# SECONDARY SCHOOL CURRICULUM
## 2023-24


**CENTRAL BOARD OF SECONDARY EDUCATION**

Academic Unit, Shiksha Sadan, 17, Rouse Avenue, New Delhi-110 002

Secondary School Curriculum 2023-24

Class IX-X

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# THE CONSTITUTION OF INDIA[1]

## PREAMBLE

**WE, THE PEOPLE OF INDIA,** having solemnly resolved to constitute India into a [1]**[SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC]** and to secure to all its citizens :

**JUSTICE,** social, economic and political;

**LIBERTY** of thought, expression, belief, faith and worship;

**EQUALITY** of status and of opportunity; and[2] to promote among them all

**FRATERNITY** assuring the dignity of the individual and the[2] [unity and integrity of the Nation];

**IN OUR CONSTITUENT ASSEMBLY** this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

1. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "Sovereign Democratic Republic" (w.e.f. 3.1.1977)
2. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "unity of the Nation" (w.e.f. 3.1.1977)

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# THE CONSTITUTION OF INDIA

## Chapter IV A

## FUNDAMENTAL DUTIES

### ARTICLE 51A

**Fundamental Duties -** It shall be the duty of every citizen of India-

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;

[1](k) who is a parent or guardian to provide opportunities for education to his/her child or, as the case may be, ward between age of six and forteen years.

1. Ins. by the constitution (Eighty - Sixth Amendment) Act, 2002 S.4 (w.e.f. 12.12.2002)

# भारत का संविधान

## [1] उद्देशिका

हम, भारत के लोग, भारत को एक सम्पूर्ण [1]प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य बनाने के लिए, तथा उसके समस्त नागरिकों को:

सामाजिक, आर्थिक और राजनैतिक न्याय,
विचार, अभिव्यक्ति, विश्वास, धर्म
और उपासना की स्वतंत्रता,
प्रतिष्ठा और अवसर की समता
प्राप्त कराने के लिए [2]
तथा उन सब में व्यक्ति की गरिमा
[2]और राष्ट्र की एकता और अखंडता
सुनिश्चित करने वाली बंधुता बढ़ाने के लिए

दृढ़संकल्प होकर अपनी इस संविधान सभा में आज तारीख 26 नवम्बर, 1949 ई॰ को एतद्द्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

1. संविधान ( बयालीसवां संशोधन ) अधिनियम, 1976 की धारा 2 द्वारा ( 3.1.1977 ) से "प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य" के स्थान पर प्रतिस्थापित।
2. संविधान ( बयालीसवां संशोधन ) अधिनियम, 1976 की धारा 2 द्वारा ( 3.1.1977 ) से "राष्ट्र की एकता" के स्थान पर प्रतिस्थापित।

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### भाग 4 क

## मूल कर्तव्य

**51 क. मूल कर्तव्य** – भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह –

(क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आदर करे;

(ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;

(ग) भारत की प्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण रखे;

(घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;

(ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभाव से परे हों, ऐसी प्रथाओं का त्याग करे जो स्त्रियों के सम्मान के विरुद्ध हैं;

(च) हमारी सामासिक संस्कृति की गौरवशाली परंपरा का महत्त्व समझे और उसका परिरक्षण करे;

(छ) प्राकृतिक पर्यावरण की जिसके अंतर्गत वन, झील, नदी, और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणी मात्र के प्रति दयाभाव रखे;

(ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;

(झ) सार्वजनिक संपत्ति को सुरक्षित रखे और हिंसा से दूर रहे;

(ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करे जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई उंचाइयों को छू ले;

[1](ट) यदि माता-पिता या संरक्षक है, छह वर्ष से चौदह वर्ष तक की आयु वाले अपने, यथास्थिति, बालक या प्रतिपाल्य के लिये शिक्षा के अवसर प्रदान करे।

1. संविधान ( छयासीवां संशोधन ) अधिनियम, 2002 की धारा 4 द्वारा प्रतिस्थापित।

## 1. PRINCIPLES OF THE CBSE CURRICULUM

### 1.1 CBSE Curriculum

The curriculum in broad term reflects nation's shared vision of education encompassing local, national and global needs and expectations. Empirically, it may be regarded as the sum total of a planned set of educational experiences provided to a learner by a school to attain stipulated competencies using specified content, pedagogical practices and assessment guidelines etc. CBSE's curriculum strives to provide opportunities for students to achieve excellence in learning as envisioned in the National Education Policy-2020.

### 1.2 Salient Features of the CBSE Secondary School Curriculum

The Curriculum prescribed by CBSE strives to:

i. provide ample scope for holistic i.e., physical, intellectual and social development of students;
ii. emphasize constructivist rather than rote learning by highlighting the importance of hands-on experience;
iii. enlist general and specific teaching and assessment objectives to make learning competency-based and attain mastery over laid down competencies;
iv. encourage the application of knowledge and skills in real-life problem-solving scenarios;
v. uphold the 'Constitutional Values' by encouraging values-based learning activities;
vi. promote 21st Century Skills, Life Skills, Financial Literacy, Digital Literacy, Health and Wellness, Road Safety, Citizenship Education, Disaster Management and multilingualism;
vii. integrate innovations in pedagogy such as experiential, activity centered, joyful learning, Sport & Art-Integrated Learning, toy-based pedagogy, storytelling, gamification etc. with technological innovations (ICT integration) to keep pace with the global trends in various disciplines;
viii. promote inclusive practices as an overriding consideration in all educational activities;
ix. enhance and support learning by different types of assessments; and
x. strengthen knowledge and attitude related to livelihood skills;
xi. foster multilingual and multicultural learning and national understanding in an interdependent society;
xii. integrate environmental education in various disciplines from classes I- XII.

### 1.3 Curriculum Areas at Secondary Level

CBSE envisions the all-round development of students in consonance with the holistic approach to education and, therefore, has done away with artificial boundaries between the co-curricular and the curricular domains.

Secondary Curriculum provides students with a broad and balanced understanding of subjects including languages, Mathematics, Science, and Social Science to enable students to communicate effectively, analyse and interpret information meaningfully, make informed decisions, construct their worldview in alignment with constitutional values, and progress smoothly to be productive future citizens. The recent focus of CBSE is on developing 21st-century skills in settings where each student feels independent, safe, and comfortable with learning. The Board hopes that schools will try to align the curriculum in a way children feel more connected to it and employ their learning in real-life contexts. To achieve this aim, it is essential that children acquire adequate knowledge and skills in other core areas like Health and Physical Education, Life Skills, Values Education, Art Education, Financial Literacy, Digital Literacy, and Work Education.

In an operational sense, the secondary curriculum is learner-centered with school being a place where students would be acquiring various skills; building self-concept, a sense of enterprise, aesthetic sensibilities, and sportsmanship. Therefore, for the purpose of fostering core competencies in learners, this curriculum encompasses major learning areas as under:

| S. No. | Subject | Nature |
|---|---|---|
| 1 | Languages 1 | Compulsory |
| 2 | Languages 2 | |
| 3 | Social Science | |
| 4 | Mathematics | |
| 5 | Science | |
| 6 | Skill based Subject/ Elective Subject | Optional |
| 7 | Language 3 | Optional |
| 8 | Health and Physical Education | Compulsory Subjects having only school based internal assessment |
| 9 | Work Experience | |
| 10 | Art Education | |

**i. Languages**

Languages include Hindi, English and 38 other languages. The curricula in languages focus on listening, speaking, reading and writing skills and, hence, develop effective proficiencies in all these areas. Learners use language to comprehend, acquire and communicate ideas in an effective manner. CBSE also encourage schools to provide a multilingual and multicultural experiences to promote national integration.

**ii. Social Science**

Social Science (Geography, History, Economics and Political Science) intends to make learners understand how people behave, interact and influence the world within their cultural, geographical and historical milieus and gain in-depth knowledge, attitude, skills and values necessary to bring about transformation for a better world. It aims to develop the ability to analyse complex social, political, historical, economic and environmental issues, think critically, assess different solutions, understand different perspectives, and effectively communicate information. Social Science includes the learning of history and culture, geographical environment, global institutions, constitutional values and norms, politics, economy, interpersonal and societal interactions, civic responsibilities and the incorporation of the above-mentioned learning. Learners appreciate and value everyone's right to feel respected and safe, and, also understand their Fundamental Rights and Duties and behave responsibly in the society.

**iii. Science**

Science: (Biology, Chemistry and Physics) seeks to explain the rules that govern the natural phenomenon through scientific methods. The focus is on knowledge and skills to develop a scientific temper and to use and apply scientific knowledge for improving the quality of life. The Curriculum promotes the ability to engage with science related issues, and with the ideas of science, as a reflective citizen by being able to explain phenomena scientifically, evaluate and design scientific enquiry, and interpret data and evidence scientifically.

Students understand the importance of to apply scientific knowledge in the context of real-life situations and gain competencies that enable them to participate effectively and productively in life.

**iv. Mathematics**

Mathematics is the abstract science of number, quantity, and space, either as abstract concepts, or as applied to other disciplines such as sciences, technology and engineering. Mathematics includes acquiring the concepts related to number sense, operation sense, computation, measurement, geometry, probability and statistics, the skill to calculate and

organize, the ability to apply this Knowledge and acquired skills in their daily life and the skills to think mathematically. It also includes understanding of the principles of reasoning and problem solving. Children learn to rationalize and reason about pre-defined arrangements, norms and relationships in order to comprehend, decode, validate and develop relevant patterns Mathematics is offered at two different levels i.e. Mathematics (Basic) & Mathematics Standard to suit needs of different learners.

**v. Skill Electives**

According to the National Education Policy 2020 aims to overcome the social status hierarchy associated with vocational education and integration of vocational education into mainstream education in all educational institutions in a phased manner. Beginning with vocational exposure at early ages in middle and secondary school, CBSE has started quality vocational education through 12-hour modules for classes VI-VIII. In secondary classes Board offers variety of competency-based subjects under NSQF like Retail, Information Technology, Marketing & Sales, Banking, Finance, AI etc. Choosing any one Skill subject at secondary level can helps the child to pursue what truly interests or pleases him or her. This liberty promotes a sense of self-esteem in accepting one's own talents and strengths.

CBSE is actively facilitating the Skill Hubs initiatives in its schools and also looking forward to operationalise National Credit Framework (NCrF) to enable the integration of academic and vocational domains to ensure flexibility and mobility between the two.

The curriculum and the study material for the Skill Electives is available on the CBSE academic website under the tab 'Skill Education' and can be accessed through the link: http://cbseacademic.nic.in/skilleducation. html.

**vi. Art Education**

It entails instruction in various art forms (visual as well as performing) with an aim to help children develop an interest for arts and encourage them to enthusiastically participate in related activities, thus, promoting abilities such as imagination, creativity, valuing arts and cultural heritage. In addition, Arts should be integrated with other subjects to promote creative thinking and expression

**vii. Health and Physical Education**

It focuses on holistic development, both mental and physical, understanding the importance of physical fitness, health, wellbeing and the factors that contribute to them. Focus of this area is on helping children develop a positive attitude and commitment to lifelong, healthy active living and the capacity to live satisfying, productive lives with the help of health management, indigenous sports, Yoga, NCC, self-defence, fitness and life style choices.3

**viii. Work Experience**

The Work Experience has been subsumed in the Health and Physical Education; however, it is an integral part of the curriculum and is given as much as focus as Health and Physical Education.

### 1.4 Integrating All Areas of Learning:

All these eight areas are to be integrated with each other in terms of knowledge, skills (life and livelihood), comprehension, values and attitudes. Children should get opportunities to think laterally, critically, identify opportunities, challenge their potential and be open to new ideas. Children should be engaged in practices that promote physical, cognitive, emotional and social development and wellbeing, connect different areas of knowledge, application and values with their own lives and the world around them. The holistic nature of human learning and knowledge should be brought forth while transacting the curriculum to make them good citizens who can contribute in making the world a happy place.

## 2. IMPLEMENTATION OF CURRICULUM

### 2.1 School Curriculum Committee

The Board mandates that all schools must setup a School Curriculum Committee comprising teachers from each area. The School Curriculum Committee would define activities for pedagogical practices, evolve a plan of assessment and mechanism of feedback and reflection and ensure its implementation. The committee would also ensure that the textbooks/ reference materials are age appropriate, incorporate inclusive principles, gender sensitive, have valid content and do not contain any material which may hurt the sentiments of any community. The committee will then send the list of books to the principal to take action as per para 2.4.7 (b) of the Affiliation Byelaws, 2018. The committee would also ensure that the reference materials reflect conformity with the underlying principles of the Constitution of India and are compliant with NEP-2020. Issues of gender, social, cultural and regional disparities must be taken care of in the curriculum transaction.

### 2.2 Pedagogical Leadership

All Principals have a crucial role to play in the evolution of the teaching learning ecosystem as the Head and pedagogical leader of their schools. In the role of school pedagogical leader, the principal is expected to undertake the following:

i. Lead, Guide and Support the teaching and learning processes in the school by focusing on classroom specific requirements for transacting the curriculum, so that both teachers and students perform at their optimal best.

ii. Direct the entire focus of all school activities towards the students' learning and acquiring of necessary competencies. Every activity taken up by the school, therefore, should be mapped for the educational competencies, and for life skills, values, etc., being acquired by the students.

iii. Prepare Annual Pedagogical Plan of the school by designing and developing annual plan for the school by giving equal importance to all areas.

iv. Promote innovative pedagogy, with special focus on integrating art, sports and ICT (Information and Communication Technology) with education, and use of active and experiential learning methods in the classrooms.

v. Ensure joyful learning at all levels through use of such innovative pedagogy.

vi. Develop school specific resources for teaching and learning, in the form of lesson plans, e-content, use of mathematics and science kits developed by NCERT, etc.

vii. Ensure proper in-house training of teachers in the school to enable them to unleash their own unique capabilities and creativity in their classrooms.

viii. To be up to date with all new ideas and tools, etc. being used in education at the global level and constantly innovate the pedagogy of the school.

ix. To make efforts to learn from the best practices of other schools, by arranging for discussions with Principals of such schools, or through observation visits of teachers to other schools.

