भारतीय प्रौद्योगिकी संस्थान मुंबई
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
पवई / Powai, मुंबई / Mumbai 400 076

Date of Issue : 08-January-2024 , liable to change since student has not yet graduated

Roll Number:	21B051004	Academic Unit:	Computer Science and Engineering
Name of the Student:	Soham Shrikant Joshi		
Programme:	Bachelor of Technology (B.Tech.)	Joining Month & Year:	November 2021

Code	Name	Credits	Tag	Grade/Marks	Code	Name	Credits	Tag	Grade/Marks
Academic Year: 2021 - 2022, Term: Semester Autumn								
CH 105	Organic & Inorganic Chemistry	4.0	MA	AA	MA 111	Calculus II	4.0	MA	AA
CH 107	Physical Chemistry	4.0	MA	AP	NOCS01	NCC/NSS/NSO	0.0	MA	PP
CS 101	Computer Programming and Utilization	6.0	MA	AA	PH 107	Quantum Physics and Application	6.0	MA	AA
MA 109	Calculus I	4.0	MA	AA					
	SPI=10.00/10					CPI=10.00/10			
Academic Year: 2021 - 2022, Term: Semester Spring								
BB 101	Biology	6.0	MA	AA	MA 108	Differential Equations	4.0	MA	AA
CS 152	Abstractions and Paradigms for Programming	6.0	MA	AA	ME 119	Engineering Graphics & Drawing	5.0	MA	AA
CS 154	Programming Paradigms Laboratory	3.0	MA	AA	NOCS02	NCC/NSS/NSO	0.0	MA	PP
MA 106	Linear Algebra	4.0	MA	AP	PH 108	Basics of Electricity & Magnetism	6.0	MA	AP
	SPI=10.00/10					CPI=10.00/10			
Academic Year: 2022 - 2023, Term: Semester Autumn								
CS 207	Discrete Structures	6.0	MA	AB	EE 101	Introduction to Electrical and Electronics Circuits	8.0	MA	AA
CS 213	Data Structures and Algorithms	6.0	MA	AB	GC 101	Gender in the workplace	0.0	MA	PP
CS 215	Data Analysis and Interpretation	6.0	MA	AA	MA 403	Real Analysis	8.0	MI	AA
CS 251	Software Systems Lab	8.0	MA	AB	TA 101	Teaching Assistant Skill Enhancement & Training (TASET)	0.0	MA	PP
CS 293	Data Structures and Algorithms Lab	3.0	MA	AA					
	SPI=9.46/10					CPI=9.80/10			
Academic Year: 2022 - 2023, Term: Semester Spring								
CS 218	Design and Analysis of Algorithms	6.0	MA	AA	CS 252	Computer Networks Lab	3.0	MA	BB
CS 224	Computer Networks	6.0	MA	BB	CS 779	Extremal Combinatorics	6.0	AL	AB
CS 228	Logic for Computer Science	6.0	MA	AB	HS 101	Economics	6.0	MA	BB
CS 230	Digital Logic Design and Computer Architecture	6.0	MA	AP	MA 406	General Topology	8.0	MI	AB
CS 232	Digital Logic Design and Computer Architecture Lab	4.0	MA	AA					
	SPI=9.03/10					CPI=9.59/10			

CONTINUED

1

भारतीय प्रौद्योगिकी संस्थान मुंबई
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
पवई / Powai, मुंबई / Mumbai 400 076

Name of the Student: Soham Shrikant Joshi | Roll Number : 210051004

Code	Name	Credits	Tag	Grade/Marks	Code	Name	Credits	Tag	Grade/Marks

Academic Year: 2023 - 2024, Term: Semester Autumn

Code	Name	Credits	Tag	Grade/Marks	Code	Name	Credits	Tag	Grade/Marks
CS 310	Automata Theory	6.0	MA	AP	CS 396	Seminar	3.0	AL	AA
CS 333	Operating Systems Lab	4.0	MA	CC	CS 490	R & D Project	6.0	HO	AB
CS 335	Artificial Intelligence and Machine Learning (Lab)	4.0	MA	CC	CS 602	Applied Algorithms	6.0	AL	AA
					CS 774	Spectral Graph Theory	6.0	AL	AA
CS 337	Artificial Intelligence and Machine Learning	6.0	MA	AA	HS 305	Reading Literature	6.0	MA	AA
CS 347	Operating Systems	6.0	MA	BC					

