

Candidate's Declaration

This is to certify that the work presented in this thesis, titled, “Sustainable Cement Development using Sugarcane Pressmud”, is the outcome of the investigation and research carried out by me under the supervision of **Dr Md Zahid Hossain, Professor of MPE Department**

It is also declared that neither this thesis nor any part of it has been submitted elsewhere for the award of any degree or diploma.



Nafis Bin Shams

Student No: 200011116

Recommendation of the Thesis Supervisors

The thesis titled "Sustainable Cement Development using Sugarcane Pressmud" submitted by Nafis Bin Shams, Student No: 200011116 has been accepted as satisfactory in partial fulfillment of the requirements for the degree of B Sc. in Mechanical Engineering on October 2025

1. Zahid Hossain

Dr Md Zahid Hossain

(Supervisor)

Professor

MPE Dept., IUT, Board Bazar, Gazipur-1704, Bangladesh.

CO-PO Mapping of ME 4800 -Thesis and Project

COs	Course Outcomes (CO) Statement	(PO)	Addressed by	
CO1	<u>Discover and Locate</u> research problems and illustrate them via figures/tables or projections/ideas through field visit and literature review and <u>determine/Setting</u> aim and objectives of the project/work/research in specific, measurable, achievable, realistic and timeframe manner.	PO2 Problem analysis	Thesis Book	√
			Performance by research	√
			Presentation and soft skill	√
CO2	<u>Design</u> research solutions of the problems towards achieving the objectives and its application. Design systems, components or processes that meets related needs in the field of mechanical engineering	PO3 Design/development of solutions	Thesis Book	√
			Performance by research	√
			Presentation and soft skill	
CO3	<u>Review, debate, compare and contrast</u> the relevant literature contents. Relevance of this research/study. Methods, tools, and techniques used by past researchers and justification of use of them in this work.	PO4 Investigation	Thesis Book	√
			Performance by research	
			Presentation and soft skill	√
CO4	<u>Analyse</u> data and <u>exhibit</u> results using tables, diagrams, graphs with their interpretation. <u>Investigate</u> the designed solutions to solve the problems through case study/survey study/experimentation/simulation using modern tools and techniques.	PO5 Modern tool usage	Thesis Book	√
			Performance by research	√
			Presentation and soft skill	√
CO5	<u>Apply</u> moral values and research/professional ethics throughout the work, and <u>justify</u> genuine referencing on sources, and demonstration of own contribution.	PO8 Ethics	Thesis Book	√
			Performance by research	
			Presentation and soft skill	√
CO6	<u>Perform</u> own self and <u>manage</u> group activities from the beginning to the end of the research/work as a quality work.	PO9 Individual work and teamwork	Thesis Book	
			Performance by research	√
			Presentation and soft skill	√
CO7	<u>Compile and arrange</u> the work outputs, write the report/thesis, a sample journal paper, and present the work to wider audience using modern communication tools and techniques.	PO10 Communication	Thesis Book	√
			Performance by research	
			Presentation and soft skill	√
CO8	<u>Recognize</u> the necessity of life-long learning in career development in dynamic real-world situations from the experience of completing this project.	PO12 Life-long learning	Thesis Book	√
			Performance by research	√
			Presentation and soft skill	√

Student Name /ID:

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200011116

Signature of the Supervisor:

.....

Zahid Hossain

Name of the Supervisor: Dr Md Zahid Hossain

3/11/25

K-P-A Mapping of ME 4800 - Thesis and Project

COs	POs	Related Ks								Related Ps							Related As				
		K1	K2	K3	K4	K5	K6	K7	K8	P1	P2	P3	P4	P5	P6	P7	A1	A2	A3	A4	A5
CO1	PO2	✓	✓	✓	✓					✓											
CO2	PO3					✓				✓	✓	✓				✓	✓	✓	✓		
CO3	PO4								✓	✓	✓	✓					✓	✓			
CO4	PO5						✓			✓				✓							
CO5	PO8							✓													
CO6	PO9																				
CO7	PO10																				
CO8	PO12																				

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Signature of the Supervisor:

..... *Zahid Hossain*

Name of the Supervisor: **Dr Md Zahid Hossain**