The Board has not laid down the structure or format of the annual pedagogical plan as the Board respects educational autonomy of every school and expects each school to prepare its own unique and innovative annual plan. This plan must be an implementable one with realistic timelines that should include administrative inputs and detailed pedagogical aspects.

### 2.3 Pedagogical Practices by Teachers

The pedagogical practices should be learner centric. Teachers are expected to ensure such an atmosphere for students where they feel free to ask questions. They would promote active learning among students with a focus on reflections, connecting with the world around them, creating and constructing knowledge. The role of a teacher should be that of a facilitator who would encourage collaborative learning and development of multiple skills through the generous use of resources via diverse approaches for transacting the curriculum.

Teachers should follow inclusive principles and not label children as ‘slow learners’ or ‘bright students’, or ‘problem children’. They should instead attend to the individual difference of students by diagnosing and modifying their pedagogic planning. As far as possible, Arts should be integrated in teaching, especially while teaching the concept which students find difficult to understand.

### 2.4 Competency Based Learning

Challenges of 21st Century necessitate education to be competency focussed to enable continuous watch on achievement of learning objectives and plan interventions. Competency focussed learning underscores the student’s demonstration of desired learning outcomes as central to the learning process. Learning outcomes are statements of expected outcomes that the student will be able to do to know, understand and/or be able to demonstrate after completion of a process of learning as a result of learning the activity. Therefore, the focus is on measuring learning through attainment of prescribed learning outcomes.

Experiential and active learning are the preferred pedagogies for Competency focussed Learning as they promote critical thinking, creativity and effective study skills among students. Learning Outcomes developed by NCERT for classes I-X that is enclosed with each subject should be adopted by all the schools and teaching-learning process may be accordingly aligned. The schools are expected to have well-defined Learning objectives for every grade that are observable and measurable, and empower learners to focus on mastery of valuable skills and knowledge. It is expected that teachers will provide meaningful and joyful learning experiences to the students by adopting variety of innovative pedagogies or instructional activities and go beyond textbooks. Schools are expected to track the attainment of Learning Outcomes by each learner and ensure that no child is left behind.

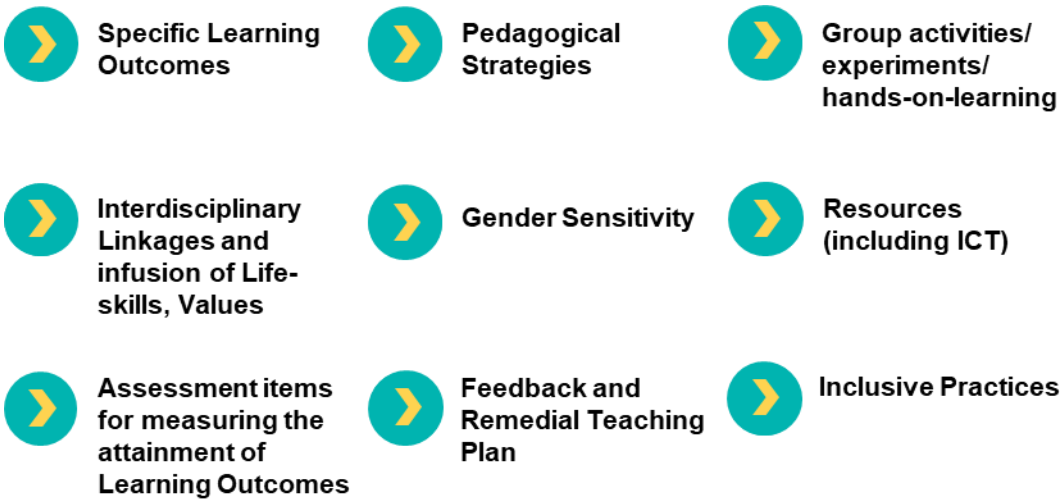
CBSE has also come out with suggestive mapping of learning outcomes with NCERT curriculum which can be adopted/ adapted by schools. CBSE has also developed many resources to map learning outcomes with pedagogy and assessment to enable tracking of learning progress and these resources are available at the website of CBSE. Schools are advised to attempt this mapping and use of innovative pedagogies to achieve learning objectives.

The Board has developed Learning standard frameworks for all major subjects i.e., Hindi, English, Science, Social Science and Mathematics. The learning standard framework (LSF) offers a structured conceptual map for integrating the discrete elements such as learning outcomes, content, pedagogies and assessments, into a coherent continuum. Its goal is to demystify the 'evidence of learning' and engender a common understanding of it in teachers and examiners by cataloguing competencies in clear, measurable, and contextualized achievement standards. Combining theory and practice,

different LSFs detail how the learning and assessment need to be conducted in classrooms, these frameworks contain detailed guidelines for preparing reliable and valid items along with sample questions and marking scheme for assessment. Model question paper designs have also been laid out our helping teachers prepare the question paper.

### 2.5 Lesson/Unit Plan

Specific Lesson Plans for the topics are to be prepared by the teachers. These plans may have the following parts:




### 2.6 Classroom and School Environment

School environment should be conducive to holistic development of the students of varying backgrounds. As part of their policy schools should adopt practices which will promote mental health by following the guidelines issued by the Board on making the school a No-Anger Zone or Anger Free Zone. The Board has also developed school health manuals which are available on www.cbseacademic.nic.in. The time table in the school should take care of proper rest and the children learn subjects with relaxation. School must also ensure that Children avoid the intake of junk food and should ban it around school premises. Intake of the healthy foods should be encouraged with activities described in circular issued by CBSE.

As the surroundings and daily life activities and situations are the best experiential teachers for the students, teachers need to make efforts to draw examples and group activities from daily life observations within the classroom/within the school and surroundings, and encourage presentations and reflection by the students once the activity is completed, to develop the skills of critical thinking and communication.

Children learn a lot through peer learning. To promote peer learning, flexible seating arrangements may be made available during the classroom transactions. The seating should also take care of the needs of the students with disabilities as well. Learning should focus on individual differences and promote collaborative learning. The classroom activities must be connected to the immediate environment of children. The school should maintain connection with the parents and the progress of children should be communicated to the parents, and, if needed remedial measures be taken up for improving the learning outcomes.

### 2.7 Creating Cross-Curricular Linkages

Creating cross-curricular linkages are vital to learning as they help to connect prior knowledge with new information. For example, Mathematical data handling and interpretation can be effectively applied in geography and science. Children can write better-framed answers in history, geography and science when they have learnt how to write explanations/ short descriptions in a language. Similarly, Life Skills like empathy, problem solving and interpersonal communications can be easily integrated with the study of literature and other areas. Universal Values, Life Skills and Constitutional Values with emphasis on realization of Fundamental Duties may be incorporated depending upon context in almost all the subjects.

### 2.8 Special Emphasis on Integrating Arts in Education

All disciplines being pursued by students at all stages require creative thinking and problem-solving abilities. Therefore, when Art is integrated with education, it helps the child apply art-based enquiry, investigation and exploration, critical thinking and creativity for a deeper understanding of the concepts/topics. Secondly, Art Integrated learning is a strong contender for experiential learning, as it enables the student to derive meaning and understanding, directly from the learning experience. Thirdly, this kind of integration not only makes the teaching and learning process joyful, it also has a positive impact on the development of certain life skills, such as communication skills, reflection and enquiry skills, un-conditioning of the mind leading to higher confidence levels and self-esteem, appreciation for aesthetics and creativity, etc. Fourthly, this kind of integration broadens the mind of the student, and enables him/her to see the multi-disciplinary links between subjects, topics, and real life. Schools are, thus, required to take up the integration of Art with the teaching learning process.

It must be understood that Art Education and Art Integrated Education may be mutually exclusive, but they build upon each other and strengthen each other. Art Education is not only relevant for developing creativity and appreciation of art among students, but is also necessary for inculcating art-

based enquiry skills in the students. Art Education is a necessary precursor for the adoption of Art Integrated learning.

### 2.8.1 Art Education and Art Integration

The following two-pronged approach is followed:

i. Art education continues to be an integral part of the curriculum. The schools may also promote and offer Visual and Performing Arts based subjects at the Secondary and Senior Secondary level.

ii. Art is also integrated with the teaching and learning process of all subjects from classes 1 to 12, to promote active and experiential learning for "connecting knowledge to life outside the school, ensuring that learning shifts away from rote methods and for enriching the curriculum, so that it goes beyond textbooks."

### 2.8.2 Art Integrated Pedagogy

While preparing its annual pedagogical plan under the leadership of the Principal of the school, the school must plan out in detail the Art Education to be imparted at various levels, and how that Art can be integrated with classroom learning of various subjects. The focus must be on mutually reinforcing Art as a subject and Art as a tool for learning, with efforts towards seamless integration. Team teaching (combination of subject teachers and Art teachers) would also strengthen the integration.

For implementing this in classrooms, the subject teacher picks the topic/ concept/idea that she wants to teach by integrating Art. The teacher can do this jointly with the Art teacher too. Then, the subject teacher collaborates with the Art teacher to align the pedagogy. Next, the teacher teaches the topic/concept/idea ensuring active learning and ensuring that both the subject and Art are integrated well and there is learning in both areas. Finally, the teacher prepares a rubric to assess the student in both the areas – that is, the topic taught and the Art used.

## 2.9 21st Century Skills

There is an increased awareness among the educators of the need to integrate what are called as 21st Century skills in educational systems. There are three key 21stcentury skills;

There are three major 21st century skills i.e. Learning Skills, Literacy Skills and Life Skills.


The need of the hour is that schools must focus on enhancing the skills required for a successful adult life in 21st Century. It is important that the students are able to think scientifically, mathematically or artistically to face the real-life challenges in an information and technology driven world and enhance their inherent potential. CBSE has published a handbook on 21st century skills available at its website. Schools may further refer to it.

### 2.10 Inclusive Education

Inclusive approach in education is a prerequisite for ensuring full participation of all students with equal opportunity in all areas without any discrimination. Inclusive attitude in all staff and faculty members is crucial for successful inclusive education. Therefore, all the members of teaching and non-teaching staff should be sensitized on the issues of inclusive education. Students without disabilities should also be sensitized.

Schools must organize these sensitization programmes with the support of experts from respective field of disabilities. Capacity Building Programmes on Inclusive Education may be organized in collaboration with the CBSE- Centres of Excellence. Board has made the appointment of special educator mandatory to all the schools affiliated to the CBSE. Special Educators must possess the qualification as prescribed by the Rehabilitation Council of India (CBSE Circular No. 31/2015). CBSE has published a handbook on Inclusive Education which is available at its website.

## 3. SCHEME OF STUDIES

### 3.1 Subjects to be offered:

Class IX and X is a composite course. Students therefore should take only those subjects in class IX which they intend to continue in Class-X. Subjects can be offered as under:

| Subject | | Detail of the subject | Group |
|---|---|---|---|
| Compulsory | 1 | Language I (Hindi – Course A or Course B or English Language and Literature or English Communicative) | Group-L |
| | 2 | Language II (Anyone from the Group of Languages) | Group-L |
| | 3 | Mathematics – Basic or Mathematics Standard | Group-A1 |
| | 4 | Science | Group-A1 |
| | 5 | Social Science | Group-A1 |
| Optional | 6 | Skill Subject/another subject from A2 | Group-S/A2 |
| | 7 | Language III / Any subject from A2 | Group-L/A2 |
| Internal Assessment (Compulsory) | 8 | Art Education | |
| | 9 | Health & Physical Education and Work Experience | |

i. The Board Examination in Mathematics is held at two levels in Class X. However, it is not be applicable to the internal assessment done in Mathematics at the school level in class X. For details, please refer Circular No. Acad. 03/2019. It may be noted that the students who are opting Mathematics - Basic will have the option of taking Applied Mathematics (241) as an Elective at Class XI/Sr. Secondary though they may not be permitted to take Mathematics (041) at Sr. Secondary level. However, a student who has opted Mathematics - standard can offer any one of the two available Mathematics at Sr. Secondary level.

ii. If a student fails in any one of the three compulsory subjects (i.e., Science, Mathematics and Social Science) and passes in the Skill subject (offered as sixth optional subject), then that subject will be replaced by the Skill subject and the result of Class X Board examination will be computed accordingly.

iii. If a student fails in any language subject, out of first five subjects, the same will be replaced by the language taken as sixth subject (in case of no skills subjects offered) or as seventh subject (optional), provided that he or she has passed this language and after replacement either Hindi or English remains as a passed language in the first five subjects.

iv. It is expected that all the students should have studied three languages up to class VIII. Those students who could not clear the third language in class VIII and have been promoted to class IX, shall be examined by the concerned schools at the end of Class IX in the same syllabus and textbooks as prescribed for class VIII. Those who are still unable to clear the third language at the end of class IX may be given another opportunity in class X. No student shall be eligible to appear in the Secondary School Examination of the Board at the end of class X unless she/he

has passed in the third language. However, CWSN are exempted from the study of third language.

v. Either Hindi or English must be one of the two languages to be studied in class IX and X. Hindi and English can also be offered simultaneously. In Hindi, two courses have been provided for class IX and X keeping in view the varying backgrounds of the students and a student may either opt for Hindi A (Code 002) or Hindi B (Code 085). Similarly English can also be offered at two levels English Language & Literature (184) and Communication English (101). However, a language cannot be offered simultaneously at the two levels such as Hindi Course A and Hindi Course B or English Language and Literature and English Communicative etc.

