KENDRIYA VIDYALAYA SANGATHAN BANGALORE REGION
PROPOSED SPLITUP SYLLABUS FOR COMPUTER SCIENCE 2018 -19(New)
CLASS XI

Month	Portion to be covered	Th	Prac
June-July 2018	**Unit 1: Programming and Computational Thinking (PCT-1)** • Familiarization with the basics of Python programming: a simple "hello world" program, process of writing a program, running it, and print statements; simple data-types: integer, float, string • Introduce the notion of a variable, and methods to manipulate it (concept of L-value and R-value even if not taught explicitly) • Knowledge of data types and operators: accepting input from the console, assignment statement, expressions, operators and their precedence. • Conditional statements: if, if-else, if-elif-else; simple programs: e.g.: absolute value, sort 3 numbers, and divisibility.	33	15
Aug-2018	• Notion of iterative computation and control flow: for, while, flowcharts, decision trees and pseudo code; write a lot of programs: interest calculation, primarily testing, and factorials. • Idea of debugging: errors and exceptions; debugging: pdb, break points.	23	9
Sep-2018	• Lists, tuples and dictionary: finding the maximum, minimum, mean; linear search on list/tuple of numbers, and counting the frequency of elements in a list using a dictionary. Introduce the notion of accessing elements in a collection using numbers and names.	23	9
Oct-2018	• Sorting algorithm: bubble and insertion sort; count the number of operations while sorting. Strings: compare, concat, substring; notion of states and transitions using state transition diagrams.	17	9

Nov-2018	**Unit 2: Computer Systems and Organisation (CSO)** • Basic computer organisation: description of a computer system and mobile system, CPU, memory, hard disk, I/O, battery, power. • Types of software: application, OS, utility, libraries. • Language of Bits: bit, byte, MB, GB, TB, and PB. • Boolean logic: OR, AND, NAND, NOR, XOR, NOT, truth tables, De Morgan's laws • Information representation: numbers in base 2, 8, 16, unsigned integers, binary addition • Strings: ASCII, UTF8, UTF32, ISCII (Indian script code) • Execution of a program: basic flow of compilation – program ⮕ binary ⮕ execution • Interpreters (process one line at a time), difference between a compiler and an interpreter • Running a program: Notion of an operating system, how an operating system runs a program, idea of loading, operating system as a resource manager. Concept of cloud computers, cloud storage (public/private), and brief introduction to parallel computing.	21	9

Dec-2018	**Unit 3: Data Management (DM-1)** Relational databases: idea of a database and the need for it, relations, keys, primary key, foreign key; use SQL commands to create a table, keys, foreign keys; insert/delete an entry, delete a table. SQL commands: select, project, and join; indexes, and a lot of in-class practice. Basics of NoSQL databases - Mongo DB.	19	9

Jan-2019	**Unit 4: Society, Law and Ethics (SLE-1) - Cyber safety** Cyber safety: safely browsing the web, identity protection, confidentiality, social networks, cyber trolls and bullying Appropriate usage of social networks: spread of rumours, and common social networking sites (Twitter, LinkedIn, and Facebook) and specific usage rules. Safely accessing web sites: adware, malware, viruses, Trojans Safely communicating data: secure connections, eavesdropping, phishing and identity verification.	22	9
Feb-2019	**Revision, Project, SE Practical**	23	9