AIR FORCE SCHOOL HASIMARA

WEEKLY SPLITUP SYLLABUS (2025-26)

CLASS: XI-SC **SUBJECT: COMPUTER SCIENCE (083)**

BOOKS: **NCERT COMPUTER SCIENCE FOR CLASS XI**
COMPUTER SCIENCE WITH PYTHON SUMITA ARORA FOR CLASS XI

Month	Week Days	Working Days	Chapters/ Topics	Activities/ Assignments
Jun 25	18-21	4	**Introduction to Computer System:** Basic computer organization**:** Introduction to Computer System, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (bit, byte, KB, MB, GB, TB, PB) Types of software**:** System software (Operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler, and interpreter), application software	Homework and Classwork Practical Works Class Tests
	23-28	5	**Introduction to Computer System:** Operating System(OS): functions of the operating system, OS user interface **Boolean Algebra and Logic Gates:** Boolean logic: NOT, AND, OR, NAND, NOR, XOR, NOT, truth tables and De Morgan's laws, Logic circuits	
	30	1	**Number System & Encoding Schemes**: Binary, Octal, Decimal and Hexadecimal number system	
July 25	1-5	5	**Number System & Encoding Schemes**: conversion between number systems, ASCII, ISCII, and Unicode (UTF8, UTF32)	Homework and Classwork Practical Works Class Tests
	7-11	5	**Introduction to Problem-solving**: Steps for Problem-solving (Analyzing the problem, developing an algorithm, coding, testing, and debugging), representation of algorithms using flowchart and pseudocode, decomposition	

July 25	14-19	6	**Introduction to Programming in python**: Introduction to Python, Features of Python, executing a simple “hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens(keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments Knowledge of data types: Number (integer, floating point,complex), boolean, sequence(string, list, tuple), None, Mapping(dictionary), mutable and immutable data types.	Homework and Classwork Practical Works Class Tests
	21-26	6	**Introduction to Programming in python**: Operators: arithmetic operators, relational operators, logical operators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in not in) Expressions, statement, type conversion, and input/output: precedence of operators, expression, and evaluation of an expression, type-conversion (explicit and implicit conversion), accepting data as input from the console and displaying output.	
	28-31	4	**Introduction to Programming in python**: Errors- syntax errors, logical errors, and run-time errors	
Aug 25	1-2	2	**Flow of Control:** introduction, use of indentation, sequential flow, conditional and iterative flow	Homework and Classwork Practical Works Class Tests
	4-8	5	**Flow of Control:** Conditional statements: if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number Iterative Statement: for loop, range()	
	11-16	4	**Flow of Control:** Iterative Statement: while loop, flowcharts, break and continue statements, nested loops	

Aug 25	18-23	6	**Flow of Control:** Iterative Statement: suggested programs: generating pattern, summation of series, finding the factorial of a positive number, etc.	Homework and Classwork Practical Works Class Tests
	25-30	6	**Strings:** introduction, string operations (concatenation, repetition, membership and slicing), traversing a string using loops, built-in functions/methods–len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha()	
Sep 25	1-6	5	**Strings**: isdigit(), islower(), isupper(), isspace(),lstrip(), rstrip(), strip(), replace(), join(), partition(), split()	Homework and Classwork Practical Works Class Tests
	8-9	2	**Lists:** introduction, indexing, list operations (concatenation, repetition, membership and slicing), traversing a list using loops	
	10-26	**HALF YEARLY EXAMINATION**		

Oct 25	7-10	4	**Lists**: built-in functions/methods–len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum()	Homework and Classwork Practical Works Class Tests
	13-18	6	**Lists:** nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list	
	20-25	6	**Tuples:** introduction, indexing, tuple operations (concatenation, repetition, membership and slicing); built-in functions/methods – len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple	

Oct 25	27-31	5	**Tuples:** Suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of elements in a tuple.	Homework and Classwork Practical Works Class Tests
Nov 25	1	1	**Dictionary:** introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary	Homework and Classwork Practical Works Class Tests
	3-7	4	**Dictionary:** built-in functions/methods – len(), dict(), keys(), values(), items(), get(), update(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted()	
	10-15	6	**Dictionary:** Suggested programs: count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them	
	17-22	6	**Introduction to Python modules:** Importing module using 'import ' and using from statement, importing math module (pi, e, sqrt(), ceil(), floor(), pow(), fabs(), sin(), cos(), tan()), random module (random(), randint(), randrange()), statistics module (mean(), median(), mode())	
	24-29	6	**Society, Law & Ethics:** Digital Footprints Digital Society and Netizen: net etiquettes, communication etiquettes, social media etiquettes Data Protection: Intellectual property rights (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement)	
	30	1	**Society, Law & Ethics:** Data Protection: open source software and licensing (Creative Commons, GPL and Apache)	
Dec 25	1-6	6	**Society, Law & Ethics:** Cyber Crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying	Homework and Classwork Practical Works Class Tests

Dec 25			Cyber safety: safely browsing the web, identity protection, confidentiality	Homework and Classwork Practical Works Class Tests
	8-12	5	**Society, Law & Ethics:** Malware: viruses, trojans, adware E-waste management**:** proper disposal of used electronic gadgets.	
	15-20	6	**Society, Law & Ethics:** Information Technology Act (IT Act) Technology and society: Gender and disability issues while teaching and using computers	
	22	1	**Revision**	
Jan 26	12-17	6	**Revision**	Homework and Classwork Practical Works Class Tests
	19-24	6	**Revision**	
	26-31	6	**Revision**	
Feb 26	2-7	6	**Revision**	Homework and Classwork Practical Works Class Tests
	9-13	5	**Revision**	
	16-28	**ANNUAL EXAMINATION**		
Mar 26	2-30	**ANNUAL EXAMINATION & RESULT DECLARATION**		

Mrinmoy Paul (PGT CS)
Subject Teacher & HOD