	11. Uses results based on properties of angles, polygons and circles. 12. Constructs arguments to prove a geometric statement related to congruency, similarity or other properties of triangles and quadrilaterals. 13. Solves problems based on measures of arc and related angles of a circle. 14. Interprets construction procedures related to angles, triangles, quadrilaterals and circles. 15. Given a situation, maps the Van Hiele levels of geometric thinking. 16. Uses Van Hiele's levels of geometric thinking to analyse a learning gap. 17. Applies theory on levels of geometric thinking in pedagogical practice.

Content Domain	*Topics*	*Competencies*
3. Pattern and Algebra	a. Algebraic expressions and identities b. Polynomials c. Linear equations in one and two variables (graphical and algebraic approach) d. Applications of linear and quadratic equations in practical situations	18. Demonstrates understanding of the language of algebra. 19. Expresses real-life situations using algebraic expressions. 20. Solves problems in algebra using quadratic equations and linear equations in two variables. 21. Connects between graphical and algebraic representations of equations. 22. Uses algebraic identities. 23. Identifies the nature of roots of a quadratic equation. 24. Identifies the rule for a given pattern. 25. Extends given patterns.
4. Measurement and Mensuration	a. Area and Perimeter of 2D shapes (simple and composite) b. Surface area and volumes of 3D (simple and composite) and derivation of related formulae, real-life problems based on these	26. Recalls formulas for area and perimeter of 2D shapes. 27. Appropriately uses formulas for area and perimeter of 2D shapes (mathematical/contextual). 28. Recalls the formulas for surface area and volume of cube, cuboid, cylinder, cone and frustum. 29. Appropriately uses formulae of volumes and surface areas of cube, cuboid, cylinder, cone and frustum to solve problems (mathematical/contextual). 30. Derives formulas of volumes and surface areas of composite 3D shapes. 31. Selects strategies to derive formulae of surface area and volume of cube, cuboid, cylinder, cone and frustum.
5. Data handling and Probability	a. Reading and making inferences from data b. Data representation of grouped and ungrouped data: Pictographs, tables, bar graphs, pie charts, histogram, line graph, mean, median and mode of grouped and ungrouped data, ogive. c. Probability	32. Interprets pictographs, tables, bar graphs, pie charts, histograms, and line graphs (using comparison, sum and difference). 33. Sequences steps to construct different types of graphs (pictographs, tables, bar graphs, pie charts, histograms, line graphs) for the given data. 34. Identifies the range, mean, median and mode of given data. 35. Selects the appropriate measure of central tendency (mean, median, mode) to represent the given data. 36. Justifies the matching of data to its graphical representation. 37. Describes possible outcomes of an experiment. 38. Calculates probability based on given conditions.
II. Perspectives and pedagogical content knowledge		
1. Nature and understanding of mathematics	a. Nature of mathematics: Hierarchy, abstraction, deductive nature, math as patterns in numbers and shapes b. Role of intuition and logic in mathematics c. Axiomatic structure of mathematics d. Validation in mathematics-process and types e. Processes and skills of mathematics: problem-solving, visualisation, proof and reasoning, communication, making connections, generalisation	39. Demonstrates understanding of different aspects of the nature of mathematics. 40. Connects concepts and procedures in mathematics with the nature of mathematics. 41. Organises pedagogical practice to reflect the nature of mathematics. 42. Solves critical thinking problems. 43. Demonstrates understanding of related terminology. 44. Connects axiomatic structure and validation to pedagogical practice. 45. Organises pedagogical practice to enable the development of processes in mathematics.

Content Domain	*Topics*	*Competencies*
2. Language of mathematics	a. Mathematics as language- precise and concise b. Mathematics register: Vocabulary c. Relationship with spoken language d. Symbols and notations in mathematics e. Communication in the language of mathematics	46. Represents the mathematics embedded in a context using mathematical symbols or vice-versa. 47. Identifies the convention and rule in a given mathematical expression/equation. 48. Deciphers meaning of math vocabulary in the given elementary school math context. 49. Chooses precise and concise mathematical expressions from a given selection of statements. 50. Chooses arguments which explain and justify mathematical concepts and relationships.
3. Place of mathematics in school curriculum	a. Aims and objectives of teaching mathematics at the elementary level and its correlation with other subjects b. Curriculum of mathematics at different stages of schooling c. Social aspect, applications of maths	51. Recalls aims and objectives of teaching mathematics at the elementary level. 52. Connects aims and objectives of teaching mathematics at the elementary level to aims and objectives of teaching other subjects. 53. Makes appropriate teaching objectives that match the aims of teaching mathematics at the elementary level. 54. Selects pedagogy to match the aims and objectives of teaching mathematics at the elementary level. 55. Examines social practices, current events, or available local data for connections to elementary school mathematics. 56. Analyses existing curriculum. 57. Chooses options for a new curriculum.
4. Community mathematics	a. Knowing mathematicians: Appreciating the contribution made by Indian and other mathematicians b. Use of mathematics in daily life c. Ethnomathematics: Mathematics in one's cultural tradition (attire, home, food items, religious practices, indigenous games)	58. Recalls names of mathematicians and their contributions to mathematics. 59. Identifies mathematical concepts and operations in elementary school mathematics connected with daily life experiences. 60. Selects a pedagogical practice to connect elementary school mathematical concepts to children's daily life experiences.
5. Approaches to learning and teaching mathematics	a. How children learn mathematics: Concept formation, learning trajectories, principles of child development and learning, learning by memorisation, imitation, drill and practice, instrumental and relational understanding b. Errors and misconceptions c. Theories of mathematics education (Piaget, Vygotsky, Bruner, Skemp) d. Strategies and methods: Experiential learning (activity-based learning, play-way method) inductive and deductive method, analytic and synthetic method heuristic method e. Problem-solving in mathematics	61. Recalls the principles of child development and learning. 62. Identifies principles of child development and learning in the elementary school from selected examples. 63. Selects strategies which reflect inclusiveness and child-centric pedagogy. 64. Recalls the factors affecting the development of concepts in childhood. 65. Sequences the phases of concept formation. 66. Selects pedagogical strategies for the formation of elementary school mathematics concepts. 67. Sequences pedagogical practice to reflect an understanding of learning trajectories in elementary school mathematics concepts. 68. Matches different strategies of learning to appropriate concepts in elementary school mathematics. 69. Identifies the strengths and limitations of different practices of reinforcement. 70. Identifies instances of rote memorisation. 71. Distinguishes between examples of instrumental and relational understanding.

Content Domain	*Topics*	*Competencies*
	f. Extended learning (connecting classroom learning to the outside world)	72. Distinguishes between errors and misconceptions in mathematics. 73. Selects strategies to address errors and misconceptions demonstrated in elementary students' work. 74. Describes the steps involved in problem-solving in mathematics. 75. Selects strategies and material to develop problem-solving skills at the elementary level. 76. Identifies theories of mathematics education from selected pedagogical examples. 77. Distinguishes between different strategies and methods used in teaching. 78. Selects an appropriate method of experiential learning based on math concepts to be taught or practised.
6. Understanding resources for teaching mathematics	a. Perspectives on teaching: Learning materials and their place in learning math b. Role of assignments: Investigations, projects, games, and puzzles c. Textbook and worksheets d. Mathematics lab, mathematics mela e. Space and objects around the child	79. Analyses samples of elementary school TLMs. 80. Chooses good samples of elementary textbooks and worksheets. 81. Matches different types of elementary school assignments with the development of conceptual understanding and building of process skills in students. 82. Identifies uses of elementary school materials from the maths lab.
7. Assessment in mathematics	a. Purpose of assessment: Diagnostic, effectiveness of pedagogy, assessment for/of/as learning b. Readiness of student: Assessment of content and skills c. Types of Assessment: Formative and tools; summative and tools d. Open- and close-ended questions and problems e. Assessment of conceptual understanding and mathematical reasoning abilities f. Assessment of development of mathematical abilities: Reasoning, communication, visualisation, etc.	83. Recalls purposes of assessment. 84. Matches elementary school assessment with purposes of assessment. 85. Differentiates between for/of/as learning. 86. Selects appropriate elementary school assessment to identify the readiness of a student. 87. Analyses error patterns (for example, in operations on numbers, logical flow of reasoning in geometrical proofs, student's error in the measurement process, pattern recognition and data representation). 88. Modifies a close ended elementary school maths question to make it open ended or vice-versa. 89. Selects elementary school maths questions which assess conceptual understanding and/or reasoning abilities. 90. Identifies elementary school maths questions which assess the mathematical abilities of communication, reasoning, communication, visualisation, etc.

