



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



Roll Number: 150020052 Academic Unit: Chemical Engineering
Name of the Student: AKSHAY KHADAV Joining Month & Year: July 2015
Programme: Bachelor of Technology (B.Tech.)

Code	Name	Credits	Tag	Grade	Code	Name	Credits	Tag	Grade
Academic Year: 2015 - 2016, Term: Semester Autumn									
CH 105	Organic & Inorganic Chemistry	4.0	MA	CD	MA 105	Calculus	8.0	MA	CC
CH 107	Physical Chemistry	4.0	MA	CD	ME 119	Engineering Graphics & Drawing	5.0	MA	CC
CH 117	Chemistry Lab	3.0	MA	AB	NOCS01	NCC/NSS/NSO	0.0	MA	PP
CS 101	Computer Programming and Utilization	6.0	MA	BC	PH 107	Quantum Physics and application	6.0	MA	DD
SPI=5.86/10					CPI=5.86/10				
Academic Year: 2015 - 2016, Term: Semester Spring									
BB 101	Biology	6.0	MA	CC	ME 113	Workshop Practice	4.0	MA	AB
CL 152	Introduction to Chemical Engg.	6.0	MA	DD	NOCS02	NCC/NSS/NSO	0.0	MA	PP
MA 106	Linear Algebra	4.0	MA	BC	PH 108	Basics of Electricity & Magnetism	6.0	MA	DD
MA 108	Differential Equations	4.0	MA	BC	PH 117	Physics Lab	3.0	MA	AB
SPI=6.15/10					CPI=6.00/10				
Academic Year: 2016 - 2017, Term: Semester Autumn									
CL 203	Introduction to Transport Phenomena	6.0	MA	FR	DE 407	Technology and Animation	6.0	MA	AB
CL 244	Introduction to Numerical Analysis	8.0	MA	BB	HS 309	Introduction to the Study of Language	6.0	MA	BB
CL 249	Computational Methods Lab	3.0	MA	AA	MA 207	Differential Equations II	4.0	MA	CC
CL 255	Chemical Engineering Thermodynamics I	6.0	MA	BB					
SPI=6.87/10					CPI=6.31/10				
Academic Year: 2016 - 2017, Term: Semester Spring									
CL 202	Introduction to Data Analysis	8.0	MA	BC	CL 254	Process Fluid Mechanics	6.0	MA	BC
CL 232	Chemical Engineering Lab. I	6.0	MA	AB	DE 403	Studio Project I	6.0	MA	AB
CL 246	Heat Transfer	6.0	MA	BC	HS 101	Economics	6.0	MA	BC
CL 250	Chemical Engineering Thermodynamics II	6.0	MA	DD					
SPI=7.14/10					CPI=6.55/10				
Academic Year: 2017 - 2018, Term: Semester Autumn									
CL 203	Introduction to Transport Phenomena	6.0	MA	BB	CL 333	Chemical Engineering Lab. II	6.0	MA	BB
CL 305	Solid Mechanics	6.0	MA	CD	DE 405	Studio Project II	6.0	AL	BB
CL 319	Mass Transfer I	6.0	MA	FR	EE 101	Introduction to Electrical and Electronics Circuits	8.0	MA	CC
CL 324	Chemical Reaction Engineering	8.0	MA	CC					
SPI=5.55/10					CPI=6.55/10				
Academic Year: 2017 - 2018, Term: Semester Spring									
CL 302	Process Control	8.0	MA	CC	CL 335	Chemical Engineering Lab. III	6.0	MA	BC
CL 306	Chemical Processes	6.0	MA	CD	CL 669	Product Research & Development	6.0	MA	BC
CL 308	Overview of Indian Chemical Industry	6.0	MA	BB	CL 678	Techno-Commercial Aspects of Fine Chemicals	6.0	MA	BC
SPI=6.63/10					CPI=6.56/10				
Academic Year: 2018 - 2019, Term: Semester Autumn									
CL 319	Mass Transfer I	6.0	MA	CD	CL 433	Chemical Engineering Lab IV	6.0	MA	BB
CL 405	Process Equipment Selection	4.0	MA	BB	CL 444	Safety in Chemical Industry	6.0	AL	W
CL 409	Material Science	6.0	MA	BB	CL 455	Design Lab I	3.0	MA	BB
CL 419	Process Economics	4.0	MA	FR					
SPI=6.28/10					CPI=6.69/10				

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Name of the Student: AKSHAY KHADAV

Roll Number : 150020052

Code	Name	Credits	Tag	Grade	Code	Name	Credits	Tag	Grade
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Academic Year: 2018 - 2019, Term: Semester Spring

CL 310 Mass Transfer II	6.0	MA	DD	CL 673 Turbulent Multiphase Flow	6.0	AL	FR
CL 407 Process Equipment Design	4.0	MA	FR	ES 200 Environmental Studies: Science and Engineering	3.0	MA	CD
CL 451 Chemical Process Design	6.0	MA	DD	HS 200 Environmental Studies	3.0	MA	BB
CL 452 Process Design Project	6.0	MA	DD				
SPI=3.96/10				CPI=6.41/10			

Academic Year: 2019 - 2020, Term: Semester Autumn

CL 407 Process Equipment Design	4.0	MA	BC	CL 491 B.Tech. Project I	6.0	AL	BB
CL 419 Process Economics	4.0	MA	DD				
SPI=5.50/10				CPI=6.57/10			

Mandatory Course Credits (MA)	= 275.0	Overall CPI	= 6.57/10
Overall Credits Completed	= 287.0		
Overall Grade Points	= 1903.0		

Final Result

The student has completed the academic requirements of the programme in the month of December 2019 for the award of

Bachelor of Technology in Chemical Engineering

Signature & Seal of Transcript Issuing Authority:

[Signature]
16/1/2020

Joint/Assistant Registrar (Academic), IIT Bombay

Date: 16-January-2020

Place: Mumbai

सहायक कुलसचिव (शैक्षणिक)
Assistant Registrar (Academic)
भारतीय प्रौद्योगिकी संस्थान, मुंबई
Indian Institute of Technology, Bombay
पवई, मुंबई / Powai, Mumbai - 400 076.



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Name of the Student: AKSHAY KHADAV

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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 $C_1, C_2, \dots, C_n$, with grade points of $G_1, G_2, \dots, G_n$ respectively, then

$$\text{Semester Credits} = C_1 + C_2 + \dots + C_n$$

$$\text{Semester Grade Points} = C_1 G_1 + C_2 G_2 + \dots + C_n G_n$$

$$\text{SPI} = \text{Semester Grade Points} \div \text{Semester Credits}$$

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.

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.

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END OF TRANSCRIPT

Roll Number: 150020052