vi. Students offering additional sixth skill subject may also offer an additional language III/ any subject as seventh subject.

vii. Out of the three subjects - Computer Application (Code 165), Information Technology (Code 402) and Artificial Intelligence (code 417) - only one can be offered. A combination of any of these subjects is not permitted.

viii. Board is extending several exemptions/concessions to candidates with disabilities as defined in the "THE RIGHTS OF PERSONS WITH DISABILITIES ACT 2016". Exemptions/Concessions extended to Persons with Benchmark Disabilities for Class X & XII Examinations conducted\ by the Board and the Standard Operating Procedure for availing these concessions are available on: https://www.cbse.gov.in/cbsenew/Examination_Circular/2019/5_CIRCULAR.pdf
Schools and candidates may also refer to the circulars issued by the Board from time to time on this matter.

ix. For Regional Languages, the Board prescribes the textbooks being followed in classes IX and X in the respective State Boards where the language is taught. Schools are also advised to bring to the notice of CBSE the changes, if any, brought out at the commencement of the session by the respective State Boards, in the textbooks of the language of their State. Schools are directed to strictly follow the textbooks prescribed by CBSE in its curriculum. Changes, if any, can be adopted only after CBSE notifies it.

x. Scheme of Studies for Children with Special Needs
Candidates with disabilities as defined in The Rights of Persons with Disabilities Act 2016 have the option of studying one compulsory language instead two.

| Subjects | | Names of the subjects | Group |
|---|---|---|---|
| Compulsory | 1 | Language I (Hindi – Course A or Course B or English Language and Literature or English Communicative) | Group-L |

| | | | |
|---|---|---|---|
| | 2 | A language from Group L or any one subject from Group-A1, A2 and Group-S (Except Automotive) | Group- L/A1/ A2 and S (Except Automotive) |
| | 3 | Any one subject from Group-A1, A2 and Group-S (Except Automotive) | Group-A1, A2 and S (Except Automotive) |
| | 4 | Any one subject from Group-A1, A2 and Group-S (Except Automotive) | |
| | 5 | Any one subject from Group-A1, A2 and Group-S (Except Automotive) | |
| Optional | 6 | Any one subject from Group-A1, A2 and Group-S (Except Automotive) | Group-A1/A2 and S (Except Automotive) |
| | 7 | Language III (Other than L1 and L2) / Any subject other than opted above | Group-L/ A1/ A2 and S (Except Automotive) |
| Internal Assessment (Compulsory) | 8 | Art Education | |
| | 9 | Health & Physical Education and Work Experience | |

### 3.2 List of subjects offered at Secondary Level:

| LANGUAGE (GROUP-L) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S. No.** | **CODE** | **Name** | | **Theory Marks** | **Time (h)** | **Internal Marks** | **Total Marks** |
| 1 | 002 | Hindi Course-A | (ANY ONE) | 80 | 03 | 020 | 100 |
| | 085 | Hindi Course-B | | 80 | 03 | 020 | 100 |
| 2 | 184 | English Lang & Lit. | (ANY ONE) | 80 | 03 | 020 | 100 |
| | 101 | English Communicative | | 80 | 03 | 020 | 100 |
| 3 | 003 | Urdu Course-A | (ANY ONE) | 80 | 03 | 020 | 100 |
| | 004 | Urdu Course-B | | 80 | 03 | 020 | 100 |
| 4 | 004 | Punjabi | | 80 | 03 | 020 | 100 |
| 5 | 005 | Bengali | | 80 | 03 | 020 | 100 |
| 6 | 006 | Tamil | | 80 | 03 | 020 | 100 |
| 7 | 007 | Telugu | (ANY ONE) | 80 | 03 | 020 | 100 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 089 | Telugu Telangana | | 80 | 03 | 020 | 100 |
| 8 | 008 | Sindhi | | 80 | 03 | 020 | 100 |
| 9 | 009 | Marathi | | 80 | 03 | 020 | 100 |
| 10 | 010 | Gujarati | | 80 | 03 | 020 | 100 |
| 11 | 011 | Manipuri | | 80 | 03 | 020 | 100 |
| 12 | 012 | Malayalam | | 80 | 03 | 020 | 100 |
| 13 | 013 | Odia | | 80 | 03 | 020 | 100 |
| 14 | 014 | Assamese | | 80 | 03 | 020 | 100 |
| 15 | 015 | Kannada | | 80 | 03 | 020 | 100 |
| 16 | 016 | Arabic | | 80 | 03 | 020 | 100 |
| 17 | 017 | Tibetan | | 80 | 03 | 020 | 100 |
| 18 | 018 | French | | 80 | 03 | 020 | 100 |
| 19 | 020 | German | | 80 | 03 | 020 | 100 |
| 20 | 021 | Russian | | 80 | 03 | 020 | 100 |
| 21 | 023 | Persian | | 80 | 03 | 020 | 100 |
| 22 | 024 | Nepali | | 80 | 03 | 020 | 100 |
| 23 | 025 | Limboo | | 80 | 03 | 020 | 100 |
| 24 | 026 | Lepcha | | 80 | 03 | 020 | 100 |
| 25 | 088 | Bhoti | | 80 | 03 | 020 | 100 |
| 26 | 092 | Bodo | | 80 | 03 | 020 | 100 |
| 27 | 091 | Kok Borok | | 80 | 03 | 020 | 100 |
| 28 | 093 | Tangkhul | | 80 | 03 | 020 | 100 |
| 29 | 094 | Japanese | | 80 | 03 | 020 | 100 |
| 30 | 095 | Bhutia | | 80 | 03 | 020 | 100 |
| 31 | 096 | Spanish | | 80 | 03 | 020 | 100 |
| 32 | 097 | Kashmiri | | 80 | 03 | 020 | 100 |
| 33 | 098 | Mizo | | 80 | 03 | 020 | 100 |
| 34 | 099 | Bahasa Melayu | | 80 | 03 | 020 | 100 |
| 35 | 122 | Sanskrit | (ANY ONE) | 80 | 03 | 020 | 100 |
| | 119 | Sanskrit Communicative | | 80 | 03 | 020 | 100 |
| 36 | 131 | Rai | | 80 | 03 | 020 | 100 |
| 37 | 132 | Gurung | | 80 | 03 | 020 | 100 |
| 38 | 133 | Tamang | | 80 | 03 | 020 | 100 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 39 | 134 | Sherpa | 80 | 03 | 020 | 100 |
| 40 | 136 | Thai | 80 | 03 | 020 | 100 |

| COMPULSORY SUBJECTS (GROUP-A1) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S. No.** | **CODE** | **Name** | | **Theory Marks** | **Time (h)** | **Internal Marks** | **Total Marks** |
| 1 | 041 | Mathematics Standard | (ANY ONE) | 80 | 03 | 020 | 100 |
| | 241 | Mathematics-Basic | | 80 | 03 | 020 | 100 |
| 2 | 086 | Science | | 80 | 03 | 020 | 100 |
| 3 | 087 | Social Science | | 80 | 03 | 020 | 100 |

| OTHER SUBJECTS (GROUP-A2) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **S. No.** | **CODE** | **Name** | | **Theory Marks** | **Time (h)** | **Internal Marks** | **Practical** | **Project** | **Total Marks** |
| 1 | 031 | Carnatic Music (Vocal) | **(Any One)** | 30 | 02 | 020 | 50 | -- | 100 |
| | 032 | Carnatic Music (Melodic Instruments) | | 30 | 02 | 020 | 50 | -- | 100 |
| | 033 | Carnatic Music (Percussion Instruments) | | 30 | 02 | 020 | 50 | -- | 100 |
| | 034 | Hindustani Music (Vocal) | | 30 | 02 | 020 | 50 | -- | 100 |
| | 035 | Hindustani Music (Melodic Instruments) | | 30 | 02 | 020 | 50 | -- | 100 |
| | 036 | Hindustani Music (Percussion Instruments) | | 30 | 02 | 020 | 50 | -- | 100 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 049 | Painting | | 30 | 03 | 020 | 50 | -- | 100 |
| 3 | 064 | Home Science | | 70 | 03 | -- | 30 | -- | 100 |
| 4 | 076 | National Cadet Corps (NCC) | | 70 | 03 | 30 | -- | -- | 100 |
| 5 | 165* | Computer Applications | | 50 | 02 | -- | 50 | -- | 100 |
| 6 | 154 | Elements of Business | **(Any One)** | 70 | 03 | -- | 30 | -- | 100 |
| | 254 | Elements of Book Keeping & Accountancy | | 70 | 03 | -- | -- | 30 | 100 |

**SKILL SUBJECTS (GROUP-S)**

| S. No. | Code | Name | Job Roles | Marks Distribution | |
|---|---|---|---|---|---|
| | | | | Theory | Practical |
| 1 | 401 | Retail | Store Operations Assistant | 50 | 50 |
| 2 | 402* | Information Technology | Domestic IT Executive/Operator | 50 | 50 |
| 3 | 403 | Security | Unarmed Security Guard | 50 | 50 |
| 4 | 404 | Automotive | Automotive Service Technician | 50 | 50 |
| 5 | 405 | Introduction to Financial Markets | Business Correspondent | 50 | 50 |
| 6 | 406 | Introduction to Tourism | Assistant Tour Guide | 50 | 50 |
| 7 | 407 | Beauty & Wellness | Assistant Beauty Therapist | 50 | 50 |
| 8 | 408 | Agriculture | Solanaceous Crop Cultivator | 50 | 50 |
| 9 | 409 | Food Production | Assistant Chef (reg.) | 50 | 50 |
| 10 | 410 | Front Office Operations | Front Office Executive | 50 | 50 |
| 11 | 411 | Banking & Insurance | Field Executive | 50 | 50 |
| 12 | 412 | Marketing & Sales | Marketing Assistant | 50 | 50 |
| 13 | 413 | Health Care | General Duty Assistant | 50 | 50 |
| 14 | 414 | Apparel | Hand Embroider | 50 | 50 |
| 15 | 415 | Multi Media | Texture Artist | 50 | 50 |
| 16 | 416 | Multi Skill Foundation Course | Multi Skill Assistant | 50 | 50 |

| | | | | | |
|---|---|---|---|---|---|
| 17 | 417* | Artificial Intelligence | | 50 | 50 |
| 18 | 418 | Physical Activity Trainer (New) | Early Years Physical Activity Trainer | 50 | 50 |
| 19 | 419 | Data Science | | 50 | 50 |
| 20 | 420 | Electronics and Hardware (New) | Field Technician-Other Home Appliances | 50 | 50 |
| 21 | 421 | Foundation Skills for Sciences (Pharmaceutical and Biotechnology) (New) | | 50 | 50 |
| 22 | 422 | Design Thinking and Innovation (New) | | 50 | 50 |

*Out of the three subjects with codes - 165, 402 and 417 - only one subject can be offered. The curriculum and the study material for the Skill Electives is available on the CBSE academic website under the tab 'Skill Education' and can be accessed through the link: http://cbseacademic.nic.in/skill-education.html.

**LIST OF SKILL COURSES OFFERED AT MIDDLE LEVEL (FOR CLASSES VI/VII/VIII)**

| S. No. | Course Name | Duration in Hours | Marks Distribution | |
|---|---|---|---|---|
| | | | Theory | Practical |
| 1 | Artificial Intelligence | 12 | 15 | 35 |
| 2 | Beauty & Wellness | 12 | 15 | 35 |
| 3 | Design Thinking | 12 | 15 | 35 |
| 4 | Financial Literacy | 12 | 15 | 35 |
| 5 | Handicrafts | 12 | 15 | 35 |
| 6 | Information Technology | 12 | 15 | 35 |
| 7 | Marketing/Commercial Application | 12 | 15 | 35 |
| 8 | Mass Media | 12 | 15 | 35 |
| 9 | Travel & Tourism | 12 | 15 | 35 |
| 10 | Coding | 12 | 15 | 35 |
| 11 | Data Science (Class VIII only) | 12 | 15 | 35 |
| 12 | Augmented Reality / Virtual Reality (Level-1/Class 6) | 12 | 15 | 35 |

| | | | | |
|---|---|---|---|---|
| 13 | Digital Citizenship (Level-1/Class 6) | 12 | 15 | 35 |
| 14 | Life Cycle of Medicine and Vaccine | 12 | 15 | 35 |
| 15 | Things You should know about keeping Medicines at home | 12 | 15 | 35 |
| 16 | What to do when Doctor is not around | 12 | 15 | 35 |
| 17 | Humanity and Covid-19 | 12 | 15 | 35 |
| 18 | Blue Pottery | 12 | 15 | 35 |
| 19 | Pottery | 12 | 15 | 35 |
| 20 | Block Printing | 12 | 15 | 35 |
| 21 | Food | 12 | 15 | 35 |
| 22 | Food Preservation | 12 | 15 | 35 |
| 23 | Culinary and Baking | 12 | 15 | 35 |
| 24 | Herbal Heritage | 12 | 15 | 35 |
| 25 | Khadi | 12 | 15 | 35 |
| 26 | Mask making | 12 | 15 | 35 |
| 27 | Mass Media | 12 | 15 | 35 |
| 28 | How to make a Graphic Novel | 12 | 15 | 35 |
| 29 | Kashmiri Embroidery | 12 | 15 | 35 |
| 30 | Embroidery | 12 | 15 | 35 |
| 31 | Rockets | 12 | 15 | 35 |
| 32 | Satellites | 12 | 15 | 35 |
| 33 | Application of Satellites | 12 | 15 | 35 |

### 3.3 Instructional Time

Instructional time shall be as per the subjects selected. Schools must ensure that minimum number of hours are spent for each subject as specified in the curriculum. The time duration for the subjects has been clearly indicated in the syllabus of each subject. However, it is expected that schools will create innovative Timetables (such as, teaching-learning only 2 or 3 subjects per day etc.) to ensure that the burden of the bag and homework are substantially reduced and the classroom transaction are based

on experiential processes. Schools may also think of introducing bag-less day and same may be incorporated in the time tables. The time table must also include the mandatory periods for compulsory areas including Health and Physical Education.