Science

Cognitive Domains[10]

The competencies assessed for science range across cognitive levels of Remember, Understand, Apply, Analyse, and Evaluate. As STET is proposed to be a paper-pencil test with all items being MCQ, the cognitive domain 'create' has not been tested. These domains are defined largely based on revised Bloom's Taxonomy by Anderson and Krathwohl. However, these have been adapted keeping in mind the knowledge required to teach Science to elementary grades

Remember: Accurate and broad-based factual knowledge enables students to engage successfully in the more complex cognitive activities essential to the scientific enterprise. Students are expected to recall or recognise accurate science statements; possess knowledge of vocabulary, facts, information, symbols, and units; and select appropriate apparatus, equipment, measurement devices, and experimental operations to use in conducting investigations.

Understand: The questions under this cognitive level provide or identify an explanation for an observation or natural phenomenon, demonstrating understanding of the underlying science concept, principle, law, or theory. This cognitive domain includes the selection of illustrative examples in support of statements of facts or concepts. Questions that require students to compare, contrast, and classify; to interpret scientific information considering a science concept or principle are included.

Apply: The questions in this cognitive domain are designed to involve the direct application of knowledge and understanding of science in straightforward situations. To measure application level questions that require students to use and apply their understanding of science concepts and principles to find a solution or develop an explanation are included.

Analyse: A major purpose of science education is to prepare students to engage in scientific reasoning to solve problems, develop explanations, draw conclusions, make decisions, and extend their knowledge to new situations. In addition to the more direct applications of science concepts exemplified in the applying domain, some problem-solving situations involve unfamiliar or more complicated contexts that require students to reason from scientific principles to provide an answer. Solutions may involve breaking down a problem into component parts, each involving the application of a science concept or relationship. Students may be required to analyse a problem to determine what underlying principles are involved; devise and explain strategies for problem solving; select and apply appropriate equations, formulas, relationships, or analytical techniques; and evaluate their solutions. Correct solutions to such problems may stem from a variety of approaches or strategies and

[10] Adapted from Central Board of Secondary Education. (2021). *Competency Framework Paper II: Central Teacher Eligibility Test.* New Delhi: Central Board of Secondary Education.

developing the ability to consider alternative strategies is an important educational goal in the teaching and learning of science.

Evaluate: The questions belonging to this cognitive level expect students to weigh advantages and disadvantages to make decisions about alternative processes, materials, and sources; consider scientific and social factors to evaluate the impact of science and technology on biological and physical systems; evaluate alternative explanations and problem-solving strategies and solutions; evaluate results of investigations with respect to sufficiency of data to support conclusions.

Competencies

Content Domain	***Topics***	***Competencies***
I. Content		
1. Moving things, people, and ideas	a. Force and motion i. Force- a push or a pull? ii. Contact forces and non-contact forces: Basic concept with examples iii. Balanced and unbalanced forces. iv. Friction-advantages and disadvantages v. Newton's Laws of Motion (basic concept with examples) vi. Uniform motion and non-uniform motion, uniform circular motion vii. Speed, velocity, and acceleration viii. Graphical representation of motion b. Gravitation i. Gravitation; universal law of gravitation ii. Mass and weight iii. Acceleration due to gravity on the earth (no derivation) c. Work, energy and power i. Work-Scientific concept of work; work done by a constant force ii. Forms of energy- kinetic energy and potential energy iii. Law of conservation of energy iv. Rate of doing work	1. Distinguishes the state of motion of objects as push or pull. 2. Identifies the type of force acting on the objects. 3. Evaluates the role of force in designing toys/models that move. 4. Describes contact and non-contact forces. 5. Differentiates between balanced and unbalanced forces. 6. Analyses the role of friction to minimise, maximise or stabilise motion in different scenarios. 7. Elaborates Newton's laws of motion. 8. Explains the relation between force, mass, acceleration and rate of change of momentum. 9. Solves problems involving Newton's equations of motion. 10. Relates inertia qualitatively with the help of daily experiences. 11. Estimates the magnitude of forces acting on an object with constant force. 12. Characterises different types of motion. 13. Recognises examples of speed, velocity and acceleration from daily life. 14. Predicts speed, and velocity acceleration from graphs/tables and assigns proper SI units to them. 15. Examines the distance-time graph and velocity-time graph for motion in various cases. 16. Defines universal law of gravitation. 17. Describes the inverse square law dependence of gravitational force. 18. Introduces gravitational constant with proper SI unit. 19. Differentiates between mass and weight. 20. Infers the influence of gravitational force on the weight of an object. 21. Analyses the factors on which the gravitational force depends. 22. Identifies the factors on which the acceleration due to gravity depends. 23. Defines work, energy and power. 24. Explains the scientific conception of work. 25. Evaluates the work done by a constant force. 26. Identifies parameters that determine the kinetic energy of an object.

Content Domain	*Topics*	*Competencies*
		27. Describes the relationship between work done and kinetic energy. 28. Solve problems that relate work done with energy. 29. Differentiates kinetic energy and potential energy. 30. Illustrates examples of kinetic energy and potential energy. 31. Explains the law of conservation of energy. 32. Assigns proper SI units to work, energy and power. 33. Relates work and power mathematically.
2. How things work	a. Electricity and its magnetic effects i. Electric potential and potential difference ii. Ohm's law- ohmic and non-ohmic conductor iii. Series and parallel combination of resistors (no derivation) iv. Domestic electric circuit, electric power v. Heating effect of electric current vi. Magnetic field and field lines vii. Magnetic field due to a current-carrying straight conductor and through circular loop (no derivation) viii. Right-hand thumb rule and Fleming's left-hand rule ix. Electromagnetic induction b. Sound and light i. Sound-production of sound ii. Amplitude, time period and frequency of sound iii. Speed of sound in different media iv. Reflection of sound-echo; reverberation, uses of multiple reflection of sound v. Reflection of light-regular and diffused reflection vi. Laws of reflection vii. Ray diagrams of images formed by spherical mirrors viii. Sign convention of reflection; mirror formula (no derivation) and magnification ix. Uses of spherical mirror	34. Defines electric potential. 35. Defines electric potential difference. 36. Differentiates between electric potential and potential. 37. Solves numerical problems involving electric potential, potential and potential difference. 38. Identifies electric potential as scalar/vector quantity. 39. States Ohm's law. 40. Classifies ohmic and non-ohmic conductors. 41. Enumerates examples for ohmic and non-ohmic conductors. 42. Analyses series and parallel combinations of resistors in different contexts. 43. Solves problems involving series and parallel combinations of resistors 44. Defines electric power. 45. Solves problems involving power, voltage and current. 46. Determines the relationships between current, voltage, and resistance in different types of circuits. 47. Explains the heating/chemical/electric effects of current. 48. Interprets V-I graphs pertaining to household electric appliances/supply. 49. Cites examples of the heating effect of electric current. 50. Relates electrical energy with electric current, resistance and time. 51. Determines the relationship between resistance, wire length and wire cross-sectional area. 52. Defines magnetic field. 53. Interprets magnetic field lines of a bar magnet. 54. Analyses the properties of magnetic field lines. 55. Analyses magnetic field due to a current-carrying conductor. 56. Predicts magnetic field strength of a current-carrying circular loop due to the increase of electric current. 57. Explains right-hand thumb rule and Fleming's left-hand rule. 58. Explains electromagnetic induction. 59. Enumerates examples of electromagnetic induction. 60. Relates the principle of electromagnetic induction with daily life applications. 61. Defines sound. 62. Defines amplitude, time, and frequency of sound. 63. Explains the relationship between amplitude, loudness, frequency and pitch. 64. Defines time period. 65. Infers pitch, loudness, and intensity from wave graphs. 66. Differentiates between sound and light reflection conceptually, qualitatively, and diagrammatically. 67. Predicts dependence of speed of the sound on medium. 68. Relates the properties of sound with daily life experiences. 69. Mentions technological applications of sound waves. 70. Defines reflection of sound with daily life examples.

