KENDRIYA VIDYALAYA SANGATHAN
HALF-YEARLY EXAMINATION 2022-2023
SUBJECT: - COMPUTER SCIENCE
BLUE PRINT

S.No.		UNIT	VSA (1 Mark)	SAI (2 Marks)	SAII (3 Marks)	LA (4 Marks)	Total
1.		**UNIT 1: COMPUTATIONAL THINKING AND PROGRAMMING – 2**					
	(a)	Revision of Python topics covered in Class XI.	1(1)	4(2)	1(3)		6(12)
	(b)	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).	1(1)	2(2)			3(5)
	(c)	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 • 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 csv.writer() and read from a csv file using csv.reader( )	1(1)	4(2)	1(3)	-	6(12)
	(h)	Data Structure: Stack, operations on stack (push & pop), implementation of stack using list.			1(3)	1(4)	2(7)

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2.		**UNIT 2: COMPUTER NETWORKS**					
	(a)	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)	3(1)	2(2)		1(4)	6(11)
	(b)	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	4(1)	2(2)			6(8)
3.		**UNIT 3: DATABASE MANAGEMENT**					
		• 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) • 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	4(1)	2(2)	1(3)	1(4)	8(15)
		Total	14	32	12	12	70