### 3.4 Medium of Instruction

The medium of instruction in general in all the schools affiliated with the Board shall either be Hindi or English for classes IX – X.

## 4. STRUCTURE OF ASSESSMENT SCHEME

The Assessment scheme will have an 80 marks component for Board examination (class X) and Annual Examination (class IX) in all subjects except compulsory subjects to be assessed internally along with a 20 marks component of Internal Assessment. Students have to secure 33 percent in total in each of these components.

This condition has been relaxed vide Notification No. CBSE/Coord/DS/EC dated11/10/2018 available at: https://www.cbse.gov.in/cbsenew/Examination_Circular/2018/15_CIRCULAR.pdf

As the Board is progressively allowing more space to 'learning outcome based' assessment in place of textbook driven assessment, question papers of Board examinations have more questions based on real-life situations requiring students to apply, analyse, evaluate and synthesize information as per the stipulated outcomes. The core competencies to be assessed in all questions, however, will be from the prescribed syllabus and textbooks recommended therein. This will eliminate predictability and rote learning to a large extent.

### 4.1 Board Examination for (Class X) and Annual Examination (class IX) for 80 marks For Class X:

The Board Examination in each subject will cover entire syllabus of Class-X. Grades corresponding to the marks shall be on the basis of 9-point grading system. Grades will be awarded in each scholastic subject. For awarding the grades, the Board will put all the passed students in a rank order and will award the grades as follows:

| Grade | Octile |
|---|---|
| A-1 | Top 1/8th of the passed candidates |
| A-2 | Next 1/8th of the passed candidates |
| B-1 | Next 1/8th of the passed candidates |
| B-2 | Next 1/8th of the passed candidates |
| C-1 | Next 1/8th of the passed candidates |

| | |
|---|---|
| C-2 | Next 1/8th of the passed candidates |
| D-1 | Next 1/8th of the passed candidates |
| D-2 | Next 1/8th of the passed candidates |
| E* | Essential Repeat |

**Notes: -**

i. Minor variations in proportion of candidates to adjust ties will be made.

ii. In case of a tie, all the students getting the same score, will get the same grade. If the number of students at a score point need to be divided into two segments, the smaller segment will go with the larger.

iii. Method of grading will be used in subjects where the number of candidates who have passed is more than 500.

iv. In respect of subjects where total number of candidates passing a subject is less than 500, the grading would be adopted on the pattern of grading and distribution in other similar subjects.

**For Class IX:**

The assessment scheme will be similar to class X Board examination. However, the grading in class IX will be as follows:

| **Grading Scale for Scholastic Areas (Class-IX)**<br>**(School will award grades as per the following grading scale)** | |
|---|---|
| **MARKS RANGE** | **GRADE** |
| 91-100 | A1 |
| 81-90 | A2 |
| 71-80 | B1 |
| 61-70 | B2 |
| 51-60 | C1 |
| 45-50 | C2 |
| 33-40 | D |

- Absolute grading in class IX is used keeping in view the number of students appearing from any particular school as against positional grading used for class X.

**4.2 Internal Assessment (20 Marks):**

One-time year-end examination is complimented and supplemented with Internal Assessment (IA) that assesses students in diverse manner, at different times and also examines a broad range of curriculum objectives. IA, in effect school-based assessment, plays the dual role of providing a complete picture of students' abilities or progress towards fulfilling the aims of education and informing teachers of students' progress and therefore supporting classroom learning. It also informs the individual learner about his/ her progress over a period of time enabling them to develop strategies to improve learning.

### 4.2.1 Periodic Assessment (05 Marks)

The main purpose of Periodic Assessment is to assess the learning progress of students. Such Assessment done at regular intervals provides feedback and insight to teachers regarding learners' needs and helps them to improve instruction, do remedial teaching and set curricular targets for a student or a group of students. The feedback also helps students to know their errors as well as strengths and weaknesses. The students, thus, are enabled for better learning and setting up realistic goals. In essence, this is assessment for, of and as learning. Periodic Assessment is further divided into the following:

**Periodic Tests (05 marks):** As earlier, these would be restricted to 3 in each subject in a year and the average of best 2 would to be taken for final submission of marks. These tests tend to follow a pattern, which is quite similar to the final end of course examination, and have a gradually increasing portion of content. Hence, they also tend to prepare students for final summative exams in a more confident manner.

### 4.2.2 Multiple Assessment (05 marks):

Over the course of the curriculum transaction, multiple assessment strategies are advised. Subject teachers would determine the type and frequency. Schools/teachers would be able to use multiple and diverse assessment techniques to assess learners, i.e., observation, oral tests, individual or group work, class discussion, field-work, concept maps, graphic organizers, visual representation etc. Hence, the schools are given autonomy to use alternate modes of assessment as per the demand of the subject and the context towards addressing the goal of assessment for and as learning, such as quizzes, project-work, Self and peer assessment, collaborative projects, experiments, classroom demonstrations, etc.

Caution must be exercised to ensure that recording such assessment is not cumbersome and can be easily translated into individual student scores. When choosing a particular technique, developing simple scoring criteria and rubrics becomes equally important. The purpose of periodic assessment is

to provide feedback to improve teaching and learning, so it is equally important to use follow-up measures when students are found to be lacking proficiency.

### 4.2.3 Portfolio (05 marks):

A portfolio is a collection of chosen work by a student representing a selection of performances. It is a tool for assessing a variety of skills not usually testable in a single setting of the traditional written paper and pencil tests. Portfolio helps students gain an awareness of their own learning. Peer Assessment is a great support that facilitates a clear understanding and evaluation of personal goals. The active role that students plays in self-assessment not only motivates them but also help to develop metacognitive skills which enable them to make adjustments. The creation of portfolios is suggested to broaden the scope of learning and achieve diverse curriculum outcomes by examining a range of evidence of student performances being assessed.

The portfolio may take the form of a journal or notebook that would include students' artifacts selected along with their reflections. Learner here is an active participant involved in constructing his or her journey through the portfolio building process of selecting, organizing and reflecting. It is suggested that the portfolios would include classwork and homework assignments that would help evaluate learner's progress. The attention should be to promote techniques such as annotation, identification of key words / topics/ themes, summarization and organization of ideas and content, photos, presentations, assignments, art integrated learning, etc. Developing them should not be a burden on students- both in terms of cost and time.

**Assessing Portfolios**

Students' portfolio can be effectively evaluated using a simple scoring rubric. The criteria – to be used in determining the quality of a particular student's portfolio needs to be carefully developed and shared with students. They key elements of the particular criteria need to be specified as well. Suggested below are some elements to judge student's portfolio:

**Elements to judge student's portfolio**

- Organization – Neatness, Creativity and Visual Appeal
- Completion of guided work focused on specific curricular objectives
- Evidences of student's growth
- Inclusion of all relevant work (completeness)

### 4.2.4 Subject Enrichment Activities (05 marks):

Subject enrichment activities aim at enrichment of the understanding and skill development of students. They provide in-depth learning that motivates students to dig deeper into the discipline. These enrichment activities need to challenge students and permit them to apply knowledge to the next level. They ought to provide opportunity to students to explore their own interests as well as an understanding of the nature of particular discipline. Some suggestions for conducting these activities are as follows:

Languages provide ample space and the autonomy to subject teachers to develop relevant listening and speaking skills. Teachers need to use this opportunity to full advantage and use excerpts from relevant suitable literature to develop vocabulary and heighten students' awareness and sensitivity.

The specified activities in practical work in Science and Mathematics need to be conducted in congruence to the objectives of the subject. The focus must shift from confirmatory nature of lab experiments to explorations that focus on development of science processes. Students need to be encouraged to raise questions, generate hypotheses, experiment, innovate and find solutions to questions/ problems encountered.

Social science being the subject relevant to social context, activities and projects in this area should be related to, society, socio-economic and environmental problems, political theory and art and culture. I may also include development of Life Skills.

### 4.3 Art Education

Art Education constitutes curricular activities for the development of the wholesome personality of the children, aesthetic sensibilities and respect for social values and cultural heritage. It encourages learners to develop creative expression, sharpens keen observation and develops a sense of organization and order. Exploring into ideas and meanings through the works of artists/experts/ writers/poets, the students would develop imagination and critical awareness. Students may select one form each from Visual Arts (drawing, painting, murals, collages, crafts, sculpture, etc.) and Performing Arts (dance, music, drama, puppetry and Folk Art forms etc.). Children's participation in activities/competitions form the basis of assessing the student.

### 4.4 Health and Physical Education (Sports/Self-Defence/Yoga/NCC etc.)

Focus of this area of curriculum is on health, hygiene and sanitation, work experience, indigenous sports, yoga, NCC, self-defence, fitness and lifestyle choices. Health and Physical Activities, preferably sports must be given one regular period per day. Students should be provided opportunities to get

professionally trained in the area of their interest. Indigenous sports, yoga and NCC must be encouraged in the schools. Similarly, Self-defence may be actively taught to students, especially girl students, as it instils confidence and empowers them.

The teachers should ensure that the students get opportunities to participate in activities of their choice and help them in identifying and nurturing their talents and gain confidence. The Physical Education teacher will maintain the record of all the Health and Physical Education activities/competitions that each of the children participate in. The Comprehensive School Health Manuals (four volumes) brought out by CBSE could be referred to for detailed information and the graded activities could be taken up as part of the curriculum in school.

Qualified doctors should examine children annually along with a follow-up session during the year to address the health aspect of HPE. School should also bring any noticeable disability in a student to the notice of the school counsellor and parents. Cases of special needs of students with medical history must be carefully noted and handled accordingly. Detailed information on the Comprehensive Physical and Health Education Curriculum is enclosed with this document.

### 4.5 Assessment of Art Education and Health and Physical Education

Assessment of Art Education and Health and Physical Education may be continuously done by collecting information, reflecting on and using that information to review children's progress and to plan future learning experiences. The documented data, after interpretation, should be reflected in the Report Card of the children in the form of grades.

In the existing scheme of assessment, these activities will be graded on a 5- point grading scale (A to E) for classes IX-X and will have no descriptive indicators. The students shall be assessed on two areas i.e., Art Education, Health and Physical Education. Work Experience is subsumed in the Physical and Health Education. No up scaling of grades will be done.

The concerned teacher would make an objective assessment of the level of performance/ participation demonstrated by a student throughout a year and finally assign grades.

#### 4.5.1 Parameters of Assessment

While the students are engaged in the core areas like Health and Physical Education and Art Education, the process is as important as the product. Hence, the assessment in these areas should take account of both aspects.

The basis of assessment has been suggested below:

| Area | Product | Process |
|---|---|---|
| Health and Physical Education including Work Experience | Overall fitness | Participation, team-spirit, commitment and honest effort. |
| Art Education | Expression, creativity and Aesthetic appeal | Participation, Creative process, material use, appreciation, reflection, effort, craftsmanship and completion |

### 4.5.2 Details of Five-point Grading for Art Education (Class IX and X)

| Grade | Connotation |
|---|---|
| A | Exemplary |
| B | Proficient |
| C | Developing |
| D | Emerging |
| E | Beginner |

### 4.5.3 Distribution of Periods/Grades for Internal Assessment in Health and Physical Education (with Work Experience subsumed in it)

| Strand | Periods (approx.) | Grades* |
|---|---|---|
| 1. GAMES<br>Athletics/Swimming Team Games<br>Individual Games / Activities<br>Adventure Sports | 90 periods | While filling online data, following grades may be filled against HPE:<br>Class IX-X: Grade (A-E) on 5-point scale (A, B, C, D, E) |
| 2. Health and Fitness | 50 periods | |
| 3. SEWA | 50 periods | Grades of SEWA is considered against Work Experience Class IX-X: Grade (A-E) on 5-point scale **(A, B, C, D, E)** |
| 4. Health and Activity Card | | |

*Refer the detailed HPE guidelines available on www.cbseacademic.nic.in, including the above amendment.