Content Domain	*Topics*	*Competencies*
		71. Defines reflection of light. 72. Defines regular and diffused reflection of light. 73. Describes regular and diffused reflection of light. 74. States laws of reflection of light. 75. Defines incident ray and reflected ray. 76. Evaluates the relationship between the angle of incidence and angle of reflection. 77. Categorises spherical mirrors. 78. Distinguishes between a concave mirror and a convex mirror. 79. Analyses types of images formed for different mirrors and lenses both textually and diagrammatically. 80. Explains the role of medium/density in refraction both textually and diagrammatically. 81. Predicts the nature of the image formed by concave and convex mirrors. 82. States sign convention for reflection from a spherical mirror. 83. Defines magnification of spherical mirror. 84. Solve problems involving image formations from different mirrors. 85. Enumerates applications of concave and convex mirrors in daily life.
3. Materials	a. Materials from daily life i. Natural fibres-wool; silk; processing fibres into wool ii. Synthetic fibres-polymers; types of synthetic fibres; characteristics of synthetic fibres; plastics as materials of choice; plastics and the environment iii. Metals and non-metals-physical properties of metals and non-metals; chemical properties of metals and non-metals; uses of metals and non-metals iv. Acids, bases, and salts-chemical properties; strength of acids and bases; importance of pH in everyday life b. Atoms & molecules i. The structure of an atom – Thomson's model, Rutherford's model, Bohr's model, neutrons; valency; symbols of atoms of different elements; atomic number and mass number; isotopes and isobars; atomic mass ii. Molecules – molecules of elements; molecules of compounds; ion	86. Distinguishes natural and synthetic fibres. 87. Predicts the characteristics of synthetic fibres. 88. Categorises materials as metal and non-metal based on their properties. 89. Differentiates the uses of metal and non-metal in real life. 90. Examines the influence of pH in biological processes in day-to-day scenarios. 91. Justifies the laws of chemical combinations – laws of conservation of mass: laws of constant proportions. 92. Identifies acids and bases using different indicators (litmus paper, natural and chemical indicators). 93. Classifies compounds as acids and bases based on their reactions with – litmus solution, zinc metal and solid sodium carbonate etc. 94. Compares the different models of an atom. 95. Calculates the valency of a given compound/ion. 96. Differentiates between atomic and mass number, isotopes and isobars. 97. Classifies the molecules of elements and molecules of compounds. 98. Explains the valency of elements based on the atomic structure. 99. Calculates molecular mass using atomic mass values (element/ compound). 100. Describes how to measure the mass of a substance to calculate the number of moles. 101. Explains the covalent bond in carbon. 102. Classifies saturated and unsaturated carbon, chains, branches and rings. 103. Classifies saturated/unsaturated carbon compounds, such as alkanes, alkenes, alkynes, alcohols, carboxylic acids, ketones and aldehydes. 104. Defines homologous series prefixes of carbon compounds up to 10 carbon atoms and provides examples.

Content Domain	*Topics*	*Competencies*
	iii. Chemical formula – writing chemical formula; formula of simple compounds iv. Laws of chemical combination: Laws of constant proportions, laws of conservation of mass v. Molecular mass, formula unit mass and mole concept c. Matter in our surroundings i. Physical nature of matter ii. Characteristics of particles of matter iii. States of matter; changes in states of matter; effect of change of pressure; temperature d. Carbon and its compounds i. Allotropes of carbon, bonding in carbon – the covalent bond ii. Versatile nature of carbon-saturated and unsaturated carbon compounds; chains, branches, and rings; homologous series; nomenclature of carbon compounds iii. Chemical properties of carbon compounds iv. Important carbon compounds-ethanol and ethanoic acid: Properties of ethanol; properties of ethanoic acid v. Soaps and detergents e. Basic chemical reactions & equations i. Chemical equations-writing a chemical equation, balanced chemical equations. ii. Types of chemical reactions-combination reaction, decomposition reaction, displacement reaction, double displacement reaction, oxidation, and reduction. iii. Effects of oxidation reaction in daily life-corrosion, rancidity	105. Outlines the chemical properties of carbon compounds. 106. Lists the importance of ethanol and ethanoic acid. 107. Draws structures of simple alkanes, alkenes, alkynes, chloroethane, ethanol, ethanoic acid, ethanal (acetaldehyde) and propanone (acetone). 108. Distinguishes between an atom, molecule, element and a compound on the basis of their characteristics. 109. Identifies isotope/isobars from a list. 110. Finds the number of protons, neutrons, and electrons in a particular atom. 111. Differentiates between the three states of matter based on shape, intermolecular spaces, and continuous movement of particles. 112. Explains the effect of temperature change on melting, freezing, evaporation, condensation, and sublimation. 113. Differentiates between the three states of matter based on the continuous movement of particles and explains the effect of temperature on substances. 114. Outlines the properties of soaps and detergents. 115. Explains how a chemical equation is balanced. 116. Outlines the different types of chemical reactions. 117. Applies the knowledge of oxidation reaction in daily life.
4. The world of the living	a. Physiological processes in plants and animals	118. Classifies living organisms based on procurement of food, e.g., autotrophs, heterotrophs, saprotrophs, and parasites.

Content Domain	*Topics*	*Competencies*
	i. Nutrition-nutrition in plants: Autotrophic and heterotrophic mode of nutrition; parasites; saprotrophs ii. Nutrition in animals: Digestion and digestives system in human beings iii. Photosynthesis; symbiotic relationship iv. Respiration-aerobic and anaerobic respiration; human respiratory system; breathing v. Transportation-transportation in plants: Circulatory system in humans vi. Excretion: Excretion in plant and humans: excretory system in human beings vii. Reproduction in animals; modes of reproduction; sexual reproduction; male and female reproductive organs; fertilisation and development of embryo (humans); oviparous and viviparous animals; metamorphosis; asexual reproduction; adolescence and puberty viii. Reproduction in plants; sexual and asexual methods; male and female reproductive organs; cross and self-pollination; seed dispersal b. Cell, tissue i. Structure and functions of cell; cell wall; cell membrane; cytoplasm, nucleus; plastids; vacuoles, mitochondria; ribosomes; prokaryotic and eukaryotic cells; plant and animal cells ii. Animal tissues- epithelial; connective; muscular and nervous tissues iii. Plant tissue-meristematic and permanent tissues c. Control and coordination i. Growth dependent movements-phototropism; geotropism; chemotropism and hydrotropism	119. Recognises green plants as autotrophs and all non-green plants and animals as heterotrophs. 120. Evaluates the role of chlorophyll and carbon dioxide in the process of photosynthesis. 121. Identifies the function of digestive enzymes secreted by different digestive glands. 122. Identifies various organs that constitute the digestive system in human beings. 123. Differentiates between the organs comprising the human digestive system based on their functions 124. Explains the dependence of humans on oxygen for respiration. 125. Compares the mechanism of inhalation and exhalation during breathing. 126. Differentiates between photosynthesis and respiration. 127. Draws conclusion through experiment/activities that anaerobic respiration results in the release of carbon dioxide (CO_2) and alcohol. 128. Draws conclusion through experiment/activities that aerobic respiration results in CO_2 and water. 129. Describes the movement of blood flow inside the human body through arteries and veins via the heart. 130. Explains the composition of blood. 131. Identifies the role of various constituents of blood. 132. Identifies the tissues involved in the transportation of water and nutrients in plants. 133. Explains the role of transpiration in pulling water to great heights in tall trees. 134. Identifies the organ for filtering waste from the blood. 135. Arranges the organs of the excretory system in human beings. 136. Differentiates between types of asexual reproduction. 137. Elaborates on the process of fertilisation, pregnancy, and birth in humans. 138. Explains the functions of structures/organs/parts present in the human foetus. 139. Describes the process and significance of menstruation. 140. Relates physical and behavioural changes during puberty to hormonal regulation. 141. Explains sex determination in human beings. 142. Differentiates between oviparous and viviparous animals. 143. Distinguishes reproductive organs in humans based on their functions (male and female). 144. Outlines the key principles and processes of cloning. 145. Suggests ways to mitigate taboos/myths prevalent in society in terms of puberty/ menstruation/sex determination. 146. Distinguish between asexual and sexual reproduction in plants. 147. Differentiates between cross- and self-pollination. 148. Distinguishes and identifies reproductive organs in flowers. 149. Distinguishes reproductive organs in humans based on their functions. 150. Describes the methods of asexual reproduction in plants. 151. Describes seed dispersal in plants. 152. Traces the process of seed formation starting with pollination. 153. Locates the position of endocrine glands in the body.

Content Domain	*Topics*	*Competencies*
	ii. Growth independent movements- thigmotropism; plant hormones iii. The nervous system; nerve cells; human brain and spinal cord; reflex action and reflex arc d. Forest, environment i. Forest and wildlife – importance of forest; endemic species, red data book; causes and consequences of deforestation ii. Ecosystem: Its components and their relationships; food chains and food webs; biochemical cycles- nutrient cycles; ozone layer e. Health and diseases i. Significance of health: Personal and community issues ii. Disease and its causes: Infectious and non-infectious; means of spread iii. Prevention and treatment: Immunisation	154. Relates hormonal deficiency with diseases (diabetes, goitre etc.). 155. Recognises cells as the unit of life. 156. Demonstrates the presence of cells in living organisms (human cheek cells, onion peels, etc.). 157. Compares the structure and function of various cell organelles (cell wall, cell membrane, cytoplasm, nucleus, plastids, etc.) 158. Distinguishes the structure of prokaryotic and eukaryotic cells. 159. Identifies major cell organelles, such as the nucleus, vacuoles, chloroplast cell, membrane, and cell wall etc. from diagrams/temporary mounts/permanent slides etc. 160. Identifies tissues as a group of cells of the same origin. 161. Compares the structure, location and function of different animal tissues (epithelial, connective, muscular, nervous). 162. Plans experiments for identifying the type and structure of various animal tissues. 163. Identifies meristematic and permanent tissues as plant tissues. 164. Differentiates between meristematic and permanent tissues based on their location and function. 165. Compares different types of simple permanent tissues (parenchyma, sclerenchyma and collenchyma) based on their structure, function and location. 166. Explains the structural and functional differences between two types of complex permanent tissues (xylem and phloem). 167. Draws labelled diagrams of complex permanent tissues (xylem, phloem) and their associated elements. 168. Explains the interrelationship among plants, animals and human beings. 169. Analyses the importance of forests and the need to conserve them. 170. Names the endemic species of our state listed in the Red Data Book. 171. Describes the effect of deforestation on human beings, animals, and the environment. 172. Correlates the process of deforestation with the water cycle. 173. Explains the interrelationship among biotic and abiotic components of an ecosystem. 174. Analyses biotic and abiotic factors with the process of making vermicompost and principles of biological control w.r.t environment conservation. 175. Interprets interaction/consequences among organisms in a food chain. 176. Relates the significance of forest canopies to the water table and soil erosion. 177. Explains the principles of a wastewater treatment plant. 178. Describes environmental pollution (air, noise, and water pollution) and the means of controlling it. 179. Interprets graphs and data related to the prevalence of coliform bacteria in water. 180. Explains the 'greenhouse effect' in relation to global warming. 181. Analyses the flow of energy through various nutrient cycles, including carbon, oxygen, nitrogen and water cycles.

