



# INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

(Deemed to be University under Section 3 of UGC Act, 1956)

## OFFICIAL TRANSCRIPT OF ACADEMIC RECORDS

AS ON August 26, 2024

Name of the Candidate : **PRATYAY CHOWDHURY**  
Registration No : **202001000102059**  
Roll No : **2020UG059**

Course of Study : Integrated Bachelor's-Master's in Science  
Duration of Course : 5 Years (Full Time)  
Subject : Major in Physics  
Medium of Instruction : English  
System of Grading : 10 Point Grading System (see overleaf for details)

### First Semester (August 2020-December 2020):

Course Code	Course Name	Credit	Grade
BIS 1101	Molecules of Life & Cells	4	P
	Cell Enumeration, Identification, Culture & Microscopy	2	A+
CHS 1101	Chemical Bonding & Energetics	4	A
	General Properties of Liquids & pH-metry	2	A+
MCS 1101	Calculus of One Variable	3	A
	Introduction to Computing with Python	3	B+
PHS 1101	Introductory Classical & Quantum Mechanics	4	B+
	General Physics Experiments	2	B+
AEC 1101	Communicative English for Scientists	2	A

RESULT: PASSED First Semester in December, 2020

SGPA: 7.19, CGPA: 7.19

### Second Semester (January 2021-April 2021):

Course Code	Course Name	Credit	Grade
BIS 1201	Biochemistry, Genetics & Evolution	4	A
	Extraction, Purification & Identification of Bio-Macromolecules	2	O
CHS 1201	Structure & Spectroscopy	4	A
	Spectroscopy of Atoms & Molecules	2	A+
MCS 1201A	Linear Algebra and Multivariable Calculus	3	A
MCS 1201B	Object-Oriented Programming with Java	3	O
PHS 1201	Optics & Electricity	2	A+
	Electricity, Magnetism & Optics	4	A+
AEC 1201	Know Your Environment (Atmosphere & Biosphere)	2	A+

RESULT: PASSED Second Semester in May, 2021

SGPA: 8.77, CGPA: 7.98

### Third Semester (August 2021-December 2021):

Course Code	Course Name	Credit	Grade
BIS 2101	Light Harvesting Molecules and Photobiology	2	A+
	Elements of Photobiology	4	A
CHS 2101	Chemical Reactivity	4	B+
	Redox Titration & Organic Preparation	2	A+
MCS 2101A	Probability and Statistics	3	B
MCS 2101B	Data Structures & Algorithms	3	A
PHS 2101	Thermal Physics and Electronics	2	A
	Quantum & Statistical Physics	4	A
SEC 2100	Debate & Public Speaking (SEC-N)	2	A

RESULT: PASSED Third Semester in December, 2021

SGPA: 7.75, CGPA: 7.91

### Fifth Semester (August 2022-December 2022):

Course Code	Course Name	Credit	Grade
PHS 4101	Classical Mechanics	4	B+
PHS 4102	Advanced Quantum Mechanics-I	4	A+
PHS 4103	Mathematical Methods-I	4	B+
PHS 4104	Electronics	4	A
PHS 4111	Computer Programming Lab	2	B
	Electronics Lab	4	B+
PHS 4100	UG Research (AEC-N)	2	P

RESULT: PASSED Fifth Semester in December, 2022

SGPA: 7.45, CGPA: 7.81

### Seventh Semester (August 2023-December 2023):

Course Code	Course Name	Credit	Grade
CHS 5151	Atomic and Molecular Sciences	4	B+
PHS 5101	Condensed Matter Physics	4	B
PHS 5102	Quantum Field Theory-I	4	B+
PHS 5103	Advanced Statistical Physics	4	O
PHS 5189	Project	6	A+
AEC 5100	Scientific Writing and Ethics (AEC-N)	2	P

RESULT: PASSED Seventh Semester in December, 2023

SGPA: 7.91, CGPA: 7.8

### Sixth Semester (January 2023-April 2023):

Course Code	Course Name	Credit	Grade
PHS 4201	Advanced Quantum Mechanics-II	4	A
PHS 4202	Mathematical Methods-II	4	A
PHS 4203	Electromagnetic Theory	4	B
PHS 4204	Statistical Mechanics	4	A
PHS 4211	General Physics and Optics Lab	6	A
SEC 4200	Research Methods (SEC-N)	2	A+

RESULT: PASSED Sixth Semester in May, 2023

SGPA: 7.64, CGPA: 7.78

### Eighth Semester (January 2024-April 2024):

Course Code	Course Name	Credit	Grade
COM 4203	Introduction to Machine Learning	4	A+
PHS 5201	Nuclear and Particle Physics	4	B+
PHS 5202	Quantum Field Theory-II	4	B
PHS 5210	Statistical Field Theory	4	A
PHS 5289	Project	6	A
SEC 5200	Seminar and Colloquium (SEC-N)	2	A

RESULT: PASSED Eighth Semester in May, 2024

SGPA: 7.64, CGPA: 7.78

Checked By :

Coordinator of Examination

**Grade Point Definition:**

Classification	Letter Grade	Grade Point	Remarks
Outstanding	O	10	CGPA multiplied by 10 will be the corresponding percentage of marks.
Excellent	A+	9	
Very Good	A	8	
Good	B+	7	
Above Average	B	6	
Average	C	5	
Pass	P	4	
Fail	F	0	
Absent	Ab	0	

A Semester Grade Point Average (SGPA) is computed for each Semester and is calculated as follows:

$$SGPA = \sum_{i=1}^n c_i g_i / \sum_{i=1}^n c_i$$

Where 'n' is the number of courses in a semester, 'c' is the number of credits for a particular subject, and 'g' is the grade-points carried by the letter corresponding to the grade awarded to the student for the subject.

Beginning second semester, at the end of each semester S, a Cumulative Grade Point Average (CGPA) is as follows:

$$CGPA = \sum_{i=1}^m c_i g_i / \sum_{i=1}^m c_i$$

Where 'm' is the total number of subjects from first semester onwards up to and including the semester S, 'c' is the number of credits for a particular subject. 'g' is the grade-point carried by the letter corresponding to the grade awarded to the student for the subject.

GE: Generic Elective

DSE: Discipline Specific Elective

AEC: Ability Enhancement Course

AEC-N: Non-CGPA

SEC: Skill Enhancement Course

SEC-N: Non-CGPA