

## CLASS-XII SC.

### SESSION- 2020-21

#### General Guidelines For Conducting Online Classes And Continuous Learning Plan For Students

As the whole nation is in the grip of COVID-19 and the school could not function physically for the current session as of now, the school started conducting online classes as per the guidelines of the Government and the Education Department.

The school has curtailed the syllabus for classes I to VIII to 75%. The syllabus has been reduced after careful deliberation and every effort has been made not to compromise on the learning capabilities of the students during the times when face to face interaction with the students is not feasible. The school formulated a learning plan so that the final outcome of the learning is met. The syllabus for classes IX to XII has been reduced by CBSE and the teaching is being conducted on the given guidelines.

The following guidelines are being observed by the teachers for conducting the online classes and to meet the desired learning outcomes:

- The teachers are required to prepare learning plans for their grades/subjects/learners.
- The weekly lesson plan must include the topic to be covered, the learning outcomes of the concerned topics and a note of sources / resources used for teaching. (textbooks, chapters, e-resources, web links, etc)
- The WhatsApp groups for different classes and for different subjects have been formed.
- The students are asked to go through a particular portion of the chapter one day prior and the teacher teaches the given topic next day so that the concepts become clear to the students in a better way.
- Teachers ask the students to highlight the important points during the discussion/ teaching.
- Students are also provided with the related links and are asked to refer to that.
- Regular assignments are being given to the students on the completion of the topic / chapter. The assignments should include Multiple Choice Questions /short Answer Type Questions / Long Answer Questions / Activity Based Questions / Open Book Questions.
- The teachers are required to constantly contact the parents in case the child does not respond well in studies or is irregular in attending classes.
- In case Internet is not available at a student's home, then those students are telephonically suggested to be in touch with other students and the teacher to keep updated regarding the topics covered and are encouraged to do self study.
- The teachers to make sure that the work / activity has been conducted and submitted within the timeline.
- At the upper primary stage, the teachers encourage learners for self study, readings, and learning by doing with available resources at home under the supervision of parents.
- An emphasis must be given to involve the students in creative activities specially in primary classes so that students' involvement gets the priority and learning takes place in an interactive manner.

#### ENGLISH

MONTH	CHAPTER/TOPIC
APRIL	Letters/The Last Lesson/Notice
MAY	Report/My Mother at Sixty Six

JULY	Lost Spring/Third level
AUGUST	Deep Water/Comprehension/The
SEPTEMBER	Replies to invitation/advertisement/
OCTOBER	The Rattrap/Aunt Jennifer's
NOVEMBER	Should Wizard Hit Mommy
DECEMBER	Writing skills revision
JANUARY	Revision literature
FEBRUARY	Revision for final Exams
MARCH	Board Exams

**Learning Outcomes:** English vocabulary enhancement and acquiring communication skills

## PHYSICS

MONTH	CHAPTER/TOPIC
APRIL	Chap.1 : Electric charges and Fields
MAY	Chap.2 : Electric potential and Capacitance
	Chap. 9: Ray optics ( Up to reflection )
JULY	Chap. 3 : Current electricity
AUGUST	Chap. 3 :Current electricity
	Chap. 4 : Moving charges and Magnetism
	Chap .5 : Magnetism and Matter
	Chap. 8 : Electromagnetic Waves
SEPTEMBER	Chap. 6 : Electromagnetic induction
	Chap. 7 : Alternating Current
	Chap. 9 : Ray optics
	Chap.10: Wave optics
OCTOBER	Chap.11 : Dual nature of matter and radiation
	Chap.12 : Atom
	Chap.13: Nuclei
	Chap.14: Semiconductor Electronics : Materials, Devices and Simple circuit
NOVEMBER	Revision
DECEMBER	Revision
JANUARY	Revision
FEBRUARY	Revision
MARCH	Board Exams

**Learning outcomes:** Strengthen the concepts developed at the secondary level; Expose the learners to different processes used in Physics-related industrial and technological applications, Promote problem solving abilities and creative thinking in learners. Develop conceptual competence in the learners and make them realize and appreciate the interface of Physics with other discipline.