Content Domain	*Topics*	*Competencies*
		182. Differentiates between tropic and nastic movements in plants with relevant examples. 183. Identifies plants that show thigmotropism. 184. Interprets the role of neurons in responding to a stimulus. 185. Compares the structure, location and functions of the human brain and spinal cord. 186. Explains the mechanism of reflex arc in humans. 187. Distinguishes between infectious and non-infectious diseases with suitable examples. 188. Differentiates between acute and chronic diseases. 189. Identifies the medium/agents/carriers of disease based on symptoms. 190. Relates the kind of treatment to the type of pathogen.
5. Natural phenomena and natural resources	a. Lightning: Lightning safety b. Earthquakes: Causes of earthquakes; protection against earthquakes c. Thunderstorms and cyclones; safety measures d. Air: Components of air; air pollution its causes, sources and harmful effects of air pollution e. Water: Sources of water; water pollution – its causes, sources, and harmful effects f. Soil: Types of soil; soil erosion and soil conservation; soil pollution and its harmful effects	191. Explains lightning in terms of charges produced by rubbing. 192. Distinguishes types of charges. 193. Suggests measures to protect ourselves from lightning. 194. Justifies the need for earthing in buildings/houses. 195. Analyses the importance of lightning conductors. 196. Determines safety measures to be taken during earthquakes. 197. Identifies /locates the seismic zones in the map of India. 198. Describes movement of earth's plates. 199. Justifies the scientific causes of earthquakes. 200. Explains the formation of a cyclone. 201. Interprets the cause of a cyclone. 202. Determines the destruction caused by cyclones by citing examples. 203. Distinguishes between cyclone and thunderstorm. 204. Lists the safety measures to be taken during cyclones. 205. Identifies the advanced and latest technologies that help us to monitor cyclones. 206. Describes the composition of air. 207. Explains air pollution. 208. Determines the major sources of air pollution. 209. Interprets the harmful effects of air pollution. 210. Suggests ways to reduce air pollution. 211. Describes different sources of water. 212. Analyses the causes, sources and harmful effects of water pollution (from graphical or tabular data). 213. Suggests measures to reduce/avoid pollution. 214. Classifies different types of soil. 215. Explains soil erosion. 216. Justifies the need to conserve soil. 217. Lists the causes of soil pollution from farming, mining and industrial processes. 218. Analyses the harmful effects of soil pollution and ways in which to prevent it.
II. Pedagogical Issues/ Concepts		
1. Nature and Structure of Science	a. Science as a process and science as a body of knowledge.	219. Explains science education as a process and a body of knowledge. 220. Explains the meaning, nature, and scope of science education.

Content Domain	*Topics*	*Competencies*
	b. Development of science as a discipline. c. Understanding science as a subject at various levels (primary, secondary, higher). d. Development of scientific temper and ethics of science (validities).	221. Distinguish between the nature of science w.r.t other subjects. 222. Explains science as a social endeavour in terms of poverty, ignorance, and superstition. 223. Differentiates the objectives of teaching science at various stages of school education. 224. Relates scientific temper with the process of science. 225. Compares and contrasts between science and technology. 226. Classifies the different processes involved in studying science – observation and experimentation, testing and hypothesising. 227. Correlates between the cyclical nature of scientific development and process skills. 228. Applies stage-specific principles for scientific knowledge. 229. Evaluates a scientific method versus the scientific method. 230. Defines science as a composite discipline in working with hands and tools to design more advanced technology modules. 231. Identifies the two streams, academic and vocational, and their liberty and approach with appropriate rigour, and depth. 232. Emphasises experiment, appropriate technology, and investigative projects, strongly. 233. Applies academic honesty to speak against data fabrication and deliberate misrepresentation.
2. Science curriculum	a. Criteria for science curriculum and content organisation. b. Approaches to curriculum (integrated approach). c. Science curriculum at national level (NCERT).	234. Identifies the basic criteria of validity for an ideal science curriculum. 235. Relates the drawbacks of the existing science curriculum. 236. Categorises the steps of content organisation. 237. Selects the criteria for content organisation. 238. Names the educational theorists who advocated the integrated approach. 239. Evaluates the contributions of educational theorists. 240. Outlines the characteristics of the integrated approach. 241. Identifies the merits of the integrated approach. 242. Compares the content/conceptual flow. 243. Compares the relevance of activities/examples in elaborating a concept. 244. Applies the six validities of science in several classroom situations. 245. Aligns the core concepts for school science across grades in progression. 246. Identifies forward and backward linkages in the core concepts across grades. 247. Establishes linkages between streams of science and other subjects. 248. Lists examples of how a specific curricular objective, can relate to different concepts in science. 249. Justifies the progression of school science concepts across grades.
3. Approaches and method of teaching science	a. Experimentation. b. Lecture cum demonstration. c. Discussion. d. Inductive-deductive approach. e. Enquiry.	250. Evaluates age-appropriate activities and investigations. 251. Evaluates appropriate method to teach a science concept. 252. Locate errors and limitations in experimental set-up/procedures. 253. Distinguish between leading and probing questions.

Content Domain	*Topics*	*Competencies*
	f. Problem-solving. g. Object based observation (constructive approach).	254. Designs a lesson plan encompassing appropriate teaching methods. 255. Identifies the dos and don'ts while conducting experiments, e.g., precautions while handling fire or a blade etc. 256. Interprets different kinds of data sets relating to experiments/investigations/projects carried out in a science classroom, e.g., qualitative analysis, plotting data on graph etc. 257. Recognises common alternative conceptions arising in science classrooms, e.g., respiration vs photosynthesis, mass vs weight, element-compound-mixture etc. 258. Understands the importance of failures in experiments for scientific progress. 259. Understands the role of predicting, hypothesising and inferring in experiments. 260. Describes merits of the lecture-cum-demonstration method for certain concepts. 261. Uses the lecture-cum-demonstration method to teach science. 262. Analyses drawbacks of the lecture-cum-demonstration method. 263. Identifies appropriate use of the discussion method. 264. Relates different types of discussion methods with one another. 265. Selects appropriate use of the discussion method. 266. Defines inductive-deductive approach. 267. Predicts the difference between inductive and deductive approaches. 268. Chooses the correct example of the inductive approach. 269. Infers the given statement as that of inductive or deductive approach. 270. Modifies the given wrong statement about the inductive approach. 271. Recalls what type of method the enquiry method is. 272. Infers that the enquiry method increases the questioning skills in learners. 273. Chooses the merits of the enquiry method. 274. Relates the role of a teacher in the enquiry method of teaching. 275. Recalls the definition given by Skinner. 276. Identifies the steps of the problem-solving method. 277. Interprets the inductive approach of the problem-solving method. 278. Analyses the role of a teacher in problem-solving. 279. Understands the need for trial and error in solving problems. 280. Understands the need for material to abstract route of exploration for certain science concepts. 281. Applies object-based observation to trigger conceptual connections across topics. 282. Uses object-based observation towards triggering innovative and creative thinking. 283. Evaluates appropriate method to teach a science concept.