### 4.6 Development of Competencies Through Student Enrichment Activities:

In the recent past the board has been organizing various activities for promoting various 21st century skills. Following are some such activities introduced with the intention of enhancement of the skills and values.

| S. No. | Student Enrichment Activity | Skills/Values to be Enhanced |
|---|---|---|
| 1. | Story Telling Competition | Thinking Skills: Creative, Analytical, Evaluative Communication Skills, Linguistic Skills |
| 2. | Reading Week, Budding Authors | |
| 3. | Fastest Reading Contest | |
| 4. | Aryabhata Ganit Challenge | Reasoning Abilities, Problem Solving Skills, Critical thinking, Analytical thinking, Ability to manipulate precise and intricate ideas, Ability to construct logical arguments |
| 5. | CBSE Heritage India Quiz | Values of respect for diversity and tolerance, Awareness about preserving Indian heritage and monuments, Critical thinking skills, Appreciation for rich heritage and diversity of the country |
| 6. | Science Exhibition | Critical and Creative Thinking Skills, Problem Solving Skills, Scientific Temperament, Connecting Science to day-to-day life |
| 7. | Science Literacy Promotion Test | |
| 8. | Expression Series | Creative Thinking Skills Communication Skills |
| 9. | Eco-Club Activities | Awareness about Environmental Conservation and Protection |
| 10. | Swacchata Abhiyan | |
| 11. | Ek Bharat Shrestha Bharat | Spirit of Patriotism and Unity Creative Skills |
| 12. | Rashtriya Ekta Diwas | |
| 13. | Inter School and Competition | |
| 14. | Fit India School week | Healthy lifestyle |
| 15. | CBSE Inter-School Sports & Games Competitions | |
| 16. | International Day of Yoga | |
| 17 | Matri Bhasha Diwas | Awareness of Linguistic and Cultural traditions, Values of Tolerance and Dialogue, Communication Skills |

| | | |
|---|---|---|
| 18 | The Constitution Day | Importance of Constitution, its history, structure and implications to citizens, orientation to composite culture and diversity of our nation awareness of Fundamental Rights and Duties as enshrined in the Indian Constitution. |
| 19. | Art Integrated Project | Application of art-based enquiry, investigation and exploration, critical thinking and creativity for a deeper understanding of the concepts/ topics, promotes experiential learning as it enables to derive meaning and understanding directly from the learning, enables students to see the multi-disciplinary linkages between subjects, topics, and real life. |

Schools are encouraged to ensure that their students participate in these activities of the Board for making the students future-ready and also for becoming a holistic learner.

### 4.7 Suggestions for Teachers

A teacher is expected to achieve at least all the stipulated class level learning outcomes in her students. Teachers feel accountable for the progress of her students and act with utmost honesty and integrity. They must constantly do self-assessment of their subject knowledge and skills and strive hard to keep them up-to-date in this area. Teachers may regularly visit CBSE's website for latest updates and must participate in a minimum of 50 hours of annual capacity building programmes at different levels. Teachers are required to work with other teachers and parents in the best interests of their students and need to:

i. set high expectations to motivate and challenge students and help students to reflect on their progress;
ii. carefully go through the curricular aims, and learning outcomes as stipulated in the National Curriculum Framework for foundational stage 2022 and National Curriculum Framework for Secondary classes;
iii. analyse the need of her students and innovate or improvise to address this need in the best possible manner and facilitate the inculcation of 21st-century skills in her students;
iv. ensure a safe and conducive environment for students as per the statutory provisions mentioned in the affiliation bye-laws of CBSE;
v. follow inclusive practices for students of varying backgrounds;

vi. lead by example by demonstrating constitutional values, positive attitudes, and behaviour;

vii. help the principal in formulating an annual pedagogic plan and prepare and teach by using well-structured lesson plans. Also, follow the statuary provision of instructional time and directions of CBSE regarding Experiential and joyful Pedagogy and Art-integrated education;

viii. set homework as per the directions of CBSE and plan other activities to consolidate and extend the knowledge and understanding students have acquired;

ix. study Assessment Frameworks and other resources to make accurate and productive use of competency focussed formative and summative assessments. Regularly conduct a formative assessment to assess the effectiveness of her teaching and use relevant data to monitor progress, set targets, and plan subsequent lessons;

x. provide students regular feedback and encourage them and their parents to respond to the feedback;

xi. use effective classroom management skills to ensure a conducive learning environment;

xii. treat students with dignity, and use proper discretion in line with statutory provisions like RTE-Act, POCSO, CBSE affiliation bye-laws guidelines of NCPCR, etc.;

xiii. maintain high standards in their own attendance and punctuality; and

xiv. perform duties assigned by CBSE from time to time.

### 4.8 Values Education and Life Skills

Constitutional and universal values should also be encouraged amongst students. Hygiene, sanitation, dedication, honesty, truthfulness, kindness, empathy respect for the environment, elders and all living things etc. are the values that our students must actively practice. Parents may also support schools in cultivating disciplined behaviour in their wards. Class teacher will grade the students on a Five- point scale (A to E) keeping in view the overall attendance, sincerity, values and behaviour of the students. Values Education Resource Book and Kit developed by CBSE may be used for inculcating values in students.

Similarly, schools endeavour to inculcate Life Skills and 21$^{st}$ Century Skills as per the directions and material developed by CBSE.

### 4.9 Rules Regarding Admission and Examination

Regarding eligibility for Admission, Eligibility for Examination, Scheme of Examination and related information, please see the Examination Bye-Laws of CBSE available on www.cbse.nic.in.

### 4.10 Introduction of National Curriculum Framework for Foundational Stage-2022.

NCF-FS 2022 will be introduced in the Session 2023-24 in those CBSE schools which offer education at foundational stage to students in the age group of 3-8 years. Schools offering foundational or preparatory education are mandatorily required to adhere to the recommendations regarding curriculum, pedagogy, assessment and other areas described in detail in the NCFFS-2022.

While schools offering classes I to X / XII may make efforts to gradually augment the infrastructural requirements to include pre-primary classes, schools already running foundational classes may continue to offer 2 or 3 years of pre-primary education as per the practice followed in their respective State, till the time State Government adopts the 5+3+3+4 structure.

Teacher's qualifications remain same as per the existing National Council of Teachers Education's notification no 62-1/2012/NCTE(N&S) dated November 12,2014 and its subsequent amendments.

Schools are advised to go through the NCF-FS-2022 document available at https://ncert.nic.in/pdf/NCF_for_Foundational_Stage_20_October_2022.pdf for its implementation.

The NCF-FS includes many examples and illustrations which play a critical role in its implementation. They help to clarify abstract concepts, reinforce learning, and make new ideas more accessible to practicing teachers. Myriad examples are aptly incorporated to enhance understanding, foster engagement, and elaborate concrete ways concepts can be implemented in day-to-day teaching. So, it is critical that teachers look at these illustrations and contextualize them according to the needs and contexts of children.

### 4.11 Academic Guidelines

Major academic highlights of NCFFS-2022 for the benefit of schools are reproduced as hereunder:

#### i. Curricular Goals and Learning

NCF-FS-2022 identifies five key domains of development viz., Physical Development, Socio Emotional and Ethical Development, Cognitive Development, Language and Literacy Development, and Cultural Development, and Positive Learning Habits. Illustrative Curricular Goals, Competencies, and Learning Outcomes for the foundational stage in all these domains are given in NCF-FS-2022. Teachers should adapt the same in their curriculum to be designed by schools. The curriculum followed by schools should make specific choices for content and materials based on the Learning Outcomes, the principles, and guidelines of NCF along with considerations for the local context. Schools will follow their curriculum based on NCF-FS-2022 till the time syllabus is provided by NCERT. Once the syllabus is provided by NCERT, schools may adopt/adapt the same.

For the Foundational Stage, it would be appropriate to develop activity books and other handbooks for Teachers, that would guide them through the sequence planned in the syllabus. The syllabus should include broad guidelines for assessments that check for the achievement of Learning Outcomes.

### ii. Organisation of Content

The selected content should be empirically engaging (e.g., engaging the child's senses) and/or relevant to their experience. It should be based on the child's experiences and reflect the child's socio-cultural and geographical context. Furthermore, content should introduce natural and human environments, the social and physical world, people, places, and living and non-living things. To accommodate the varied interests of individual children, the content should be diverse and inclusive. Special care should be taken to preclude the promotion of stereotypes.

Textbooks might be inappropriate for children of ages 3 to 6, activity books can guide Teachers to sequence activities and learning experiences. Textbooks can be introduced in class 1 and they must allow for the children's active participation. Workbooks and textbooks ought to be complementary to one another. Audio-visual materials including flashcards, cardboard-and-sandpaper, shapes of alphabets, games, and puzzles should adequately supplement textbooks.

When foundational stage children actively engage their hands and employ various senses, they learn more effectively. It is, thus, important to go beyond textbooks and use a range of Teaching Learning Material (TLM) at this Stage, from basic playthings to specific manipulatives for counting and numeracy. The majority of the TLM needed for the Foundational Stage can be constructed with readily available low-cost materials. For example, cardboards, straws, packaging material, old clothing, bottle caps, seeds, and pebbles (for counting), match sticks (without chemicals), discarded paper, coconut shells, and egg cartons (for sorting). Teachers can bring leftover fabric to create puppets, soft cloth balls, and other playthings. Young children can find making basic toys, puzzles, and board games to be particularly engaging activities that allow them to use all of their developmental domains.

The language content should contain a fair mixture of narratives, poetry, and information on local, natural and social contexts. Content on both flora and fauna as well as social and cultural issues allows youngsters to grasp the world around them while stories and poems develop young children's linguistic and imaginative abilities. Schools will aim to ensure the availability of teachers so that at least two or preferably three languages are taught to children on a regular basis.

Reading and writing should be initially developed through R1 (language in which a child first learns the concept of reading and writing) which is preferably L1 (mother tongue/ home language / familiar

language) whenever possible, via early exposure to oral language development, meaning-making activities, and print materials. Understanding of phonemes and graphemes and the correspondence between them (decoding) will be developed through games and interactive exercises. The aim should be to achieve literacy skills in R1 by Grade 3.

Mathematical content can represent engagement with the surrounding environment, much like language can. Counting and other mathematical tasks can be combined with interactions with the natural and social settings.

The content of art learning experiences should be derived from the school's local environment and designed as activities centred on specific learning outcomes.

Schools may also make use of the *Jadui Pitara* (Collection of teaching-learning material) prepared by NCERT for the teaching-learning process for the Foundational Years. *Jadui Pitara* is available at DIKSHA portal. Further, it is recommended that all related Teaching-Learning material for Foundational Stage being released by NCERT be used for teaching-learning purposes.

### iii. Pedagogical Practices

CBSE advocates experiential, activity based and joyful learning. As part of its conceptual, operational, and transactional approach to curriculum structure, pedagogy, time and content organisation, and the overall experience of the child, NCF-FS2022 emphasises the significance of "play" as the cornerstone of these concepts. Play, in addition to sports and games, also includes singing songs, conversations, toys, stories, music, puzzles, rhymes, art and craft, painting, clay moulding, dancing, etc. Different children learn at different paces, and in different ways. So, it's crucial to avoid pressurising students to adopt a certain learning style. Children should be allowed to play with anything that engages them, is safe and easily available. In early education, experiential learning is essential. Projects give kids the chance to hone a variety of abilities, especially those that require peer collaboration.

Stories stimulate learning in children, and helps them build their own vocabulary. Stories not only introduce children to the world outside of their immediate experience but also to a wealth of resources for language learning and developing, helping youngsters acquire much more than just words. Stories help develop curiosity, imagination and intellect, promote emotional and social growth, making them an effective tool for children's overall development.

Schools may use thematic approach at this stage as a variety of curriculum areas are connected and integrated within a theme. Children are assisted in making meaningful connections through a theme and exploring different themes or elements within the theme as opposed to learning different skills at different times or learning distinct subjects.

Each of the aforementioned strategies has unique merits. A single, particular strategy for teaching and learning is not recommended. Depending on their environment and needs, teachers and schools are left to choose the best method for creating learning content and transaction of teaching learning.

### iv. Assessment

Overall approach in these years as in all higher classes is also competency focussed assessment using a variety of techniques. However, assessment should not contribute to any additional burden for the child, should not overtly burden the teacher and care must be taken not to label the child. Teachers should try to provide each child individual care and attention and keep observing what they are doing.

The stipulated learning outcomes may not be achieved in a linear fashion for all students. Children take their time and have their own ups and downs during their journey towards achieving these learning objectives. Teachers, thus, need to be very patient provide adequate space and time to each child as per her/ his need and not be overbearing. Some of the strategies that can be employed to assess progress of children may be guided observation, storytelling etc. Tools of assessment may include anecdotal records, checklists, event sampling and analysis of artefacts and workbooks. Teachers should analyse evidence from multiple sources taken over a period of time to assess the extent to which children have demonstrated understanding and acquisition of skills.

There should be no ranking of students at this stage as each child is unique. A teacher can sometimes accomplish a range of distinct curricular objectives and competences just by telling a story, having a conversation, or playing a game. Therefore, the teacher should have the freedom to conduct activities as she / he seems fit in the context of their classrooms.

More details can be found in the format of Holistic Progress Card for foundational stage developed by CBSE.

### v. Identification of Developmental Delays

In order to ensure holistic and inclusive education, it is important to ascertain provisional cases of developmental delay in children significantly lagging in achieving developmental milestones in physical, cognitive, communication, social-emotional, behavioural, - or a combination of domains. NCFFS-2022 emphasizes the importance of early identification and intervention to ensure individual children receive timely and appropriate help. Though schools and Teachers are not supposed to confirm developmental delay or disability and should refer the perceptible cases to authorized medical professionals for diagnose, however, they can take the following steps to identify provisional cases for referring to clinical diagnosis:

**Screening:** Schools often conduct universal developmental screening to identify children who may be at risk for developmental delays. These screenings can be done by teachers, school psychologists, or other professionals using standardized assessment tools.

**Teacher observations:** Teachers spend a significant amount of time with their students and are well-positioned to observe developmental delays. Teachers can use checklists or rating scales developed by World Health Organisation to track their students' developmental progress and identify areas where children may need additional support. NCERT's PRASHAST is a checklist that enables the identification of children at risk. It comprises two parts - for use by regular teachers for first-level screening, and for use by special educators and others for second-level screening. It is a safeguard against unscientific diagnosis and needless labelling of children. It is aligned with the Rights of Persons with Disabilities Act (RPWD) Act 2016.

**Parental concerns:** Parents are often the first to notice developmental delays in their children. School staff should listen to parents' concerns and take appropriate action to assess and address any developmental concerns.

**Standardized testing:** Schools may administer standardized tests to assess academic skills, cognitive abilities, or social-emotional development. If a student performs significantly below their peers on these assessments, it may indicate a developmental delay.

