



Kendriya Vidyalaya (Embassy of India School) Moscow

SPLIT-UP SYLLABUS 2024-25

Class	XII	Subject	Computer Science (083)		
Sl No	Month	Number of working Days	Description (Title of the chapter, Topics /Units)	Suggestive Practical, Project, MDP, Tests & Assignments	Suggested methodology to be used (Like PBL/AIL/CCT/ Experiential learning)
1	April 2024	22	Unit I: Computational Thinking and Programming – 2 <ul style="list-style-type: none"> Revision of Python topics covered in Class XI. Functions: types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution, scope of a variable (global scope, local scope) 	<ul style="list-style-type: none"> Simple Programs related to Class XI List, Tuple, Loop and Function of Class XII. 	<ul style="list-style-type: none"> *Presentation *Discussion * PBL (Problem-Based Learning) * Experiential learning
02.	May 2024	19	<ul style="list-style-type: none"> Exception Handling: Introduction, handling exceptions using try-except-finally blocks 	<ul style="list-style-type: none"> Practical Questions <p>(follow CBSE syllabus Comp. Sc. Practical List)</p>	<ul style="list-style-type: none"> *Presentation *Demonstration * Experiential learning
02	June - Jul y 2024	21	<ul style="list-style-type: none"> Introduction to files, types of files (Text file, Binary file, CSV file), relative and absolute paths Text file: opening a text file, text file open modes (r, r+, w, w+, a, a+), closing a text file, opening a file using with clause, writing/appending data to a text file using write() and writelines(), reading from a text file using read(), readline() and readlines(), seek and tell methods, manipulation of data in a text file 	<ul style="list-style-type: none"> Practical Questions <p>(follow CBSE syllabus Comp. Sc. Practical List)</p>	<ul style="list-style-type: none"> *Presentation *Demonstration * CCT * PBL (Problem-Based Learning)

03	August 2024	19	<ul style="list-style-type: none"> ● Binary file: basic operations on a binary file: open using file open modes (rb, rb+, wb, wb+, ab, ab+), close a binary file, import pickle module, dump() and load() method, 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 writer(),writerow(),writerows() and read from a csv file using reader() 	<ul style="list-style-type: none"> ● Other Practical Questions <p>(Follow CBSE syllabus Comp. Sc. Practical List)</p>	<ul style="list-style-type: none"> *Presentation *Demonstration * PBL (Problem-Based Learning) * Experiential learning
04.	September 2024	21	<ul style="list-style-type: none"> ● Data Structure: Stack, operations on stack (push & pop), implementation of stack using list. <p>Unit II: Computer Networks</p> <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) ● Transmission media: Wired communication media (Twisted pair cable, Co-axial cable, Fiber-optic cable), Wireless media (Radio waves, Micro waves, 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 	<ul style="list-style-type: none"> ● Practical Questions <p>(Follow CBSE syllabus Comp. Sc. Practical List)</p>	<ul style="list-style-type: none"> *Presentation *Demonstration * PBL (Problem-Based Learning) * Experiential learning
05.	October 2024	19	<p>Unit III: Database Management</p> <ul style="list-style-type: none"> ● 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). 	<p>Practical Questions (follow CBSE syllabus Comp. Sc. Practical List)</p> <p>Practical Questions (follow CBSE</p>	<ul style="list-style-type: none"> *Presentation *Demonstration * PBL * Experiential learning

			<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, aggregate functions (max, min, avg, sum, count), group by, having clause, joins: cartesian product on two tables, equi-join and natural join. Interface of python with an SQL database: connecting SQL with Python, performing insert, update, delete queries using cursor, display data by using connect(), cursor(), execute(), commit(), fetchone(), fetchall(), rowcount, creating database connectivity applications, use of %s format specifier or format() to perform queries. 	syllabus Comp. Sc. Practical List)	
06.	November 2024	21	Project & Revision Work	Project Development	* Case based. * Experimental *CCT
07.	December 2024 January 2024	21	Remedial classes, Practical Examination	Practical file submission etc.	
08.	February/March 2024	20	Board Exams	-	