Content Domain	*Topics*	*Competencies*
4. Planning and learning resources for effective instruction in science	a. Instructional aids. b. Computer aided instruction. c. Open Education Resources (OER). d. Improvisations and science kits. e. Lesson plan and unit plan.	284. Identifies stage-specific instructional aids. 285. Analyses instructional aids for a given concept. 286. Evaluates instructional aids for a specific assessment purpose. 287. Defines Computer Assisted Instruction (CAI). 288. Identifies the purposes of CAI. 289. Evaluates the role of CAI for a specific content area. 290. Understands the need for open education resources. 291. Associates the OER with the aims of Sustainable Development Goals. 292. Evaluates low/no cost kits. 293. Applies local/contextual materials for preparing kits. 294. Understands the need for alternative and appropriate technology for creating science kits. 295. States the characteristic of a good lesson plan. 296. Identifies the steps of a lesson plan according to the Herbartian method. 297. Relates the usability of a lesson plan in the real environment. 298. Distinguishes between general and specific objectives. 299. Identifies criteria for selecting an appropriate resource (digital/non-digital) for teaching a concept. 300. Justifies the significance of 3D teaching aids (models, charts etc.). 301. Outlines the limitation/s of using models, e.g., scale, size, movement, material, etc. 302. Designs a contextual teaching aid in a classroom situation for a science concept. 303. Recognises the significance of using contextual learning resources in the science classroom (e.g., using existing knowledge and work done by the learners, linking community's traditional knowledge, using locally sourced materials and aids for science teaching etc.) 304. Describes the teaching objective and learning outcome of a concept. 305. Lists examples of how a specific curricular objective, can relate to different concepts in science.
5. Evaluation of learner progress	a. Tools and techniques (criterion-referenced test and non-criterion referenced test, checklist, rating scale, observation and anecdotal record, interview, rubrics). b. Achievement test in science (planning/blueprint, construction, try-outs, and evaluation). c. Diagnostic test. d. Assessment types (formative, summative). e. Types of questions (essay type, objective type, short answer test items, case-based items, assertions, and reason).	306. Tools and techniques (criterion- and non-criterion referenced tests, checklist, rating scale, observation and anecdotal record, interview, rubrics). 307. Identifies the tools and techniques of evaluation. 308. Defines criterion-referenced and non-criterion referenced tests. 309. Differentiates criterion-referenced and non-criterion referenced tests. 310. Classifies different tools and techniques of evaluation. 311. Identifies the features of the checklist, rating scale, observation and anecdotal record, interview, and rubrics. 312. Understands the need to co-evolve the assessment rubric with the learners at the beginning of a topic for certain age groups. 313. Understands how to design, use and interpret assessments (formative and summative). 314. Selects appropriate assessment techniques to evaluate student learning.

Content Domain	*Topics*	*Competencies*
		315. Devises different methods of assessment aligned to the objective of teaching a particular concept. 316. Applies assessment in science to develop process skills (observation, recording, classification, analysis, inference, communication and reporting, prediction etc.) in learners. 317. Applies assessment in science to develop scientific inquiry (problem-solving, investigation, critical thinking) in learners. 318. Derives assessment indicators from process skills. 319. Creates discreet and unambiguous assessment items for a concept. 320. Creates assessment items based on grade-appropriate learning outcomes. 321. Creates differentiated items for diverse learners in the classroom. 322. Suggests ways of assessing students when they are in places beyond the classroom (playground, field trip, excursion, survey). 323. Designs peer assessment activities and records that data. 324. Designs a scale with a set of points which describe the varying degree of an attribute being observed in the learner. 325. Designs assessment items that promote 21st-century skills, like creativity, curiosity, critical thinking, and communication. 326. Devises gender-sensitive assessment items that defeat gender stereotypes in science learning. 327. Understands the role of authentic assessment (projects, anecdotal records, portfolio, roleplay etc.) in science teaching. 328. Analyses the need for using rubrics as an assessment tool. 329. Selects and uses different tools of assessment. 330. Analyses a child's learning status and progress from a range of tools. 331. Identifies the steps involved in the process of constructing a blueprint. 332. Justifies the need for planning the blueprint. 333. Explains the importance of achievement tests in science. 334. Defines diagnostic test. 335. Identifies the features of a diagnostic test. 336. Justifies the necessity of diagnostic tests in the assessment of a child. 337. Identifies different types of questions. 338. Differentiates between different types of questions. 339. Identifies the features of different types of questions. 340. Analyses suitable question types for assessing a given science concept. 341. Evaluates the merits of different question types. 342. Understand the need for fairness in every question type. 343. Classifies the question types for the kind of assessment attempted.

Social Science

Cognitive Domains[11]

The competencies defined for the different disciplines of social science test a range of cognitive abilities namely Remember, Understand, Apply, Analyse and Evaluate. As the STET is a paper and pencil MCQ test, the cognitive domain 'create 'is not tested. These domains are defined based on the revised Bloom's Taxonomy by Anderson and Krathwol and adapted to the teaching of social science.

***Remember**:* This cognitive domain includes questions that test recall of facts and events, listing them chronologically, labelling of maps and diagrams, and locating geographical features (e.g., deserts, mountains, valleys, hills, coastal areas, oceans, lakes).

***Understand**:* The questions test identification of similarities and differences and classification based on observable and functional similarities. It includes explanation of natural as well as social phenomena. It asks for interpretation of different sources to create historical accounts, extract information available through a map's/globe's legend, and scale and connect the past with the self and with the present world.

***Apply**:* In this cognitive domain the emphasis is on questions that test application of concepts, methods, laws and theories in both unfamiliar contexts and concrete situations. This also includes using knowledge from various disciplines to arrive at a solution to social problems.

***Analyse**:* The questions in this cognitive domain test arranging and organisation of information, distinguishing between relevant and irrelevant sources, gathering, and analysing evidence (artefacts, documents and graphics) and issues of provenance, critically reading and weighing different viewpoints, dispelling misconceptions, citing evidence to support the claim, etc.

***Evaluate**:* This domain includes questions that test the ability to judge the value of a material for a stated purpose; the judgments are based on definite criteria, i.e., accepting or rejecting ideas based on standards. This will further include choosing appropriate examples, rationalising one's choice, making decisions, etc

Competencies

[11]Adapted from Central Board of Secondary Education. (2021). *Competency Framework Paper II: Central Teacher Eligibility Test.* New Delhi: Central Board of Secondary Education.

Content Domain	*Topics*	*Competencies*
I. Content		
1. Social and political life	a. Government i. Key elements of a democratic government: Equality and justice ii. Local government and administration	1. Defines the terms: apartheid, justice, equality, universal adult franchise, and civil rights movements. 2. Identifies • levels of local government • functionaries of the local government agencies • local names for various administrative agencies (e.g., the local terms used for the person responsible for maintaining land records) • different forms of government 3. Explains the need for government. 4. Describes the role of the gram sabha, gram panchayat, sarpanch, etc. 5. Describes the features of a democratic government. 6. Explains the reasons for conflict situations in society. 7. Describes the process of elections in the local bodies in rural areas. 8. Explains the importance of dignity. 9. Explains the different ways in which the government implements equality. 10. Applies the knowledge of the functions of local self-government, police, patwaris, tehsildars, and agencies at various levels to real-life situations 11. Analyses case studies/hypothetical situations in the context of justice, equality, and the right of women to property. 12. Analyses issues of inequality in other democracies, e.g., the United States of America (Rosa Parks). 13. Interprets sketches of khasra maps. 14. Justifies the need for special provisions for certain sections of society in the interest of equality and justice. 15. Examines the importance of the Hindu Succession Amendment Act, 2005.

Content Domain	*Topics*	*Competencies*
	b. Democratic rights i. Need for democracy ii. Rights in a democracy	16. Defines the terms: democracy, rights, enforceable, writ, Public Interest Litigation (PIL). 17. Identifies • features of democracy • fundamental rights provided in the Indian Constitution 18. Explains the need for democracy. 19. Explains why rights are necessary. 20. Describes the implications of the right to equality and other fundamental rights. 21. Explains the concept of 'reasonable restrictions' on the right to freedom. 22. Explains the situations in which reasonable restrictions are imposed upon the right to equality. 23. Explains the circumstances in which a PIL can be filed. 24. Applies the concept of democracy to distinguish features of democratic and non-democratic societies/governments. 25. Applies the concept of fundamental rights to identify daily real-life situations where they are infringed/violated. 26. Identifies the situations where reasonable restrictions can be placed on fundamental rights. 27. Analyses case studies and hypothetical situations to arrive at conclusions of infringement of fundamental rights. 28. Distinguishes between fundamental rights, constitutional rights and human rights. 29. Evaluates the need for special reservation for certain minority sections of society as a fundamental right and not an infringement of the right to equality as enshrined in the Constitution.
	c. Electoral politics i. Need for elections ii. System of elections	30. Defines the terms: electoral constituencies, general election, by-election, polling booth, ballot paper, Electronic Voting Machines (EVMs), rigging, voter turnout, incumbent, code of conduct. 31. Explains the stages of election: • voters' list • nomination of the candidates • election campaign • polling and counting of votes 32. Explains the role of the Election Commission (EC) in conducting a free and fair election. 33. Examines the need for an independent EC. 34. Analyses what makes an election democratic. 35. Analyses the challenges to free and fair elections. 36. Justifies the need for reserved constituencies. 37. Examines the outcomes of an election. 38. Interprets graphs to analyse:

Content Domain	*Topics*	*Competencies*
		• voter turnout amongst various social groups • a decline in voting in Europe and North America • participation in elections post 2004 39. Interprets political cartoons on elections.
	d. How the state government works i. Role of the government in health ii. Public and private health care services	40. Defines the terms: state, constituency, majority, ruling and opposition party, health. 41. Identifies Sustainable Development Goals (SDGs) to improve public health. 42. Explains the role of government in safeguarding the right to life for every person. 43. Explains how government functions, with reference to the ideas of representation, accountability, and public welfare. 44. Compares public and private health services. 45. Explains how Members of Legislative Assembly (MLAs) become ministers. 46. Analyses the approaches undertaken by state governments to combat health issues. 47. Examines the work of government at the state level.
	e. The Indian Constitution i. Guiding values of the Indian constitution and secularism ii. Parliament iii. Understanding laws	48. Defines the terms: Constitution, fundamental rights, secularism, separation of powers and rule of law. 49. Explains the key features of the Constitution. 50. Compares and contrasts the key features of the Constitution of India with the other constitutions of the world. 51. Explains the functions of the parliament and the role of the Lok Sabha and the Rajya Sabha. 52. Explains the parliamentary form of government. 53. Explains the process of how new laws come into being and the role of Parliament in making laws. 54. Analyses how the Indian Constitution was framed within a historical context. 55. Analyses the uniqueness of Indian secularism. 56. Interprets the major influence that the anti-colonial struggle had on the Indian democracy. 57. Examines the ideas of freedom, equality and participation in decision-making. 58. Evaluates the important role that people play in transforming a critical social issue into law.

Content Domain	*Topics*	*Competencies*
	f. Judiciary i. Criminal justice system ii. Law and social justice	59. Defines the terms: rule of law, appellate jurisdiction, judicial review 60. Identifies various rights that come under the ambit of the Right to Life in the Indian Constitution. 61. Identifies the key features of the criminal justice system. 62. Identifies the various laws that have been enacted for ensuring social justice. 63. Identifies the people/groups who are benefitted due to the passing of various laws, e.g., worker safety laws, minimum wages act, etc. 64. Sequences the steps followed in the criminal justice system. 65. Explains the role of the police, public prosecutor, and judge in criminal proceedings. 66. Explains the concept of Fair Trial. 67. Applies the knowledge of the concept of Public Interest Litigation (PIL). 68. Applies the knowledge of fair trial to identify real-life/hypothetical situations where a fair trial was given or denied. 69. Analyses the concept of an independent judiciary and links it with the concept of separation of powers between various organs of government. 70. Draws interlinkages between PIL and Justice for all. 71. Distinguishes between criminal law and civil law. 72. Distinguishes between cognizable and non-cognizable offences. 73. Interprets various slogans/posters to relate the concept of PIL and the duties of elected government towards fulfilling the rights of citizens. 74. Justifies the existence of certain laws in the interest of providing social justice, e.g., Minimum Wages Act. 75. Examines the relation between laws enacted for social justice and the enforcement of those laws, e.g., environmental laws exist but they are enforced in toto.

Content Domain	*Topics*	*Competencies*
	g. Understanding marginalisation i. Adivasis ii. Minorities	76. Defines the terms: marginalisation, adivasis, displaced, dalit and militarised. 77. Identifies the measures undertaken by the state and the central government to protect the rights of minorities and promote social justice. 78. Explains the reasons for the migration of the adivasi people to plantations in India and the world. 79. Explains the difference between social and economic marginalisation. 80. Explains Article 15 to strengthen the argument against untouchability. 81. Describes how minority groups have drawn on the fundamental rights enshrined in the Constitution. 82. Analyses what it means to be socially marginalised. 83. Analyses the consequences of the process of dispossession and displacement. 84. Differentiates between the terms, 'tribe' and 'caste'. 85. Examines how adivasis are stereotyped. 86. Determines the co-relation between development and adivasis. 87. Interprets songs and poems on the ethos of migration of the marginalised communities. 88. Examines the social and cultural dimensions of the concept of 'minority' vis-a-vis issues of power, access to resources etc. 89. Interprets data from different committees to infer the socio-economic conditions, literacy, and public employment of the minorities. 90. Examines how social marginalisation leads to ghettoisation. 91. Examines how marginalisation denies equal access to education and other resources. 92. Interprets Article 17 of the Constitution which abolishes untouchability. 93. Interprets the idea of purity over time by individuals through poems, songs and literature. 94. Examines how the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989 distinguishes crime at several levels: • modes of humiliation • actions that dispossess dalits and adivasis • crimes against Dalit and tribal women

Content Domain	*Topics*	*Competencies*
	h. Diversity and discrimination i. Understanding diversity and discrimination ii. Rural-Urban livelihoods iii. Private and public facilities	95. Identifies the economic sources of government for public facilities. 96. Compares rural and urban livelihoods. 97. Compares the conditions of big farmers and agricultural labourers. 98. Distinguishes between stereotype, prejudice, and discrimination. 99. Analyses inequality and discrimination in specific contexts. 100. Justifies the need for equality and the right to life. 101. Evaluates government initiatives to help farmers. 102. Defines the terms: identity, double work, invisible work, and de-valued.
	i. Gender: Women change the world i. Women's work and equality ii. Gender and politics	103. Identifies the work women do that breaks stereotypes. 104. Describes how education brings change in the lives of women. 105. Explains how campaigning has led to the making of certain laws. 106. Explains gender as a social construct. 107. Analyses women's work and equality. 108. Critiques gender discrimination. 109. Justifies women's movement. 110. Interprets educational statistics and data of annual drop-out rate of girls from marginalised groups.
2. History	a. Constructing history ('what, where, how and when', 'tracing changes through a thousand years', 'how, when and where')	111. Identifies the importance of chronology and its use in understanding history and historical events of geography, within a time period. 112. Illustrates the types of sources used to reconstruct history (regional, ethnographies, anthropological accounts, archaeology, inscriptions, texts, artefacts, crafts, material evidence, paintings, sculptures, coins, travellers' accounts and state archives, regional language texts, oral traditions). 113. Traces the continuity and change of historical sources in different periods of history. 114. Examines the various sources of symbols, scripts, and languages to understand the past. 115. Examines the major developments over a time period using sources with reference to change, continuity, cause, and effect. 116. Interprets maps, and historical sources with reference (in context or with the historical background of the past). 117. Interprets past events from sources with reference to change and continuity. 118. Analyses the problem of periodisation in interpreting history. 119. Examines the term 'Our Pasts'. 120. Interprets the word 'Hindustan' in a different historical and geographical context.

Content Domain	*Topics*	*Competencies*
		121. Examines how the clearing of forests and extension of agriculture resulted in complex societies.
	b. The earliest cities	122. Identifies the features of the distinctive life in early cities. 123. Identifies the archaeological evidence of urban centres. 124. Locates important cities on a given map. 125. Outlines the different theories for the decline of civilization. 126. Examines the drainage system, great bath, upper town, and the lower town which helps to understand social differences in the Harappan civilization. 127. Analyses the different practices of the burial system showing the social division in the Harappan society. 128. Examines the reasons why civilizations developed in a particular geography. 129. Examines why the theory of surplus value led to the formation of cities. 130. Examines the various sources, like inscriptions, old monuments, bricks, painted pottery, seals, special beads, and copper tools that are used by archaeologists to understand the Harappan
	c. New questions and ideas	131. Defines the terms: gana, vihara 132. Identifies the new ideas that came up in the Indian subcontinent 2500 years ago. 133. Identifies the six schools of philosophy. 134. Describes the different systems of ashrama: brahmacharya, grihastha, vanaprastha and sannyasa mentioned in the vedas. 135. Summarises how Lord Buddha and Mahavira tried to spread messages of their religion to the people. 136. Explains the importance of the sangha and monasteries in Buddhism and Jainism. 137. Analyses the origin of the varna system and its implication in the specific time period. 138. Explains the rules made for the Buddhist sangha in Vinaya Pitaka. 139. Examines how the emergence of Buddhism and Jainism posed a challenge to brahmanism. 140. Analyses the religious transformation which took place after the introduction of a new religious belief system. 141. Examines the reasons for the emergence of new ideas and thoughts (with reference to this period)

Content Domain	*Topics*	*Competencies*
	d. Ashoka, the emperor who gave up war	142. Defines the term 'dynasty'. 143. Identifies the extent of the Mauryan Empire on a map by identifying locations where inscriptions were found. 144. Explains how inscriptions are used as sources in the Mauryan period. 145. Traces change and continuity in administration from Chandragupta Maurya to Ashoka. 146. Distinguishes between an empire and a kingdom based on the period of study. 147. Analyses with evidence on whether the structure of the Mauryan administration strengthened the empire. 148. Examines Ashoka's inscriptions as an important source of information to know the past. 149. Examines Ashoka's policy of dhamma and the problems it sought to solve.
	e. The Delhi sultans	150. Defines the terms: tarikh, tawarikh, iqta, samantas. 151. Identifies the importance of coins, inscriptions, architecture, manuscripts, and accounts of the ruler written by scholars and foreign travellers. 152. Identifies the reason to reinforce the idea of community in the Delhi Sultanate. 153. Describes the development of political institutions, and relationships amongst rulers in the 11th century. 154. Explains how travellers' accounts, court chronicles, and historic buildings are used to write history. 155. Explains strategies of military control and resource mobilisation drawing evidence from the Tughlaq period. 156. Traces the changes of Delhi from a garrison to an empire. 157. Analyses the impact of the invasion of Mongols on the Delhi Sultanate. 158. Evaluates the strong administrative system as the main reason for the consolidation of the Delhi sultanate. 159. Differentiates between the administrative policies of Ala-ud-din Khilji and Mohammad-bin-Tughlaq.

