

THE AIR FORCE SCHOOL : SUBROTO PARK : DELHI CANTT-110010

Class – XI

Sub : Computer Science

Weekly Syllabus (Tentative)

Academic Session 2024-25

Month	Week	Dates		Days	No of Periods	Chapter	Contents	Syllabus
Apr-24	III	15-19	14 - Ambedkar Jayanti 17 – Ram Navami 21 - Mahavir Jayanti	04	5	UNIT – 1 : COMPUTER SYSTEMS & ORGANISATION CHAPTER – COMPUTER FUNDAMENTALS	GENERAL DISCUSSION ON SUBJECT CONTENTS FUTURE PERSPECTIVE OF THE SUBJECT 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),	
	IV	22-27	27-Working Saturday (Student)	06	6	COMPUTER FUNDAMENTALS	programming tools and language translators (assembler, compiler, and interpreter), application software Operating System(OS): functions of the operating system, OS user interface	
	V	29-30		02	2	NUMBER SYSTEM	Number System: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems	
May-24	I	01-03	01-03 : ES-1 (XII)/ CT-1 (X)	03	3	NUMBER SYSTEM	Encoding Schemes: ASCII, ISCII, and Unicode (UTF8, UTF32)	ES-1 (XII)/ CT-1 (X) Date: 01-07 May

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	II	06-10	06-07 : ES-1 (XII)/ CT-1 (X) 09,10 – The Quest	05	6	BOOLEAN LOGIC	Boolean logic: NOT, AND, OR, NAND, NOR, XOR, NOT	
	III	13-18	18- Working Saturday (Open House X & XII)	06	6	BOOLEAN LOGIC	truth tables and De Morgan's laws, Logic circuits	
***** SUMMER B6BREAK 20 MAY -30 JUN 2024 *****								
Jul-24	I	01-06	01- School reopens for staff 06-Working Saturday (Student)	05	6	UNIT – 1 : COMPUTER SYSTEMS & ORGANISATION	REVISION OF SYLLABUS COVERED IN APRIL- MAY	PT-I Class VI-X Date: 05 Jul – 12Jul ES-2 (XII): 05 Jul – 12Jul
	II	08-12		05	6	UNIT 2 : COMPUTATIONAL THINKING AND PROGRAMMING - 1	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	
	III	15-19	17-Muharram	04	4		Familiarization with the basics of Python programming: 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	
	IV	22-27	27 – Working Saturday (Students)	06	6		Knowledge of data types: Number(integer, floating point,complex), boolean, sequence(string, list, tuple), None, Mapping(dictionary), mutable and immutable data types.	

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							Operators: arithmetic operators, relational operators, logical operators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in not in)	
	V	29-31		03	3		Expressions, statement, type conversion, and input/output: precedence of operators, expression, evaluation of an expression, type-conversion (explicit and implicit conversion), accepting data as input from the console and displaying output.	
Aug-24	I	01-03	03 – Working Saturday (Open House (VI-X), XII)	03	3		Errors- syntax errors, logical errors, and run-time errors	
	II	05-09		05	6		Flow of Control: introduction, use of indentation, sequential flow, conditional and iterative flow Conditional statements: if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number.	
	III	12-16	15 – Independence Day	04	4		Iterative Statement: for loop, range(), while loop, flowcharts,	
	IV	19-23	19-Raksha Bandhan	04	4		Iterative Statement: nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number, etc.	ES-1 (XI):
	V	26-31	26-Janmashtami 31-Working Saturday (Students) 31-Annual Prize Distribution	05	5		REVISION OF MID-TERM SYLLABUS	