The framework also encourages teachers to work closely with parents and caregivers to support children's learning and development. It emphasizes the importance of building strong partnerships between schools and families to create a supportive and collaborative learning environment for children.

Schools may make use of practical ideas and Sample Individual Education Programmes given in the framework to identify and support children with developmental delays.

### vi. Use of Technology

Technology can be used to enable equitable access to a diverse range of content and material in diverse forms, spaces, and formats that is contextual for children of varying backgrounds including Divyang (CWSN) children.

Technology can enhance the learning experience and create new opportunities. It empowers students to be more creative, connected and collaborative with their peers and teachers. Using technology gives the opportunity to develop student's digital citizenship skills. As use of digital devices is bound to increase with passage of time, it is important for children to learn from their initial years to use

digital devices with responsibility. Technology should also provide an enjoyable experience for the learner and feed the child's innate curiosity.

Schools must also use technology in Capacity Building of Teachers, parents, and the community.

### vii. The Learning Environment

A welcoming, compassionate environment where collaboration, inquiry, dialogue, and reflection are commonplace is a prerequisite for effective teaching and learning. Teachers require surroundings that are resource-rich, inspiring, and that offer ongoing chances for professional development and connection.

Access to safe infrastructure viz., potable water, clean and well-maintained restrooms with running water, arts and crafts supplies, furniture to set up learning corners, and a variety of children's books and learning resources must be available to enable a conducive learning environment.

### viii. Organisation of Time in the School

The National Curriculum Framework for Foundational Stage 2022 highlights the importance of careful planning and organisation of time by allotting adequate and equitable time to all domains to achieve holistic education of children. Each activity may be planned to keep in mind the attention span of the child. There may be a balance between child-initiated and Teacher-guided activities, group (whole group or small group) and individual or pair activities, and alternating activities (e.g., quieter activity after physical activity, group activity after individual activity, indoor activity after outdoor activity). Art and Craft, Outdoor Play, and Free Play must have adequate time and focus during the day. Frequent breaks and transitions may also be provided to allow children to regain their energy and interest.

To achieve this, the curriculum framework recommends a balanced distribution of time across different areas of learning, such as language, mathematics, environmental studies, arts, and physical education. Illustrative examples are provided for schools to help in formulating their own schedules.

Similarly, the NCFFS advocates the need for the preparation of an annual calendar detailing all important school events prior to the commencement of the school academic year. Events of the school e.g., duration of the school term, vacations, annual day, sports day, other school celebrations, exhibitions/field trips, parent-teacher meetings, teacher professional development programs, and school meetings may be a part of this calendar.

### ix. Culture of the Institution

Fundamentally, if children are loved and cared for, they will learn. Teachers should be kind and compassionate. The school should be a safe space for all children. Children learn from their parents

(the mother being the first teacher), the teacher in the classroom and the environment around. Therefore, it is vital that the school works seamlessly with the parents and the community to provide maximum learning opportunities for all children.

**x. Teacher Orientation and Continuous Capacity Building**

Through a variety of channels, teachers must consistently engage in their professional growth. The content must address the difficulties teachers confront, be thorough and complete, relevant to the classroom. It is necessary to provide platforms for peer learning with mentoring and assistance to teachers. Schools are required to fulfil the mandate given by CBSE regarding annual minimum teacher training hours.

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**CBSE SYLLABUS 2024-25**

**Std.: I**

**Subject: Computer Studies**

**Books: Tech Talk Textbook 1, Tech Talk Workbook 1**

**Overall Learning Outcomes**:

• to identify and describe different types of machines, including computers, and explain how they work.
• to know the rules to follow while using computers
• to identify the the different parts of a computer and their use
• to use the mouse to perform the different actions
• to use the keyboard to type letters and numbers
• to distinguish between hardware and software
• • to perform basic tasks on a computer using Windows OS
• to draw and paint on a computer using Tux Paint
• to add characters and backgrounds and use blocks to move a character in ScratchJr
• to create a story or game in ScratchJr using various blocks

| Sr. No. | Name of the Chapters | Key Concepts | Learning Objectives | Teaching Strategy |
|---|---|---|---|---|
| | | **Term I** | | |
| 1 | Ch. 1: What is a computer? | • What is a machine?<br>• A computer is a smart machine<br>• How does a computer work?<br>• Types of computers | • what a machine is<br>• why a computer is a smart machine<br>• how a computer works<br>• about the different types of computers | PPT based Activity-based |
| 2 | Ch. 2: Using Computers Safely | • Rules for using a computer safely<br>• Rules for sitting correctly at a computer<br>• Exercises to do while using a computer<br>• Taking care of your computer and other devices<br>• Computer manners<br>• How digital devices distract us | • the rules for using a computer safely<br>• to sit correctly while using a computer<br>• to do exercises while using a computer for a long time<br>• to take care of our computer and other devices<br>• to follow computer manners<br>• how digital devices distract us | PPT based Activity-based |
| 3 | **IA1 - Practical (Ch. 2: Using Computers** | | | |

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|---|---|---|---|---|
| 4 | Ch. 3: Parts of a Computer | • Main parts of a computer<br>• How are devices connected to the CPU?<br>• The input, process and output cycle<br>• Input devices<br>• Output devices | • the main parts of a computer and what they are used for<br>• how the main parts are connected to the CPU<br>• the input-process-output cycle<br>• about input devices<br>• about output devices | Activity-based |
| 5 | Ch. 4: Computer Mouse and Keyboard | • Computer mouse<br>• Computer keyboard<br>• Various keys on the keyboard<br>• Tips to take care of your mouse and keyboard | • the use of a mouse<br>• about the buttons and scroll wheel in a mouse<br>• how to hold a mouse<br>• various mouse actions<br>• the use of a keyboard<br>• about various keys on the keyboard<br>• tips to take care of the mouse and keyboard | Activity-based |
| 6 | **IA2 - Practical (Ch. 4: Computer Mouse and Keyboard)** | | | |
| 7 | Ch. 5: Working with a Computer | • Hardware and software<br>• Switching on the computer<br>• Logging into a computer<br>• Elements of the Windows desktop<br>• How to open an application<br>• Elements of an application window<br>• How to shut down a computer | • the difference between hardware and software<br>• to switch on the computer<br>• to log into a computer<br>• about the main elements of a Windows desktop<br>• to open an application<br>• about the elements of an application window<br>• to shut down a computer | Learning by doing |
| 8 | **IA3 - Project** | | | |
| **Term II** | | | | |

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|---|---|---|---|---|
| 1 | Ch. 6: Drawing with Tux Paint | • What is Tux Paint?<br>• Starting Tux Paint<br>• The Tux Paint window<br>• Creating a new drawing<br>• Drawing in freehand<br>• Using the Undo and Redo tools<br>• Using the Colors section<br>• Drawing straight lines<br>• Drawing shapes<br>• Filling colours in a drawing<br>• Saving your drawing<br>• Opening a saved drawing<br>• Deleting a saved drawing<br>• Printing your drawing<br>• Quitting Tux Paint | • about Tux Paint<br>• to start Tux Paint the elements of Tux Paint window<br>• to create a new drawing<br>• to draw a freehand drawing<br>• to use the different brushes of the Paint tool<br>• to undo or redo a change<br>• to erase parts of your drawing<br>• to use colour in your drawing<br>• to draw straight lines and shapes<br>• to fill colours in a drawing<br>• to save your drawing<br>• to open or delete a saved drawing<br>• to print your drawing<br>• to quit Tux Paint | Activity-based |
| 2 | **IA4 - Practical (Ch. 6: Drawing with Tux Paint)** | | | |
| 3 | Ch. 7: Introducing ScratchJr | • What is an instruction?<br>• Computer Program or Code<br>• What is ScratchJr?<br>• Installing ScratchJr on a computer or laptop<br>• Installing ScratchJr on tablets<br>• Creating a new project in ScratchJr<br>• Elements of ScratchJr window<br>• Adding a character<br>• Deleting a character<br>• Adding a background<br>• Creating scripts<br>• Naming a project in ScratchJr | • what an instruction is<br>• understand instructions in a sequence<br>• what ScratchJr is<br>• the different features of ScratchJr window<br>• to make the character perform actions using blocks from various categories<br>• to name a project<br>• to save a project | Activity-based |

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| 4 | **IA5 - Practical (Introducing** | | | |
| 5 | **IA6 - Project** | | | |

**CBSE SYLLABUS 2024-25**

**Std.: II**

**Subject: Computer Studies**

**Books: Tech Talk Textbook 2, Tech Talk Workbook 2**

**Overall Learning Outcomes**:

- to use various storage devices to store data
- to use the different Windows application
- to create a document in Openoffice Writer
- to use different keyboard keys to perform specific tasks
- to draw and paint using the different tools of Tux Paint Tools
- to paint a new character in ScratchJr
- to use Triggering, Control, Looks and Sound blocks for performing advanced actions
- to create a story project containing multiple pages in ScratchJr

| Sr. No | Name of the Chapters | Key Concepts | Learning Objectives | Teaching Strategy |
|---|---|---|---|---|
| | | **Term I** | | |
| 1 | Ch. 1: How Data is Stored | • What is data?<br>• Storage devices<br>• Types of storage devices | • what data is<br>• about storage devices<br>• types of storage devices | PPT based |
| 2 | Ch. 2: Introduction to Windows | • Introduction to software<br>• Types of software<br>• Introduction to Operating Systems (OS)<br>• Common icons on the desktop<br>• The Taskbar<br>• Windows applications | • to recognise the different types of software<br>• to use the common icons and taskbar of Windows<br>• to use Windows applications such as Media Player, Calculator, Notepad, Calendar and File Explorer<br>• to browse the internet | Activity based |
| 3 | **IA1 - Practical (Ch. 2: Introduction to Windows)** | | | |

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|---|---|---|---|---|
| 4 | Ch. 3: Introduction to Writer | • Word processing applications<br>• OpenOffice Writer<br>• Elements of the Writer window<br>• Creating a new document<br>• Typing and editing text in a document<br>• Deleting text in a document<br>• Saving and exiting a document<br>• Opening a saved document | • about word processing applications<br>• about the features of OpenOffice Writer<br>• how to open the OpenOffice Writer application<br>• the elements of the OpenOffice Writer window<br>• to create a new document<br>• to type and edit text in a document<br>• to save and exit a document<br>• to open a saved document<br>• to format the text | Activity based, Learning by Doing |
| 5 | Ch. 4: Keyboard – Other Keys | • Special keys<br>• Punctuation keys<br>• Navigation keys<br>• Function Keys | • the special keys<br>• the punctuation keys<br>• the navigation keys<br>• the function keys | Activity based |
| 6 | **IA2 - Practical (Ch. 4: Keyboard-Other Keys)** | | | |
| 7 | **IA3 - Project** | | | |
| | | **Term II** | | |
| 1 | Ch. 5: Tux Paint Tools | • Drawing a shape in different ways<br>• Adding text in a drawing<br>• Adding a label in a drawing<br>• Adding Special Effects<br>• Adding Stamps | • different ways to draw a shape<br>• to add text in a drawing<br>• to add special effects to a drawing<br>• to add stamps in a drawing<br>• to create a slide show of selected drawings | Activity based, Learning by Doing |
| 2 | **IA4 - Practical (Ch. 5: Tux Paint Tools)** | | | |
| 3 | Ch. 6: More Features of ScratchJr – Part 1 | • Creating your own character and background<br>• More Triggering blocks<br>• More Control blocks<br>• More Looks blocks<br>• More Sound blocks | • to paint our own character and background<br>• to send a message and start on a message<br>• to repeat instructions<br>• to change the speed of an action<br>• to change the size of a character<br>• to record a sound and play a | Activity based, Learning by Doing |

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|---|---|---|---|---|
| 4 | Ch. 7: More Features of ScratchJr – Part 2 | • Adding pages to a project<br>• Going to a specific page in a project<br>• Deleting pages<br>• Repeating a script forever<br>• Creating a game and | • to add a new page in a project<br>• to go to a specific page of a project<br>• to delete pages in a project<br>• to run a script continuously<br>• to create a game and a story | Activity based, Learning by Doing |
| 5 | **IA5- Practical (Ch. 7: More Features of ScratchJr – Part 2)** | | | |
| 6 | **IA6 - Project** | | | |

**CBSE SYLLABUS 2024-25**

**Std.: IV**

**Subject: Computer Studies**

**Books: Tech Talk Textbook 4, Tech Talk Workbook 4**

**Overall Learning Outcomes**:

• to identify the various components of a computer
• to customise your desktop
• to format and edit a document in OpenOffice Writer
• to create a presentation using OpenOffice Impress
• to customise the Windows desktop such as wallpaper, screen/desktop, set time/date
• to create custom sprites and backdrops in Scratch
• to animate sprites in Scratch using image effects

| Sr. No | Name of the Chapters | Key Concepts | Learning Objectives | Teaching Strategy |
|---|---|---|---|---|
| | | **Term I** | | |
| 1 | Ch 1: Inside the Computer | • CPU box<br>• Internal hardware<br>• Main memory<br>• Secondary memory | • to identify the various components inside the CPU box<br>• to list the functions of these components<br>• to explore the use of main memory<br>• to identify the different types of main memory<br>• to identify storage devices used as secondary memory | Jigsaw PPT-based learning |