Content Domain	*Topics*	*Competencies*
	f. The Mughal empire	160. Identifies the features of the Mughal administration under Akbar. 161. Identifies the main source of income of the Mughal empire. 162. Explains the Mughal tradition of succession. 163. Explains how the Battle of Panipat marked the beginning of the Mughal Empire and the end of the Delhi Sultanate. 164. Explains Din-Ai-Elahi and its role in the spread of the message of 'oneness of all'. 165. Explains the Mansabdari system and the relationship between mansabdars and jagirs. 166. Explains the reason for the abolition of Jaziya taxes under Akbar. 167. Explains how Akbarnama and Ain-i-Akbari are used to reconstruct history. 168. Explains the Zabt system under Todarmal. 169. Analyses the causes and effects of the vast expansion and ultimate disintegration of the Mughal Empire. 170. Examines the importance of revenue and Mansabdari for the stability of the Mughal Empire. 171. Evaluates how peasants were vital for the economy of the Mughal Empire. 172. Analyses the rise of new political groups, such as the Sikhs, Rajputs, Marathas, later Mughals, Nawabs of Awadh and Bengal and Nizam of Hyderabad in the 18th century.
	g. From trade to territory	173. Defines the term: mercantile, factors, farmans, nabobs. 174. Identifies the importance of the charter issued by Queen Elizabeth I. 175. Describes how Mysore became powerful under Haidar Ali and Tipu Sultan. 176. Explains the reasons for the fierce battle between the European trading companies in this period. 177. Explains the system of a subsidiary alliance and doctrine of lapse in gaining paramountcy for the East India Company. 178. Explains the effects of the battle of Plassey and Buxar on India. 179. Trace change and continuity in the institution of the army from the Mughals to the East India Company. 180. Examines the decline of Delhi as an effective political and administrative centre after the death of Aurangzeb. 181. Distinguishes between the three Anglo-Maratha Wars. 182. Analyses the differences in the administration of the Indian rulers and the East India Company. 183. Critiques the effect of the Zamindari system on rural lives.

Content Domain	*Topics*	*Competencies*
		184. Evaluates the reason behind the loss of revenue in Bengal. 185. Distinguishes the different ways in which European trading companies expanded in India. 186. Examines the transformation of the East India Company from a trading company to a colonial power.
	h. When people rebel	187. Identifies the origin of the revolt of 1857 and the extent of its spread. 188. Identifies the nature of participation among different social groups in the revolt of 1857. 189. Defines the term 'mutiny'. 190. Explains the condition of the peasants and sepoys under the company's rule. 191. Explains the effect of subsidiary alliances on the Indian states. 192. Describes the contributions of Rani Lakshmibai and Tatya Tope in the revolt against the Company. 193. Analyses the effect of westernisation on Hindu society during the Company's rule. 194. Distinguishes between the main causes and immediate causes of the Revolt of 1857. 195. Examines the reasons for the failure of the Revolt of 1857. 196. Examines how a mutiny became a popular rebellion.
	i. Women, caste, and reform	197. Identifies various laws that have been enacted for the upliftment of Indian society. 198. Explains the contribution of Raja Ram Mohan Roy in opposing the caste system. 199. Explains why Gandhiji opposed a separate electorate for the Harijans. 200. Explains BR Ambedkar's contribution as a caste reformer. 201. Explains how autobiographies, biographies and literature can be used to reconstruct the histories of women. 202. Explains the contributions of Brahmo Samaj and Prarthana Samaj for the upliftment of society. 203. Evaluates how the new laws affected women's lives and the reasons why reformers focused on women's issues. 204. Examines the impact of the caste system on society through the biographies and writings of people who criticised it and called for a reform of the caste system. 205. Examines the reasons why caste was at the core of most projects of social reform in the 19th century. 206. Examines the restrictions imposed on the untouchables.

Content Domain	*Topics*	*Competencies*
	j. Nationalism in India	207. Defines the terms: sovereign and repeal. 208. States the economic effects of the Non-cooperation Movement. 209. Identifies the role of various social and political movements in the growth of nationalism. 210. Traces the emergence of the national movement and the formation of the Indian National Congress (INC). 211. Explains the meaning of the term Satyagraha. 212. Explains the significance of the image of Bharat Mata in the national movement. 213. Explains the reason for calling off the Non-cooperation Movement by Gandhiji. 214. Describes how icons and symbols of India developed a sense of collective belonging during the freedom struggle in India. 215. Explains the circumstances which led to the Jallianwala Bagh Massacre. 216. Explains the role of women in the Civil Disobedience Movement. 217. Explains how the Freedom Struggle helped in the creation of the Indian Constitution. 218. Explains the reasons for the Partition of Bengal. 219. Explains how Mahatma Gandhi was perceived by different groups of people in India. 220. Explains the reason for the breaking of the Salt Law by Mahatma Gandhi. 221. Distinguishes between Non-cooperation Movement and Civil Disobedience Movement. 222. Analyses how World War I helped in the growth of the Indian National Movement. 223. Analyses the reasons for the growth of mass nationalism post-1919. 224. Analyses the events of the Indian National Movement from 1919-21. 225. Examines the changing circumstances and nature of the National Movement from the 19th to the 20th century. 226. Analyses the course of the National Movement from 1940 to 1947.

Content Domain	*Topics*	*Competencies*
3. Geography	a. Planet: earth in the solar system, movement of the earth – rotation and revolution	227. Defines the terms associated with the solar system: celestial bodies, constellations, galaxy, universe, orbit, comet, meteor, asteroid, geoids satellite etc. 228. Identifies planets from a diagram (of the solar system) according to their distance from the sun. 229. Defines terms associated with the movement of the earth: rotation, revolution, orbital plane, circle of illumination, angle of inclination, leap year, elliptical orbit, summer and winter solstice, vernal and autumnal equinox etc. 230. Describes the characteristics of the sun, each planet, and moon. 231. Compares between stars, planets, satellites, asteroids, and meteoroids. 232. Explains the effect of earth's rotation and revolution on the planet earth. 233. Compares summer and winter solstice. 234. Analyses the reason why only one side of the moon is visible from the earth. 235. Analyses the reasons for differences in seasons between hemispheres. 236. Infers the season of a place/hemisphere based on the position of the earth and sun. 237. Infers the duration of day and night of a place based on the position of the earth and sun. 238. Evaluates why earth is a unique planet. 239. Examines why life would not have been possible if the earth was stationary.
	b. Globe and maps: Latitudes and longitudes, components of a map, difference between sketch and maps, types of maps and interpretation of maps	240. Defines terms associated with globes and maps: axis, equator, prime meridian, grid, standard meridian. 241. Identifies: • components (elements) of a map • conventional symbols used in a map • relative direction of places on a map 242. Identifies the latitudinal and longitudinal extent of Sikkim. 243. States the important latitudes and their angular distance from the equator (degrees). 244. Compares a map with a globe. 245. Classifies different types of maps. 246. Explains the features of latitude and longitude. 247. Compares the different heat zones of the earth (torrid, temperate and frigid). 248. Compares between local time and standard time. 249. Explains the importance of the International Date Line. 250. Calculates the time of a place with the help of a given longitude. 251. Calculates the actual distance between places from a map. 252. Distinguishes between:

Content Domain	*Topics*	*Competencies*
		• sketch, map and plan • large- and small-scale maps 253. Draws relation between: • latitude and climate of a place • longitude and time 254. Examines the need for standard time. 255. Evaluates the need for multiple time zones for some countries. 256. Reads and interprets maps.
	c. Domains of the earth i. Lithosphere: Interior of the earth, rocks and minerals, earth movements and major landforms ii. Atmosphere: Composition, structure of the atmosphere, elements of weather and climate iii. Hydrosphere: Fresh and saline, distribution of major water bodies, ocean waters and their circulation, tides	257. Defines the terms: lithosphere, continents, ocean basins, strait, isthmus, peninsula, atmosphere, hydrosphere and biosphere. 258. Identifies the different layers of the earth's interior. 259. Names the major constituents of the earth's atmosphere. 260. States the percentage of distribution of water bodies (fresh and saline) on earth. 261. Explains the meaning of ecosystem. 262. Describes the difference between rocks and minerals. 263. Compares igneous, sedimentary and metamorphic rocks. 264. Categorises landforms produced by 'internal' and 'external' processes. 265. Explains the formation of landforms produced by different agents of erosion (river, wind, glacier and sea). 266. Explains the difference between mountains, plateaus and plains. 267. Classifies mountains according to their formation. 268. Describes the structure of the earth's atmosphere. 269. Explains the difference between weather and climate. 270. Compares waves, tides and ocean currents. 271. Describes the difference between permanent winds, seasonal winds and local winds. 272. Classifies types of rainfall. 273. Draws interrelationship between the four realms (domains) of the earth. 274. Draws relation between the different landforms and the peoples' way of living. 275. Draws interlinkages between the different elements of weather (temperature, air pressure and wind system, moisture). 276. Analyses the reasons for variation in climate from place to place. 277. Analyses the importance of tides and ocean currents on human life. 278. Examines the impact and human action resulting in global warming.