## CHEMISTRY

MONTH	CHAPTER/TOPIC
APRIL	Chap.10 : Haloalkanes and haloarenes
MAY	Chap.11 : Alcohols and phenols
	Chap.12 : Aldehydes, ketones and acids
JULY	Chap.13: Amines
AUGUST	Chap. 1: Solid State
	Chap. 2: Solutions
	Chap. 3: Electrochemistry

SEPTEMBER	Chap. 4 : Chemical Kinetics
	Chap. 5 : Surface Chemistry
	Chap. 14 : Biomolecules
OCTOBER	Chap .7 : p- block elements
	Chap. 8 : d and f block elements
	Chap. 9 : Coordination Compounds
NOVEMBER	Revision
DECEMBER	Revision
JANUARY	Revision
FEBRUARY	Revision
MARCH	Board Exams

**Learning outcomes:** Knowledge, Application, Comprehension and Analysis

## MATHEMATICS

MONTH	CHAPTER/TOPIC
APRIL	Chap.12 : Linear Programming
	Chap.13 : Probability
MAY	Chap.1 : Relations and functions
	Chap.2 : Inverse Trigonometric functions
	Chap.3 : Matrices
JULY	Chap.4 : Determinants
	Chap.5 : Continuity and Differentiability
	Chap.6 : Applications of Derivatives
AUGUST	Chap.7: Integrals
	Chap.8: Application of Integrals
SEPTEMBER	Chap.9 : Differential Equations
OCTOBER	Chap 10 : Vector Algebra
	Chap.11 : Three Dimensional Geometry
NOVEMBER	Revision
DECEMBER	Revision
JANUARY	Revision
FEBRUARY	Revision
MARCH	Board Exams

**Learning outcomes:** Communication, Computation, Abstraction and Discipline

## BIOLOGY

MONTH	CHAPTER/TOPIC
APRIL	Chap.2 : Sexual reproduction in flowering plants
MAY	Chap. 3 : Human reproduction
	Chap.4 : Reproductive Health
JULY	Chap.5: Principles of inheritance and variation
AUGUST	Chap.6 : Molecular basis of inheritance
SEPTEMBER	Chap.8 : Human health and diseases
	Chap.10 : Microbes in human welfare
	Chap.11 : Biotechnology: Principles and Processes
OCTOBER	Chap.12 : Biotechnology and its Application
	Chap.13 : Organisms and populations
	Chap. 15 : Biodiversity and its conservation
NOVEMBER	Revision

DECEMBER	Revision
JANUARY	Revision
FEBRUARY	Revision
MARCH	Board Exams

**Learning outcomes:** Students will be able to understand the process of reproduction in plants and animals. They will be able to know about diff. human diseases and their cure gene therapy. They will develop knowledge of biodiversity and its conservation.

## PHYSICAL EDUCATION

MONTH	CHAPTER/TOPIC
APRIL	Chap.1 : planning in Sports
	Chap.2 : Sports and Nutrition
	Chap.3: Yoga and Lifestyle
MAY	Chap.4 : Physical Education and Sports for CWSN
	Chap.5: Children and Women in Sports
JULY	Chap.6: Test and Measurement in Sports
	Chap.7: Physiology and Injuries in Sports
AUGUST	Chap. 8: Biomechanics and Sports
SEPTEMBER	Chap. 9 : Psychology and Sports
OCTOBER	Chap. 10: Training in Sports
NOVEMBER	Revision
DECEMBER	Revision
JANUARY	Revision
FEBRUARY	Revision
MARCH	Board Exams

**Learning outcomes:** Students will learn intermediate postures and will develop strength, endurance, and increased flexibility.

