



BLOOM PUBLIC SCHOOL

C-8 Vasant Kunj New Delhi

SYLLABUS FOR SESSION 2023-24

Class: XII

Subject: Computer Science 083

SYLLABUS		
MONTH	CHAPTERS (NCERT TEXTBOOK)	CONTENT (As per Rationalised Syllabus)
March	Ch-1: Revision of the basics of Python covered in Class XI.	<ul style="list-style-type: none"> Class XI books topics Ch-5: Getting Started with Python Ch-6: Flow of controls Ch-7: Functions Ch-8: Strings Ch-9: List Ch-10: Tuples and Dictionaries
April	Ch-2: File Handling in Python	<ul style="list-style-type: none"> File handling: Need for a data file, Types of file: Text files, Binary files and CSV (Comma separated values) files. 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, Append data into a text file, standard input/output and error streams, relative and absolute paths. Exception Handling: try-except-finally blocks
May	Ch-2: File Handling in Python (continued)	<ul style="list-style-type: none"> 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. CSV file: import csv module, open / close csv file, write into a csv file using csv.writerow() and read from a csv file using csv.reader() Using Python libraries: Import Python libraries.

July	Ch-3: Stack Ch-7: Understanding data Ch-8: Database concepts	<ul style="list-style-type: none"> • Data structure: Stacks – Push, Pop using a list. • Database concepts: introduction to database concepts and its need. • Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key)
August	Ch-9: Structured Query Language Python SQLConnectivity (Sumita Arora) SQL aggregate functions (Sumita Arora)	<ul style="list-style-type: none"> • Structured Query Language: introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command • Interface of python with an SQL database: connecting SQL with Python, performing insert, update, delete queries using cursor, display data by using fetchone(), fetchall(), rowcount, creating database connectivity applications. • Aggregate functions (max, min, avg, sum, count), group by, having clause, joins: Cartesian product on two tables, equi-join and natural join.
September	Ch-10 Computer Networks Ch-11 Data Communication (continued)	<ul style="list-style-type: none"> • Evolution of networking: introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET) • Data communication terminologies: concept of communication, components of data communication (sender, receiver, message, communication media, protocols), measuring capacity of communication media (bandwidth, data transfer rate), IP address, switching

		techniques (Circuit switching, Packet switching)
October	Ch-11 Data Communication Ch-12 Security Aspects	<ul style="list-style-type: none"> • Transmission media: Wired communication media (Twisted pair cable, Coaxial cable, Fiber-optic cable), Wireless media (Radio waves, Microwaves, Infrared waves) • Network devices (Modem, Ethernet card, RJ45, Repeater, Hub, Switch, Router, Gateway, WIFI card) • Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree) • Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP • Introduction to web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML), domain names, URL, website, web browser, web servers, web hosting
November	PRE BOARD EXAMINATION 1	Whole syllabus
December	PRE BOARD EXAMINATION 2	Whole syllabus
January	Revision/ BOARDPRACTICALS	Whole syllabus
February	BOARD EXAMINATION	Whole syllabus
March	BOARD EXAMINATION	Whole syllabus

ASSESSMENT SYLLABUS

PERIODIC ASSESSMENT -1	Class XI chapters: Ch-5: Getting Started with Python Ch-6: Flow of controls Ch-7: Functions Ch-8: Strings Ch-9: List Ch-10: Tuples and Dictionaries Class XII chapter:- Ch-2:- File handling(covered till date)
PERIODIC ASSESSMENT -2	Class XII chapter:- Ch-2:- File handling Ch-3:-Stack Ch-7:- Understanding data Ch-8:- Database concepts
MID TERM EXAM	Class XI Syllabus Ch-5: Getting Started with Python Ch-6: Flow of controls Ch-7: Functions Ch-8: Strings Ch-9: List Ch-10: Tuples and Dictionaries Class XII chapter:- Ch-2:- File handling Ch-3:-Stack Ch-7:- Understanding data Ch-8:- Database concepts Ch-9:-Structured Query Language, Python SQL Connectivity , SQL aggregate functions
PRE BOARD EXAMINATION-1	Class XI Syllabus Ch-5: Getting Started with Python Ch-6: Flow of controls Ch-7: Functions Ch-8: Strings Ch-9: List Ch-10: Tuples and Dictionaries Class XII chapter:- Ch-2:- File handling Ch-3:- Stack Ch-7:- Understanding data Ch-8:- Database concepts

	<p>Ch-9:- Structured Query Language, Python SQL Connectivity, SQL aggregate functions</p> <p>Ch-10:- Computer Network</p> <p>Ch-11:- Data Communication</p> <p>Ch-12:- Security Aspects</p>
PRE BOARD EXAMINATION-2	<p>Class XI Syllabus</p> <p>Ch-5: Getting Started with Python</p> <p>Ch-6: Flow of controls</p> <p>Ch-7: Functions</p> <p>Ch-8: Strings</p> <p>Ch-9: List</p> <p>Ch-10: Tuples and Dictionaries</p> <p>Class XII chapter:-</p> <p>Ch-2:- File handling</p> <p>Ch-3:- Stack</p> <p>Ch-7:- Understanding data</p> <p>Ch-8:- Database concepts</p> <p>Ch-9:- Structured Query Language, Python SQL Connectivity, SQL aggregate functions</p> <p>Ch-10:- Computer Network</p> <p>Ch-11:- Data Communication</p> <p>Ch-12:- Security Aspects</p>
CBSE BOARD EXAMINATION	Full syllabus