

Unit III: Society, Law and Ethics

- Digital Footprints
- Digital society and Netizen: net etiquettes, communication etiquettes, social media etiquettes
- Data protection: Intellectual Property Right (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source softwares and licensing (Creative Commons, GPL and Apache)
- Cyber-crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, preventing cyber crime
- Cyber safety: safely browsing the web, identity protection, confidentiality, cyber trolls and bullying.
- Safely accessing web sites: malware, viruses, trojans, adware
- E-waste management: proper disposal of used electronic gadgets
- Indian Information Technology Act (IT Act)
- Technology & Society: Gender and disability issues while teaching and using computers

4. Practical

S.No.	Unit Name	Marks (Total=30)
1.	Lab Test (12 marks)	
	Python program (60% logic + 20% documentation + 20% code quality)	12
2.	Report File + Viva (10 marks)	
	Report file: Minimum 20 Python programs	7
	Viva voce	3
3.	Project (that uses most of the concepts that have been learnt) (See CS-XII for the rules regarding the projects)	8

5. Suggested Practical List

Python Programming

- Input a welcome message and display it.
- Input two numbers and display the larger / smaller number.
- Input three numbers and display the largest / smallest number.
- Generate the following patterns using nested loop.

Pattern-1	Pattern-2	Pattern-3
*	1 2 3 4 5	A
**	1 2 3 4	AB
***	1 2 3	ABC
****	1 2	ABCD
*****	1	ABCDE

- Write a program to input the value of x and n and print the sum of the following series:
 - $1+x+x^2+x^3+x^4+\dots X^n$
 - $1-x+x^2-x^3+x^4+\dots X^n$
 - $x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + \dots \frac{x^n}{n}$
 - $x + \frac{x^2}{2!} - \frac{x^3}{3!} + \frac{x^4}{4!} + \dots \frac{x^n}{n!}$
- Determine whether a number is a perfect number, an armstrong number or a palindrome.
- Input a number and check if the number is a prime or composite number.
- Display the terms of a Fibonacci series.
- Compute the greatest common divisor and least common multiple of two integers.
- Count and display the number of vowels, consonants, uppercase, lowercase characters in string.
- Input a string and determine whether it is a palindrome or not; convert the case of characters in a string.
- Find the largest/smallest number in a list/tuple
- Input a list of numbers and swap elements at the even location with the elements at the odd location.
- Input a list/tuple of elements, search for a given element in the list/tuple.
- Input a list of numbers and find the smallest and largest number from the list.
- Create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have scored marks above 75.

6. Suggested Reading Material

- NCERT Textbook for COMPUTER SCIENCE (Class XI)
- Support Materials on the CBSE website.