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|---|---|---|---|---|
| 2 | Ch 2: Customising the Desktop | • Customising your desktop<br>• Customising the taskbar<br>• Creating Shortcuts<br>• Changing the Wallpaper<br>• Changing the Screen saver<br>• Changing the Date and Time<br>• Adjusting the volume<br>• Searching for files and | • to customise your desktop<br>• move, lock, and hide the taskbar<br>• to create shortcuts on the desktop<br>• to change the wallpaper and screen saver<br>• to change the date and time of your computer<br>• to adjust the volume of your speaker<br>• to search for files and folders | Activity-based |
| 3 | **IA1- Practical (Ch. 2: Customising the Desktop)** | | | |
| 4 | Ch 7: Browsing the Internet | • Basic requirement for an internet connection<br>• Using a web browser<br>• Using the Google search engine<br>• Working of a search engine<br>• Safety rules while using the internet | • to list the basic requirements to connect to the internet<br>• how a web browser works<br>• to identify the different parts of a web browser<br>• to extract information from the internet using a search engine<br>• how a search engine works<br>• to follow safety rules while using the | PPT-based learning |
| 5 | Ch 4: Layers, Scenes and Tweening in TupiTube | • Animating an object using tweening<br>• Using layers<br>• Adding scenes | • to animate an object using tweening<br>• to use separate layers for each object<br>• to add scenes | Activity-based |
| 6 | **IA2 - Practical (Ch 4: Layers, Scenes and Tweening in TupiTube)** | | | |
| 7 | **IA3 - Project** | | | |
| 8 | **Digital Citizenship Module**<br>**IA4 - Worksheet/Acti** | | | |
| **Term II** | | | | |

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|---|---|---|---|---|
| 1 | **IA5: Art Integrated Project** | | | |
| 2 | Ch 3: Formatting and Editing Tools of OpenOffice Writer | • Making text bold, italic or underlined<br>• Aligning text<br>• Changing the line spacing<br>• Changing the indentation<br>• Using bullets and numbering<br>• Find and Replace<br>• Using the Thesaurus option<br>• Checking for spellings | • to make the text appear bold, italic and underlined<br>• to align text in different ways<br>• to change the line spacing in paragraphs<br>• to increase or decrease the indentation of text<br>• to create a bulleted or numbered lists<br>• to find and replace a word<br>• to check spellings<br>• to get synonyms of words<br>• to use the Format Paintbrush tool | Flipped Classroom |
| 3 | Ch 5: Introduction to OpenOffice Impress | • Process of creating a presentation<br>• Features of OpenOffice Impress<br>• Starting OpenOffice Impress<br>• Elements of Impress window<br>• Using OpenOffice Impress<br>• Using OpenOffice Impress<br>• Saving and closing a presentation<br>• Views in Impress | • about the process of creating a presentation<br>• to identify the purpose of presentation software<br>• to start OpenOffice Impress<br>• to identify the different elements of the Impress window<br>• to add a new slide<br>• to change the slide layout<br>• to add text to a slide<br>• to add images, shapes and decorative text in a slide<br>• to add a table to a slide<br>• to save and open a saved presentation<br>• to run a slide show of your presentation | PPT-based learning Activity-based |
| 4 | **IA6 - Practical (Ch.5: Introduction to OpenOffice Impress)** | | | |

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| 5 | Ch 6: More Features of Scratch | • Using Looks blocks<br>• Using Pen blocks<br>• Using Control blocks<br>• Using Events blocks<br>• Using My Blocks<br>• Using Sound blocks | • to apply image effects to the sprite using Looks blocks<br>• to draw patterns on the stage using Pen blocks<br>• to draw shapes and patterns by repeating instructions using Control blocks<br>• the benefits of using repetition in a program<br>• how different sprites interact using Events blocks<br>• to create your own blocks using My Blocks<br>• to change the sound effects and its | Activity based |
| 6 | **IA7 - Practical (Ch 6: More Features of Scratch)** | | | |
| 7 | **Digital Citizenship Module**<br>**IA8 - Worksheet/Acti** | | | |

**CBSE SYLLABUS 2024-25**

**Std.: V**

**Subject: Computer Studies**

**Books: Tech Talk Textbook 5, Tech Talk Workbook 5**

**Overall Learning Outcomes**:

• to design 3D objects using Tinkercad
• to use OpenOffice Writer to create tables and change the page properties of a document
• to create a presentation with animations in OpenOffice Impress
• to create a basic webpage using HTML
• to animate sprites using Sensing, Operator and Control blocks
• to create advanced scripts in Scratch using variables
• to explore the various services provided by the internet

| Sr. No | Name of the Chapters | Key Concepts | Learning Objectives | Teaching Strategy |
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| **Term I** | | | | |

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| 1 | Ch. 2 Advanced Features of OpenOffice Writer | • Tables<br>• Formatting a table using Table Format window<br>• Page properties<br>• Printing a document | • to create a table<br>• to enter data into it<br>• to add rows and columns to a table<br>• to divide a cell into two or more cells<br>• to combine adjacent cells into a single cell<br>• to delete rows and columns from a table<br>• to delete a table<br>• to apply borders and shading to tables using the Table Format window<br>• to change the height of rows and width of columns<br>• to add a header or footer<br>• to change the page orientation<br>• to format text in columns using the Page Style window<br>• to preview and print a document | Flipped Classroom |
| 2 | Ch. 3 Special Effects in OpenOffice Impress | • Custom Animation<br>• Slide Transition<br>• Adding a background<br>• Slide Master<br>• Adding media clips to slides<br>• Interaction<br>• OLE objects | • to animate objects in a slide<br>• to add transition effects to slides<br>• to add backgrounds in a presentation<br>• to use a slide master<br>• to add media clips to a presentation<br>• to add action buttons<br>• to add OLE objects in a slide | Flipped Classroom PPT Based |
| 3 | **IA1- Practical 1 (Ch. 2 Advanced Features of OpenOffice Writer)** | | | |
| 4 | Ch. 4 Introduction to HTML | • What is HTML?<br>• The basic structure of HTML<br>• Creating HTML documents<br>• Edublocks<br>• Editing an HTML file<br>• Basic HTML tags<br>• Attributes of tags<br>• Creating Lists | • to define HTML<br>• to identify the features of HTML<br>• to understand the basic structure of an HTML<br>• to create an HTML file<br>• to view an HTML file in the browser<br>• to edit an HTML file<br>• to use the basic HTML tags<br>• to change the properties of tags using attributes | 5Es strategy Jigsaw |

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| 5 | **IA2 - Practical 2 (Ch. 4 Introduction to HTML)** | | | |
| 6 | Ch. 1 Introduction to Tinkercad | • What is 3D printing?<br>• Introduction to Tinkercad<br>• Components of Tinkercad design window<br>• Adding objects on the workplane<br>• Moving, scaling and rotating objects<br>• Changing workplanes<br>• Viewing objects from different angles<br>• Aligning objects<br>• Flipping objects<br>• Grouping and ungrouping objects<br>• Creating hollow objects<br>• Creating a bangle in Tinkercad | • to understand the concept of 3D printing<br>• to identify the use of Tinkercad for 3D designing<br>• to identify the different components<br>• to add objects on the workplane<br>• to view objects from different angles<br>• to move, scale and rotate objects<br>• to change the workplane<br>• to align objects in different ways<br>• to flip objects<br>• to group and ungroup objects<br>• to create hollow objects<br>• to hide and show objects | Flipped Classroom |
| 7 | **IA3 - Project** | | | |
| 8 | **Digital Citizenship Module**<br>**IA4 - Worksheet/Acti** | | | |
| **Term II** | | | | |
| 1 | **IA 5: Art Integrated Project** | | | |

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| 2 | Ch. 5 Advanced Features of Scratch – Part 1 | • What are conditions?<br>• Gathering information using Sensing blocks<br>• Performing calculations and comparing values using Operators blocks<br>• Executing scripts selectively using Control blocks | • to understand the use of conditions in a script<br>• to gather information about the sprite and stage by using Sensing blocks<br>• to accept input from the user<br>• to perform calculations and compare values using Operators blocks<br>• to generate random numbers<br>• to selectively execute a script using Control blocks<br>• to create and use your own variables<br>• to create and use variable lists<br>• to use video sensing extensions | 5Es strategy |
| 3 | **IA6 - Practical (Ch. 5 Advanced Features of Scratch – Part 1)** | | | |
| 4 | Ch. 6 Advanced Features of Scratch – Part 2 | • Using variables<br>• Using variable lists<br>• Video Sensing | • to create and use your own variables<br>• to create and use variable lists<br>• to use video sensing extensions<br>• to use video sensing extensions | 5Es strategy |
| 5 | Ch. 7 Internet Services | • Services provided by the internet<br>• Communicating using email<br>• Email etiquette<br>• Creating a comic strip using Make Beliefs Comix<br>• Unethical practices related to the internet | • to explore the different services on the internet<br>• to create and use an email account<br>• to create an online comic strip<br>• to identify and avoid unethical practices on the internet | PPT based |
| 6 | **IA7 - Project** | | | |
| 7 | **Digital Citizenship Module**<br>**IA8 - Worksheet/Acti** | | | |

**CBSE SYLLABUS 2024-25**

**Std.: VI**

**Subject: Computer Studies**

**Books: Tech Talk Textbook 6, Tech Talk Workbook 6**

**Overall Learning Outcomes**:

• to understand the history and evolution of computing devices
• to learn how to edit, format and manipulate data in a spreadsheet using OpenOffice Calc
• to learn how to create and edit video using OpenShot Video Editor
• to use advanced features of Tinkecard to design 3D objects
• to create an advanced webpage using HTML
• to use an algorithm and flowchart to create a script in a Scratch programming language
• to understand what Artificial Intelligence (AI) is and how it works

| Sr. No | Name of the Chapters | Key Concepts | Learning Objectives | Teaching Strategy |
|---|---|---|---|---|
| | | **Term I** | | |
| 1 | Ch 1: The Evolution of Computers | • Early calculating devices<br>• Generations of computers<br>• Categories of | • to describe features of early calculating devices<br>• to compare various generations of computers<br>• to classify computers into different | 5Es<br>Jigsaw |
| 2 | Ch 3: Introduction to OpenOffice Calc | • Features of a spreadsheet<br>• Components of OpenOffice Calc window<br>• Saving a Calc Spreadsheet<br>• Formatting Cells<br>• Editing a worksheet<br>• Inserting and deleting rows/columns<br>• Generating series<br>• Calculations in OpenOffice Calc | • to describe the features of a spreadsheet<br>• to identify the components of OpenOffice Calc<br>• to differentiate between a workbook and a worksheet<br>• to save a worksheet<br>• to format cells in a worksheet<br>• to edit cells in a worksheet<br>• to edit data in a worksheet<br>• to insert or delete rows, columns or cells<br>• to generate a series of values in rows and columns<br>• to perform basic calculations on data | Flipped classroom<br>PPT-based learning<br>Activity-based learning |
| 3 | **IA1- Practical (Ch 3: Introduction to OpenOffice Calc)** | | | |

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|---|---|---|---|---|
| 4 | Ch 4: OpenShot Video Editor | • Features of OpenShot Video Editor<br>• Downloading and installing<br>• OpenShot Video Editor interface<br>• Creating a video<br>• Editing a video<br>• Adding titles and credits to the video<br>• Previewing and exporting | • about the features of OpenShot Video Editor<br>• to download and install OpenShot Video Editor<br>• to identify the components of OpenShot Video Editor<br>• the steps to create a video<br>• to import media files<br>• to add media files on the timeline<br>• to edit a video<br>• to change the properties of a video clip<br>• to add transitions and effects to the video<br>• to add a title and credits to the video | Flipped Classom |
| 5 | Ch 2: 3D Printing with Tinkercad | • The Ruler tool<br>• Moving objects accurately<br>• Workplane Settings<br>• Creating a fidget spinner<br>• Converting 2D images into 3D objects<br>• 3D Printing process<br>• Using Cura<br>• Parts of a 3D printer | • to use the Ruler tool in Tinkercad<br>• to change the units of measurement<br>• to change the size of the workplane<br>• to convert 2D images into 3D objects<br>• to understand the 3D printing process<br>• to know the use of various options in Cura Slicer<br>• to identify the parts of a 3D printer and know their use | Flipped Classroom Activity based Jigsaw |
| 6 | **IA2 - Practical (Ch 4: OpenShot Video Editor)** | | | |
| 7 | **IA3 - Project** | | | |
| 8 | **Digital Citizenship Module**<br>**IA4 - Worksheet/Activity** | | | |
| **Term II** | | | | |
| 1 | **IA5: Art Integrated Project** | | | |

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| 2 | Ch 5: More on HTML | • Adding images to a web page<br>• Attributes of <img> tag<br>• Using tables<br>• Basic structure of an HTML table<br>• Creating hyperlinks<br>• Types of hyperlinks<br>• Creating forms<br>• Input elements<br>• Attributes of the <input> tag<br>• Select tag<br>• Attributes of the | • to add images to a web page<br>• to add tables in a web page<br>• to create hyperlinks<br>• to create forms for accepting inputs | Activity based PPT-based learning |
| 4 | **IA6 - Practical (Ch 5: More on HTML)** | | | |
| 5 | Ch 6: Algorithms and Flowcharts | • Algorithm<br>• Rules for writing an algorithm<br>• Creating an algorithm<br>• Advantages of algorithms<br>• Limitation of algorithms<br>• Flowchart<br>• Flowchart symbols<br>• Rules for drawing a flowchart<br>• Flowchart with conditions<br>• Repeating instructions<br>• Advantages of flowcharts<br>• Limitations of flowcharts<br>• Drawing a flowchart using a computer application | • to know what an algorithm is<br>• to know the rules to be followed while creating algorithms<br>• to understand the advantages of algorithms<br>• to create an algorithm for a task<br>• to know what a flowchart is<br>• to understand the symbols used in a flowchart<br>• to understand the rules to be followed while drawing a flowchart<br>• to use selection in a flowchart based on a condition<br>• to repeat instructions multiple times<br>• to understand the advantages and disadvantages of a flowchart<br>• to use an algorithm and flowchart to create a script in a Scratch programming language | PPT-based learning |