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Sep-24	I	02-06		05	6			
	II	09-14	14 – Working Saturday (Students)	06			Mid Term/ HYE Exam	Mid Term (PT-II)/ HYE Date 09-24 Sep
	III	16-21	16-Milad-un-Nabi 21 – Working Saturday (Students)	05			REVISION OF FOR AND WHILE LOOPS	
	IV	23-27		05			Strings: introduction	
	V	30		01	1		Strings: introduction, string operations (concatenation, repetition, membership and slicing), traversing a string using loops,	
Oct-24	II	01-05	02-Mahatma Gandhi's Birthday 05-Annual Prize Distribution	04	4		Strings: built-in functions/methods–len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(), rstrip(), strip(), replace(), join(), partition(), split()	
	III	07-12	09-13– Autumn Break 12- Dussehra	02	2		Strings Programming	
	IV	14-19	17-Maharishi Valmiki's Birthday 19 – Working Saturday (Open House VI-XII)	05	5		Lists: introduction, indexing, list operations (concatenation, repetition, membership and slicing), traversing a list using loops, built-in functions/methods–len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum();	
	V	21-25	20– Karwa Chouth	05	5		nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear	

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							search on list of numbers and counting the frequency of elements in a list.	
	VI	28-31	30-03 Nov – Diwali Break	02	2		REVISION OF LISTS	
*** Autumn Break 09-13 Oct 2024 ***								
Nov-24	I	04-09	09 – Working Saturday (Students)	06	6		Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership and slicing);	
	II	11-15	12 – Annual Day 15 – Guru Nank’s Birthday	04	4		Tuples : built-in functions/methods – len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment	
	III	18-22		05			nested tuple; 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.	PT-II (VI-VIII): 19 Nov-10 Dec PT-III (IX): 19 Nov-10 Dec PT-III (X): 14 Nov-25 Nov MPB (XII): 14 Nov-25 Nov
	IV	25-30	29,30 – Annual Athletic Meet	06			REVISION OF TUPLES	
Dec-24	I	02-07	07 – Sports Day	06			Dictionary: introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary,	
	II	09-13		05			built-in functions /methods – len(), dict(), keys(), values(), items(), get(), update(), del(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted(); 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.	

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	III	16-21	21-Working Saturday, Open House (X & XII)	06			REVISION OF DICTIONARY Introduction to Python modules: Importing module using 'import <module>' 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()).	
	IV	23	24,25 – Christmas Holidays	01			Introduction to Python modules: Importing module using 'import <module>' 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()).	
*** Winter Break from 26 Dec to 04 Jan 2025 ***								
Jan-25	I	06-10		05		Unit III: Society, Law and Ethics	Digital Footprints <ul style="list-style-type: none"> • Digital Society and Netizen: net etiquettes, communication etiquettes, social media étiquettes • Data Protection: Intellectual property rights (copyright, patent , trademark), violation of IPR(plagiarism, copyright infringement), trademark infringement), open source software and licensing (Creative Commons, GPL and Apache) 	
	II	13-18	18-Working Saturday, Open House (VI-IX, XI)	06			<ul style="list-style-type: none"> • Cyber Crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying • Cyber safety: safely browsing the web, identity protection, confidentiality 	

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							<ul style="list-style-type: none"> ● Malware: viruses, trojans, adware ● E-waste management: proper disposal of used electronic gadgets. ● Information Technology Act (IT Act) ● Technology and society: Gender and disability issues while teaching and using computers 	
	III	20-25	25-Citation Ceremony 25-Open House XII 26-Republic Day	06			REVISION FOR ANNUAL EXAM	
	IV	27-31		05			REVISION FOR ANNUAL EXAM	
Feb-25	I	01	01 – Farewell XII 01- Open House X	01			LAST YEAR PAPER DISCUSSION	
	II	03-07		05				Annual Exam Class IX & XI – 05 Feb-19 Feb 2025
	III	10-14		05				
	IV	17-22	22-Working Saturday (students)	06				
	V	24-28	26-Maha Shivratri	04				
Mar-25	Annual Exam Classes VI-VIII – 25 Feb-10 Mar 2025							

Note: The examination syllabus as mentioned above is to be considered Tentative. The final syllabus for each exam will be uploaded on the website along with the Date Sheet at the time of the examination.