

Third Semester Internal Examination, September 2026

Major Course in B.Sc. Physics

COMPUTATIONAL PHYSICS

PHY3CJ202

Time: 1 Hr

Max Marks: 35

Name:	Marks Scored	Section A		Total Marks
Class:		Section B		
		Section C		

Section A

(Each question carries 3 marks, Max marks for section – 7)

1. Write an algorithm to calculate the factorial of a given number N
2. List the essential features of an algorithm.
3. Differentiate between inductive & deductive argument.

Section B

(Each question carries 6 marks, Max marks for section – 18)

4. Using Newton Raphson method, find $\sqrt{7}$. Do it for 4 iterations.
5. Write Python code to find the equation of the straight line that best fits.
6. Find the equation of the best fit straight line for the following data points.

X	1	2	4	5	6	8	9
Y	2	5	7	10	12	15	19

7. Write algorithm to generate the Fibonacci series up to N terms.

Section C

(Answer any one question, Each question carries 10 marks)

8. Explain the method of numerical integration for a give function. Develop Python code for the numerical integration by using Simpson's 1/3 rule for a known function.
9. Explain the method of numerical differentiation when the point is not in the tabular form. Develop a python program for it.