SPI=8.44/10 | CPI=9.37/10

Mandatory Course Credits (MA)	= 168.0	Overall CPI = 9.37/10
Overall Credits Completed	= 211.0	
Overall Grade Points	= 1984.0	

Current Status
The academic requirements for the degree are yet to be completed.
Signature & Seal of Transcript Issuing Authority:

Joint Assistant Registrar (Academic), IIT Bombay
Date:
Place:
For Assistant Registrar (Academic)
भारतीय प्रौद्योगिकी संस्थान, मुंबई
Indian Institute of Technology, Bombay
पवई, मुंबई/Powai, Mumbai 400076.

General Information

The medium of instruction at the Institute is English.

Course credits and grade: Each course is associated with credits which are an indicator of its relative weight in calculating the academic performance. A two-letter grade is awarded to students on the basis of their performance in examinations and assignments of a specific course. The letter grades have numerical equivalents on a 0-10 scale as given below.

Letter Grade	AP	AA	AB	BB	BC	CC	CD	DD	FF	FR	W	DX	PP	NP	AU
Numerical Equivalent	10	10	9	8	7	6	5	4	0	0					

FF: Fail, FR: Fail and repeat, W: Withdrawn, DX: Insufficient attendance, AU: Satisfactory performance in an audit course, PP: Pass, NP: Not Pass. The minimum passing grade in a course is DD. The grade AP is awarded to students with exceptional performance in core courses of a programme. Numerical equivalents of letter grades are referred to as grade points.

The numerical grade points are not convertible into marks or percentages.

Performance Indicators: The performance of a student in a semester is given by a number called the Semester Performance Index (SPI), which is the weighted average of the earned grade points in the courses during the semester.

If a student has courses with credits $C_1, C_2, ... C_w$ with grade points of $G_1, G_2, ... G_n$ respectively, then

Semester Credits = $C_1 + C_2 + ... + C_n$	Semester Grade Points = $C_1G_1 + C_2G_2 + ... + C_nG_n$	SPI = Semester Grade Points / Semester Credits

Cumulative Performance Index (CPI) is the weighted average of the grade points in the courses in all semesters. The indices SPI and CPI are calculated upto two decimal places.

Courses are tagged as MA: Mandatory (Core/Elective), MI: Minor, HO: Honours, AL: Additional Learning, AU: Audit.

- Each degree programme has mandatory credits consisting of core courses, elective courses, and non credit courses. These courses are tagged as MA.
- For calculation of SPI and CPI, grades obtained only in mandatory courses (MA) are considered.
- Students can supplement the learning experience by crediting additional courses. Credits earned in these courses, when appropriate, can earn additional credentials either in the form of "Honours" (HO) in the chosen discipline or "Minor" (MI) in another discipline or both.
- "Honours" is not indicative of proficiency, and can be earned by completing the additional prescribed set of advanced core and elective courses in the chosen discipline. "Minor" can be earned by completing the prescribed set of courses in a discipline other than the chosen discipline. Additional courses that are not used for earning "Honours" or "Minor" are tagged as "Additional Learning" (AL).
- The AU is awarded based on satisfactory attendance and fulfilling the minimum requirements as set by the course instructor. It carries no grade points and does not figure in SPI or CPI calculations.
- PP or NP is awarded in some credit courses that are not earmarked with a letter grade. Correspondingly, PP/NP does not carry a grade point.
- O-IITB is/are the Course(s) completed by a student outside IIT Bombay (NPTEL/ Swayam/ Semester Exchange). These course(s) contribute towards the completion of credits for a degree requirement. However, grades/marks earned for such course(s) is/are not considered for SPI / CPI calculation.

The institute does not award any class or division. Notionally, the CPI may be multiplied by a factor of 10 to obtain a numerical percentage.
The veracity of this document can be ascertained by using the verification ticket number in the URL given at the bottom of this page.

END OF TRANSCRIPT | Roll Number : 210051004