Content Domain	*Topics*	*Competencies*
	d. Resources i. Types, distribution, utilisation, and conservation ii. Land and soil, water, minerals, and power resources iii. Agriculture – types, patterns, major crops iv. Industries – classification based on size, raw materials, ownership; major industries; and their locations	279. Defines terms associated with resources: biotic, abiotic, renewable, non-renewable, ubiquitous, sustainable development, national parks, wildlife sanctuaries, biosphere reserves, ore, arable land. 280. Identifies the different layers in a soil profile. 281. Mentions the factors affecting soil formation. 282. States the factors that determine the land use pattern of a place. 283. Identifies different methods of mineral extraction. 284. Explains the importance of resources in our life. 285. Classifies different types of resources. 286. Categorises the different types of natural vegetation. 287. Explains the land-use pattern in Sikkim. 288. Explains the advantages and disadvantages of the use of conventional/non-conventional sources of energy. 289. Describes the difference between biogas and natural gas. 290. Compares between agriculture, sericulture, pisciculture, viticulture and horticulture. 291. Categorises different types of farming. 292. Explains the difference between food crops, cash crops and beverage crops. 293. Explains the factors which have contributed to the development of orange plantations in Sikkim. 294. Compares agricultural development in India with other developed countries. 295. Compares 'farm system' with 'industrial system'. 296. Explains the factors influencing the location of industries. 297. Categorises different types of industries. 298. Analyses reasons for degradation/scarcity of resources. 299. Analyses the role of natural vegetation and wildlife in maintaining balance in the ecosystem. 300. Analyses cause of water scarcity in different parts of India. 301. Analyses the variation in cropping patterns in different regions. 302. Justifies judicious use of resources for sustainable development. 303. Interprets data on land use patterns of several countries and relates them with their probable economic activities. 304. Examines the different scientific techniques (mitigation mechanism) adopted to conserve resources.

Content Domain	*Topics*	*Competencies*
	e. Human resources i. Composition, population change, distribution, and density ii. Settlement, transport, and communication	305. Defines the terms associated with population: density of population, birth rate, death rate, growth rate, emigration and immigration, and population composition. 306. Identifies the different forms of mass media. 307. Describes the difference between the types of migration (push and pull) and its impact on population growth and the economy. 308. Classifies different types of settlements. 309. Explains the need for transport and communication for the development of a country. 310. Analyses the reasons for unequal distribution of population in India and the world. 311. Analyses the causes for the variation in population growth rate across the world. 312. Interprets Population Pyramid to perceive the structure and composition of the population of a country. 313. Interprets graphs showing the growth of population to examine the patterns of population change.
	f. India i. Locational setting ii. India's neighbours iii. Major physiographic divisions iv. Climate: Factors, major seasons v. Drainage: Major rivers and tributaries, pollution, and its control vi. Natural vegetation: Types and distribution vii. Wildlife: Major species, distribution, and conservation	314. States the latitudinal and longitudinal extent of India. 315. States the location, extent and boundaries of the neighbouring countries of India. 316. Explains the diversity in India's physical divisions. 317. Compares: • Himalayas (Kashmir and Himachal Himalayas, Kumaon Himalayas) with Eastern Himalayas (Nepal and Assam Himalayas) • Himadri, Himachal and Shiwalik • Western Ghats and Eastern Ghats • West Coastal Plain and East Coastal Plain • The Himalayan and Peninsular rivers • East flowing and west flowing rivers of Peninsular Plateau 318. Explains the mechanism of Indian monsoon. 319. Classifies the types of natural vegetation found in India. 320. Distinguishes the life of the people (food, house types, clothing, economic activities etc.) in different physiographic divisions of India: Himalayan region, the Northern Plain, the Peninsular Plateau, Coastal Plains, the Indian Desert. 321. Analyses reasons for climatic variations in different parts of India. 322. Draws interlinkage between the type of vegetation in an area with its relief (land and soil) and climate. 323. Analyses the reasons for water pollution in India.

Content Domain	*Topics*	*Competencies*
		324. Evaluates the effect of monsoon on the socio-cultural and economic life of the people in India. 325. Evaluates the importance of forests and wildlife on the ecosystem.
II. Pedagogical Issues/ Concepts		
1. Nature and objectives of social science	a. Meaning and nature of social science b. Objectives of teaching social science c. Approaches to teaching social science curriculum: discipline-based, interdisciplinary and integrated, constructivism	326. Defines the nature of social science. 327. Explains the aims and objectives of teaching social science. 328. Applies the knowledge of nature and objectives of social science in the classroom teaching. 329. Selects appropriate approaches for teaching social science. 330. Distinguishes between different approaches of teaching social science curriculum. 331. Examines the need of teaching social science at elementary level. 332. Evaluates the implication of the constructivist approach in classroom teaching.
2. Strategies or methods of teaching social science	a. Project b. Experimentation c. Storytelling d. Survey e. Picture or graphical interpretation f. Interview g. Group work h. Inductive and deductive i. Source method. Dramatisation	333. Explains the significance of group work in the classroom. 334. Applies different methods of teaching social sciences. 335. Analyses the different strategies of teaching social science.
3. Teaching-learning resources	a. Community, e.g., mall, market, post office, hospital, tailor, farmer, bank, agricultural land etc. b. Audio-visual aids like chart paper, television, mobile, laptop, radio etc. c. ICT integration/digital resources d. Storybooks, literature, non-fiction, political cartoons, newspaper clippings, advertisement, maps e. Field trips	336. Identifies community as a resource for teaching and learning. 337. Applies the different methods of teaching-learning resources in real life situations. 338. Examines the barriers in the proper utilization of ICT/digital resources.

Content Domain	*Topics*	*Competencies*
4. Assessment	a. School-based assessment i. Picture reading ii. Experimentation iii. Project work iv. Drawing and craftwork b. Approaches of assessment i. Assessment of learning (summative) ii. Assessment for and as learning (formative) c. Types of assessment i. Individual assessment ii. Group assessment iii. Self-assessment iv. Peer assessment v. Placement assessment vi. Diagnostic assessment d. Assessment tools and techniques i. Continuous comprehensive evaluation ii. Observation iii. Written and oral test iv. Open book examination v. Rubrics, checklist, rating scales	339. Defines school-based assessment. 340. Describes different types of assessments to measure the attainment of competencies of students. 341. Examines the need of evaluation in school. 342. Distinguishes between 'of' learning, 'for' learning and 'as' learning. 343. Examines the importance of summative and formative assessments in the overall growth of the student. 344. Determines which assessment is appropriate in the overall assessment of the student. 345. Distinguishes between individual, group, self and peer assessment. 346. Evaluates the importance of diagnostic assessment. 347. Identifies different tools and techniques of assessments. 348. Determines under which situation the different tools and techniques of assessment are used. 349. Evaluates the implication of continuous comprehensive evaluation in the overall learning outcome of the students.

Approach to Blueprint

Blueprint is a planning document that helps map a balanced distribution of questions testing multiple competencies across content domains. Prior to every test development process, it is necessary to develop a fresh blueprint. While specific distributions might vary in every cycle, certain broad criteria could remain fixed as follows:

Content distribution	• Subject-wise stipulated distribution of content and pedagogy questions as per syllabus
Cognitive level distribution	• 50% questions pitched at 'remember' and 'understand' cognitive level • 50% questions pitched at 'apply', 'analyse', and 'evaluate' cognitive level
Difficulty level distribution	• 30% questions pitched at low difficulty level • 40% questions pitched at moderate difficulty level • 30% questions pitched at high difficulty level

Template for Blueprint

Content domain		***Cognitive Level***					***Total***
		Remember	***Understand***	***Apply***	***Analyze***	***Evaluate***	
Knowledge of Subject Matter							
Pedagogical content knowledge							
TOTAL							

Note*: All are multiple-choice items of one (1) mark each.*

Distribution of difficulty level: Easy – , Moderate – , Difficult–

Assessment Framework –

Paper I & Paper II