

## Grade 9 – Learning Area specific course descriptions

### ENGLISH

The purpose of the Grade 9 English curriculum is to enable students to communicate effectively and appropriately in real-life situation. Students work further on the four language skills – listening, speaking, reading and writing. They read and comprehend and appreciate English texts through different reading types like loud reading and silent reading and reading strategies like scanning and skimming. Students understand the rules of grammar and their use in writing, learn to write in an appropriate style and format, plan organise and present ideas coherently. They also develop an interest in reading and appreciating English literature.

### MATHEMATICS

The Mathematics curriculum in Grade 9 aims to enhance the capacity of students to employ Mathematics in solving day-to-day life problems. Students acquire the ability to solve problems using algebraic methods and apply the knowledge of simple trigonometry to solve problems of height and distances. They carry out experiments with numbers and forms of geometry, frame hypothesis and verify these with further observations. Students apply the knowledge and skills acquired to solve problems and wherever possible, by more than one method and develop ability to think, analyse and articulate logically.

### SECOND LANGUAGE – HINDI\*

By the end of Grade 9, students begin to read and follow extended fiction and nonfiction texts, poems with confidence. They make use of comprehensible pronunciation, stress and intonation. They recognise and respond to all punctuation marks, anunasik, anuswar, nukta, upsarg - pratyy, varn - vichched, part of speech, word joining (sandhi), a few compound words (samās) and figures of speech.

Students familiarize with non - verbal clues and respond by speaking and writing. They write simple vigyapan, picture composition, paragraphs, informal letter, simple descriptive pieces, answers to unseen passage and poetries and scripts for role plays. Students communicate their views on general and curricular topics to peers, parent and teachers with confidence. They make use of information from other subjects, pictures and surroundings to facilitate learning.

### SCIENCE – PHYSICS, CHEMISTRY, BIOLOGY

The Science program of Grade 9 is designed to help students acquire knowledge and conceptual understanding and skills to solve problems, and make informed decisions in scientific and other contexts. Students learn through hands-on activities which include observing, recording, analysing, inferring and designing. They develop skills of scientific inquiry to design and carry out scientific investigations and learn to think analytically, critically and creatively.

### HISTORY

The curriculum in Grade 9 lays emphasis on two major events and processes that have in major ways shaped the identity of the modern world. Each represents a different form of politics, and a specific combination of forces. One event is linked to the growth of liberalism and democracy, The French Revolution, one with socialism in Europe and the Russian Revolution and one with a negation of both democracy and socialism Nazism and the Rise of Hitler. The themes 'Forest Society' and 'Colonialism under Livelihoods, Economies and Societies' focuses on how different social groups grapple with the changes in the contemporary world and how these changes affect their lives.

### GEOGRAPHY

By the end of Grade 9, students delve further into the geography of India – its major landform features and the underlying geological structure; their association with various rocks and minerals as well as nature of soil types. The river systems of the country and their role in the evolution of human society are also explored.

Students identify the various factors influencing the climate and explain the climatic variation of our country and its impact on the life of the people. They investigate the importance and unifying role of monsoons, the nature of diverse flora and fauna as well as their distribution, to develop concern about the need to protect the biodiversity of our country. Students analyse the uneven nature of population distribution and show concern about its large size .They understand the various occupations of people, explain various factors of population change; explain various dimension of national policy and understand the needs of adolescents as underserved group.

### CIVICS

Grade 9 Civics provides opportunities for students to develop conceptual skills of defining democracy. They understand how different historical processes and forces have promoted democracy and develop a sophisticated defence of democracy against common prejudices.

Students learn about the making of the Constitution making and develop respect and appreciation for Constitutional values. Students recognise that constitution is a living document that undergoes changes. They explore the idea of representative democracy via competitive party politics. They familiarize with the electoral system. Students develop an appreciation of citizen's increased participation in electoral politics and recognise the significance of the Election Commission.

### ECONOMICS

The Grade 9 Economics curriculum introduces students with basic economics concept through an imaginary story of Palampur village. They familiarize with a few population related concepts and are sensitized to the fact that people as asset can participate and contribute in nation building. They examine how poverty is a challenge. Students learn about the government's initiative to alleviate poverty. They investigate the Food Security of India to understand an economic issue which is the basic necessity of life, appreciate and critically look at the role of government in ensuring food supply.

### DISASTER MANAGEMENT - PROJECT WORK

Every student has to compulsorily undertake one project on Disaster Management (Pertaining to Grade 9 curriculum of Disaster Management only). The project have been carefully designed so as to

- Create awareness in learners.
- Enable them to understand and co-relate all aspects of Disaster Management.
- Relate theory with practice.
- Relation of different aspects with life.
- Provide hands on experience.

### COMPUTER SCIENCE

Students get an introduction to Electronics. They learn to identify electronic components, determine resistance values and build simple series and parallel circuits. They identify Arduino Uno board components. They identify hazards of working with electricity. Students use Arduino Uno board and sensors such as motion detectors, photoresistors and piezo-plates to build detection and control systems for specific purposes. Students get an introduction to App Inventor 2. They learn to test and publish apps. Students get an introduction to BlueJ IDE for Java. They learn about features of BlueJ, and history and types of Java programs. Students learn about basic elements of a Java program. Students learn about different types of operators and their functions. They learn to read user input. They write programs to solve specific problems. They learn conditional statements in Java (only IF statements). They build simple projects.

Practical Skills:

- Identify electronic components.
- Use resistors, power supply and LEDs to build simple series and parallel dc circuits.
- Design and build detection and control systems using Arduino.
- Explore the use of microcontrollers and sensors in designing solutions to real world problems.
- Use Google apps to create and share information and collaborate with peers.
- Design and build apps that address real world needs using App Inventor 2.
- Design, create, build, and debug Java programs.
- Apply algorithmic thinking to solve programming problems.
- Use methods in Math class to perform numerical calculations.
- Apply IF statements in Java programs.
- Build projects based on the Java concepts learnt.

### LIFESKILLS

The life-skills curriculum in Senior School is modelled off habits of the mind and heart, used by both students and teachers. This helps students develop a realistic sense of their personal abilities, qualities, strengths and the factors that influence and affect their emotional responses. Students participate in discussions on real life situations and understand how to tackle such instances – learning how to deal with roles and responsibilities and importance of team work. Students are able to express themselves freely in a positive and safe environment.

Through role plays and activities, they learn to show respect for and understand others' perspectives. As learners, they manage and monitor their own emotional responses, and persist in completing tasks and overcoming hurdles. Students are exposed to problem solving and decision making skills that teach them how to use particular strategies to manage themselves in a range of situations. Students reflect on and evaluate their learning, identify personal characteristics and learn from success and failure.

### OTHER

Students in Grade 9 also attend weekly sessions in Yoga, Physical Education and quiet reading time at the school library.