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| 6 | Ch 7: Introduction to Python | • Programming language<br>• What is Python?<br>• Features of Python<br>• IDLE for Python<br>• Downloading and installing Python IDLE<br>• Using the Python shell in IDLE<br>• Creating and executing a program<br>• Checking and correcting errors<br>• The print() command<br>• Variables<br>• Adding comments<br>• Performing calculations in Python<br>• Formatting and modifying strings | • to know about Python programming language<br>• to understand the features and applications of Python<br>• to download and use IDLE for Python<br>• to type and execute Python commands in interactive mode<br>• to create, save and execute Python programs<br>• to use variables in a program<br>• to know the rules for naming a variable<br>• to identify the different types of data<br>• to assign values to variables<br>• to add comments in a program<br>• to use arithmetic operators for calculations<br>• to accept values from the user in a program<br>• to format and modify strings in Python | Activity based |
| 7 | **IA7 - Practical (Ch 7: Introduction to Python)** | | | |
| 8 | Ch 8: Introduction to Artificial Intelligence (AI) | • What is AI?<br>• The domains of AI<br>• Subsets of AI<br>• Machine Learning platforms<br>• Making a game or app<br>• Applications of AI<br>• Bias in AI | • to understand what Artificial Intelligence (AI) is<br>• to identify and describe the domains of AI<br>• to know what machine learning is and how it works<br>• to train and test a machine learning model<br>• to understand what deep learning is<br>• about some of the applications of the various domains of AI<br>• to recognise bias in AI systems and learn how to avoid it | PPT-based learning |
| 9 | **Digital Citizenship Module**<br>**IA8 - Worksheet/Acti** | | | |

**CBSE SYLLABUS 2024-25**

**Std.: VII**

**Subject: Computer Studies**

**Books: Tech Talk Textbook 7, Tech Talk Workbook 7**

**Overall Learning Outcomes**:

• to classify computer software into different types
• to use circuit assemblies in 3D objects
• to use functions to perform calculations, sort, filter, and present data in visual form in OpenOffice Calc
• to use Google Drive cloud storage service fto store and share data
• to design webpages using CSS in HTML
• to edit and manipulate images using GIMP
• to create programs using conditional statements in Python programming language

| Sr. No | Name of the Chapters | Key Concepts | Learning Objectives | Teaching Strategy |
|---|---|---|---|---|
| | | **Term I** | | |
| 1 | Ch. 1 Types of Software | • Types of software<br>• System software<br>• Application software<br>• Access-based software<br>• Software piracy<br>• Intellectual Property Rights | • to categorise software into different types<br>• to understand the different types of system software<br>• to know the use of the operating system<br>• to know the use of language processors<br>• to know the use of utility programs<br>• to differentiate between specific and general purpose application software<br>• to know what free and open source software is<br>• to know what proprietary software is<br>• to understand intellectual property rights and piracy | 5 E's Strategy |
| 2 | Ch. 3 Functions and Charts in Calc | • Functions in Calc<br>• Types of functions<br>• Errors<br>• Cell referencing<br>• Viewing data selectively<br>• Charts | • to recall the use of basic functions<br>• to identify the different categories of functions<br>• to use functions from different categories<br>• to identify the errors displayed while using functions<br>• to sort data in a particular order<br>• to filter specific data<br>• to highlight specific data<br>• to identify the different types of charts<br>• to create a chart for data | 5 E's Strategy |

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| 3 | **IA1- Practical (Ch. 3 Functions and Charts in Calc)** | | | |
| 4 | Ch. 4 Cloud Computing | • Cloud Computing<br>• Google Drive<br>• Creating files on Google Drive<br>• Using Google Sheets | • to know what cloud computing means<br>• to know the types of cloud computing models<br>• to understand the advantages and disadvantages of cloud computing<br>• to use Google Drive cloud storage service for storing and sharing data<br>• to know the use of Google Docs<br>• to know the use of Google Slides<br>• to know the use of Google Sheets<br>• to convert an existing spreadsheet into a Google sheet<br>• to customise or format a Google sheet | PPT-Based<br>5 E's strategy |
| 5 | Ch. 2 Circuits and Circuit Assemblies in Tinkercad | • Circuits in Tinkercad<br>• Components of Tinkercad Circuits<br>• Electronic Components<br>• Circuit Assemblies | • to identify the components of Tinkercad circuits<br>• to know the use of basic electronic components<br>• to create simple electronic circuits using basic electronic components<br>• to know about circuit assemblies<br>• to design a 3D object that uses a | Flipped Classroom<br>5E's strategy |
| 6 | **IA2 - Practical (Ch. 4 Cloud Computing)** | | | |
| 7 | **IA3 - Project** | | | |
| 8 | **Digital Citizenship Module**<br>**IA4 - Worksheet/Acti** | | | |
| **Term II** | | | | |
| 1 | **IA5: Art Integrated Project** | | | |

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| 2 | Ch. 5 Using CSS in HTML | • What is CSS?<br>• Using CSS with HTML<br>• CSS Selector<br>• CSS Properties<br>• Using HTML5 semantic tags | • to understand the need for CSS<br>• to know the syntax of a CSS rule<br>• to use CSS in HTML<br>• to identify the different types of CSS selectors<br>• to change the background style using CSS<br>• to change the text style using CSS<br>• to change the font style using CSS<br>• to define the web page layout<br>• using HTML5 semantic tags | 5E's strategy<br>Jigsaw |
| 3 | **IA6 - Practical (Ch. 5 Using CSS in HTML)** | | | |
| 4 | Ch. 6 Image Editing in GIMP | • What is GIMP?<br>• Basic operations in GIMP<br>• Using the GIMP Toolbox<br>• Selection tools<br>• Paint tools<br>• Transform tools | • to identify the features of GIMP<br>• to download and install GIMP<br>• to identify the GIMP window modes and its parts<br>• to open an image for editing<br>• to find information about your image<br>• to save an image<br>• to export an image in a different image formats<br>• to change the file size of an image<br>• to select parts of an image using the Selection tools<br>• to draw and paint over images using the Paint tools<br>• to erase parts of an image using the Eraser tool<br>• to repair an image using Clone and Heal tools<br>• to blur or sharpen parts of an image<br>• to smudge parts of an image<br>• to lighten or darken parts of an | Flipped Classroom |
| 5 | **IA7 - Project** | | | |

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| 6 | Ch. 7 Python: Conditions and Loops | • Operators<br>• Conditional statements<br>• Loops | • to define conditions using relational operators<br>• to combine multiple conditions using logical operators<br>• to execute selective statements based on a condition<br>• to execute selective statements based on multiple conditions<br>• to execute a set of statements repeatedly in a loop<br>• to differentiate between the 'while' and 'for' loop<br>• to break the execution of a loop based on a condition<br>• to skip the execution of an iteration in a loop<br>• to generate a sequence of numbers using the range function<br>• to loop through a string | 5E's strategy<br>Jigsaw |
| 7 | Ch. 8 MIT App Inventor- Part 1 | • What is an app?<br>• MIT App Inventor<br>• MIT App Inventor environment<br>• Process of creating an app<br>•Testing the app<br>• Creating a bouncing ball app | • what an app is<br>• about MIT App Inventor<br>• the main components of the MIT App Inventor environment<br>• to design the interface of an app using various components<br>• to add behaviour to the app using blocks<br>• to test and run the app | PPT based learning<br>5E's Strategy |
| 8 | **Digital Citizenship Module**<br>**IA8 - Worksheet/Acti** | | | |

**CBSE SYLLABUS 2024-25**

**Std.: VIII**

**Subject: Computer Studies**

**Books: Tech Talk Textbook 8, Tech Talk Workbook 8**

**Overall Learning Outcomes**:

• to understand computer networks, including their uses, components, types, and different network protocols.
• to create a create, modify, and manipulate tables in a database,
• to identify the various applications of the internet and emerging technologies
• to use shape generators in designing  complex 3D objects
• to use programming code to design a 3D object
• to create interactive web pages using JavaScript
• to use layers to create and edit images in GIMP
• to use Lists, Loops and Functions in a Python program
• to develop apps using MIT App Inventor extensions

| Sr. No | Name of the Chapters | Key Concepts | Learning Objectives | Teaching Strategy |
|---|---|---|---|---|
| **Term I** | | | | |
| 1 | Ch 1: Computer Networks | • What is a computer network?<br>• Wired and wireless network<br>• Components of a network<br>• Types of Networks<br>• Network protocol<br>• Types of protocols | • to understand a computer network<br>• to know the uses of a network<br>• to differentiate between wired and wireless network<br>• to identify the components of a network<br>• to identify the different types of network<br>• to describe the different network protocols | 5Es strategy<br>Jigsaw |

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| 2 | Ch 3: Introduction to OpenOffice Base | • What is a database?<br>• Database Management System (DBMS)<br>• OpenOffice Base<br>• Tables<br>• Creating a table<br>• Queries<br>• Forms | • to know what a database is<br>• to understand a DBMS and its applications<br>• to identify the components of OpenOffice Base<br>• to understand tables and its elements<br>• to know about the views of a table and data types of its fields<br>• to create a table and define a primary key<br>• to change the properties of fields in a table<br>• to modify the structure of a table<br>• to add records in a table<br>• to delete records in a table<br>• to rename a table<br>• to delete a table<br>• to create a query for viewing selective data using wizard and design view<br>• to create a form to enter data using wizard | Flipped learning |
| 3 | **IA1- Practical (Introduction to OpenOffice Base)** | | | |
| 4 | Ch 4: E-Commerce, Social Media and Interactive Technologies | • E-commerce<br>• Categories of e-commerce<br>• Advantages of e-commerce<br>• Disadvantages of e-commerce<br>• Online modes of payment (ePayments)<br>• Advantages of ePayment<br>• Blogs<br>• Podcast<br>• Social networking | • to define e-commerce services<br>• to identify the different categories of e-commerce<br>• to identify the advantages and disadvantages of e-commerce<br>• to identify online modes of payment<br>• to create a blog using a blogging platform<br>• to create a podcast<br>• to describe the features of social networking<br>• to list the advantages and disadvantages of social networking<br>• about virtual reality and augmented | 5Es strategy<br>Jigsaw<br>Flipped learning |

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| 5 | Ch 2: Advanced Features of Tinkercad | • Shape Generators<br>• Inscribing text in the Extruded curve<br>• Creating a patterned vase using the Voronoi tile<br>• Codeblocks<br>• Creating a 3D House | • to define shape generators<br>• to identify custom shapes from shape generators<br>• to use custom shapes for designing 3D objects<br>• to use Codeblocks to create a 3D design<br>• to export a Codeblock design as | Flipped learning |
| 6 | **IA2- Practical (Ch 2: Advanced Features of Tinkercad)** | | | |
| 7 | **IA3 - Project** | | | |
| 8 | **Digital Citizenship Module**<br>**IA4 - Worksheet/Acti** | | | |
| **Term II** | | | | |
| 1 | **IA 5: Art Integrated Project** | | | |
| 2 | Ch 5: JavaScript in HTML | • Scripting language<br>• What is JavaScript?<br>• Using JavaScript with HTML<br>• Using Functions and Events in JavaScript<br>• Document Object Model<br>• Using DOM methods<br>• Validating inputs in a form | • to know the use of a scripting language<br>• to understand the types of scripting languages<br>• to identify the features of JavaScript<br>• to use JavaScript in HTML<br>• to differentiate between internal and external JavaScript<br>• to use functions and events in JavaScript<br>• about the Document Object Model (DOM) in JavaScript<br>• to use DOM methods to modify specific elements | 5Es strategy Jigsaw |

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| 3 | Ch 6: Layers in GIMP | • Introduction to layers<br>• Creating a new layer<br>• The Layers window<br>• Resizing a layer<br>• Filters<br>• Layer mask<br>• Drawing shapes using layers and selection tools<br>• Creating a logo with a floating appearance<br>• Creating animated GIF | • to know the uses of layers in image editing<br>• to understand the Layers dialog box in GIMP<br>• to create a new layer<br>• to duplicate a layer<br>• to delete a layer<br>• to show and hide layers<br>• to reorder layers<br>• to resize a layer<br>• to use filters<br>• to use layer masks<br>• to draw shapes using selection tools and layers<br>• to create a floating logo using layers | Flipped learning |
| 4 | **IA6 - Practical (Ch 6: Layers in GIMP)** | | | |
| 5 | Ch 7: Python: Lists, Functions and Modules | • Data structures in Python<br>• Creating and manipulating a list<br>• Functions<br>• Modules | • about data structures used to store a collection of data in Python<br>• to identify the different types of data structures<br>• to create and manipulate a list data structure<br>• to modify, add or remove an element in the list<br>• to clear or delete a list<br>• to loop through the elements in a list<br>• to sort the elements in a list<br>• to create a copy of a list<br>• to join two lists<br>• to create blocks of reusable codes using functions<br>• to call a function in a program<br>• to pass values to a function<br>• to return values from a function<br>• to use built-in functions of Python | PPT based |

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| 6 | Ch 8: MIT App Inventor-Part 2 | • Creating AI-based apps using extensions<br>• Creating an image classifier app<br>• Creating a Voice authentication app | • to understand what extensions are<br>• to create an image classifier app using LookExtension<br>• to create a machine learning model for a Personal Audio Classifier(PAC)<br>• to create a voice authentication app based on this model | Flipped learning |
| 7 | **IA7 - Practical (MIT App Inventor-Part 2)** | | | |
| 8 | **Digital Citizenship Module**<br>**IA8 - Worksheet/Acti** | | | |