

SYLLABUS (2024 - 2025)
CLASS: XI
SUBJECT: COMPUTER SCIENCE (083)
TEXTBOOKS:

1. COMPUTER SCIENCE - XI (NCERT)
2. COMPUTER SCIENCE - XI (PREETI ARORA)

SESSION	UNIT/CHAPTER /TOPIC	SUBTOPICS	WEIGHTAGE
2024 - 25	Computer System	Introduction to Computer System, Evolution of Computer, Computer Memory, Data Transfer between Memory and CPU, Microprocessors, Data and Information, Software, Operating System	5 Marks
	Encoding Schemes and Number System	Number System, Conversion between Number Systems	5 Marks
	Getting Started with Python	<p>Familiarization with the basics of Python programming: Introduction to Python, Features of Python, executing 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</p> <p>Knowledge of data types: Number(integer, floating point,complex), boolean, sequence(string, list, tuple), None, Mapping(dictionary), mutable and immutable data types.</p> <p>Operators: arithmetic operators, relational operators, logical operators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in not in)</p> <p>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.</p> <p>Errors- syntax errors, logical errors, and run-time errors</p>	6 Marks

	Flow of Control	Introduction, use of indentation, sequential flow, conditional and iterative flow Conditional statements: if, if-else, if-elif-else Iterative Statement: for loop, range(), while loop, flowcharts, break and continue statements, nested loops	8 Marks
	Strings	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(), isdigit(), islower(), isupper(), isspace(), lstrip(), rstrip(), strip(), replace(), join(), partition(), split()	8 Marks
	Lists	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(); nested lists	8 Marks
	Tuples and Dictionaries	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; 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. Dictionary: introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary, built-in functions/methods - len(), dict(), keys(), values(), items(), get(), update(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted();	10 Marks
	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()).	5 Marks
	Society, Law and Ethics	Digital Footprints, Digital Society and Netizen: net etiquettes, communication etiquettes, social media etiquettes, Data Protection:	15 Marks

		Intellectual property rights (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source software and licensing (Creative Commons, GPL and Apache), Cyber Crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying, Cyber safety: safely browsing the web, identity protection, confidentiality, 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	
TOTAL MARKS			70 Marks