## COMPUTER SCIENCE

MONTH	CHAPTER/TOPIC
APRIL	Revision of the basics of Python covered in Class XI. Functions: scope, parameter passing, mutable/immutable properties of data objects, passing strings, lists, tuples, dictionaries to functions, default parameters, positional parameters, return values, functions using libraries: mathematical and string functions.
MAY	Text File: Basic operations on a text file: Open (filename – absolute or relative path, mode), Close a text file, Reading and Manipulation of data from a text file, Appending data into a text file, standard input / output and error streams, relative and absolute paths. <ul style="list-style-type: none"> <li>Binary File: Basic operations on a binary file: Open (filename – absolute or relative path, mode), Close a binary file, Pickle Module – methods load and dump; Read, Write/Create, Search, Append and Update operations in a binary file.</li> </ul>

	<ul style="list-style-type: none"> <li>● CSV File: Import csv module, functions – Open, Close a csv file, Read from a csv file and Write into a csv file using csv.reader ( ) and csv.writerow( ).</li> <li>● Using Python libraries: Import Python libraries.</li> </ul>
JULY	Data-structures: Lists as covered in Class XI, Stacks – Push, Pop using a list.
AUGUST	<p>Evolution of Networking: ARPANET, Internet, Interspace Different ways of sending data across the network with reference to switching techniques (Circuit and Packet switching).</p> <ul style="list-style-type: none"> <li>● Data Communication terminologies: Concept of Channel, Bandwidth (Hz, KHz, MHz) and Data transfer rate (bps, Kbps, Mbps, Gbps, Tbps).</li> <li>● Transmission media: Twisted pair cable, coaxial cable, optical fiber, infrared, radio link, microwave link and satellite link.</li> <li>● Network devices: Modem, RJ45 connector, Ethernet Card, Router, Switch, Gateway, WiFi card.</li> <li>● Network Topologies and types: Bus, Star, Tree, PAN, LAN, WAN, MAN.</li> <li>● Network Protocol: TCP/IP, File Transfer Protocol (FTP), PPP, HTTP, SMTP, POP3, Remote Login (Telnet) and Internet, Wireless / Mobile Communication protocol such as GSM, GPRS and WLL.</li> <li>● Mobile Telecommunication Technologies: 1G, 2G, 3G, 4G and 5G; Mobile processors;</li> </ul> <p>Electronic mail protocols such as SMTP, POP3, Protocols for Chat and Video Conferencing: VoIP, Wireless technologies such as Wi-Fi and WiMax</p> <p>Network Security Concepts:</p> <p>Threats and prevention from Viruses, Worms, Trojan horse, Spams</p> <p>Use of Cookies, Protection using Firewall, https;</p> <p>India IT Act, Cyber Law, Cyber Crimes, IPR issues, hacking.</p>
SEPTEMBER	<p>Database Management</p> <p>Database Concepts: Introduction to database concepts and its need.</p> <p>Relational data model: Concept of domain, relation, tuple, attribute, degree, cardinality, key, primary key,</p>

	<p>candidate key, alternate key and foreign key;</p> <p>Structured Query Language:</p> <p>General Concepts: Advantages of using SQL, Data Definition Language and Data Manipulation Language;</p> <p>Data Types: number / decimal, character / varchar / varchar2, date; SQL commands covered in class XI (2019-20)</p> <p>SELECT, DISTINCT, FROM, WHERE, IN, BETWEEN, LIKE, NULL / IS NULL, ORDER BY, GROUP BY, HAVING;</p> <p>SQL functions: SUM ( ), AVG ( ), COUNT ( ), MAX ( ) and MIN ( )</p> <p>Joins: equi-join and natural join</p>
OCTOBER	<p>Interface of Python with an SQL database</p> <ul style="list-style-type: none"> <li>- Connecting SQL with Python</li> <li>- Creating Database connectivity Applications</li> <li>- Performing Insert, Update, Delete queries</li> <li>- Display data by using fetchone(), fetchall(), rowcount</li> </ul>
NOVEMBER	Report file: Python programs. A N D SQL commands
DECEMBER	REVISION
JANUARY	REVISION & PRACTICAL EXAMS
FEBRUARY	REVISION
MARCH	Board Exams

**Learning Outcomes:** Improved logical and analytical skill