

**EVALUATION SCHEME**  
**OF**

***M. TECH***  
**(STRUCTURAL ENGINEERING)**

***II YEAR***

**DEPARTMENT OF CIVIL ENGINEERING**

**INTEGRAL UNIVERSITY**  
**LUCKNOW**

**EVALUATION SCHEME**  
**Branch: M. Tech Structural Engineering Program**  
**(w.e.f. 2020-21)**

**Year – II, Semester – III**

S. No.	Course Category	Code No	Name of Subject	Periods				Evaluation Scheme				Subject Total	Attributes						United Nations Sustainable Development Goals (SDGs)		
				L	T	P	C	Continuous Assessment (CA)			Exam ESE		Employ ability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value		Professional Ethics	
								UE	TA	Total											
1	DE	CE601	Design of Bridges	3	1	0	4	40	20	60	40	100	√	√	√		√		√	SDGs 9	
		CE602	Stability of Structures	3	1	0	4	40	20	60	40	100	√								
		CE603	Maintenance and Rehabilitation of Structures	3	1	0	4	40	20	60	40	100	√	√			√		√	SDGs 9	
2	DE	CE607	Industrial Structures	3	1	0	4	40	20	60	40	100	√	√	√		√		√	SDGs 9	
		CE608	Prefabricated Structures	3	1	0	4	40	20	60	40	100	√	√	√		√		√	SDGs 9	
		CE612	Computer Aided Design in Structural Engineering	3	1	0	4	40	20	60	40	100	√	√	√						
3	DE	CE606	Design of Tall Buildings	3	1	0	4	40	20	60	40	100	√	√	√		√		√		
		CE611	A Seismic Design of Structures	3	1	0	4	40	20	60	40	100	√	√	√		√		√	SDGs 9	
		CE613	Prestressed Concrete	3	1	0	4	40	20	60	40	100	√	√	√		√				
<b>PRACTICAL / DRAWING / DESIGN</b>																					
4	DC	CE616	Directed Study	0	0	0	4	0	0	0	100	100	√	√	√		√		√		
5	DC	CE699	M.Tech Dissertation	0	0	0	4	0	60	60	40	100	√	√	√		√		√		
<b>Total</b>				<b>12</b>	<b>4</b>	<b>3</b>	<b>20</b>					<b>500</b>									

L – Lecture; T – Tutorial; P – Practical; C – Credits; UE – Unit Exams; TA – Teacher Assessment

Continuous Assessment (CA) = Unit Exams + Teacher Assessment

Subject Total = Continuous Assessment (CA) + End Semester Examination (ESE)

BS – Basic Sciences

DC – Departmental Core

HM – Humanities

OE – Open Elective

DE – Departmental Elective ESA – Engineering Science & Art (Foundation Course & Engineering Courses)

**EVALUATION SCHEME**  
**Branch: M. Tech Structural Engineering Program**  
(w.e.f. 2020-21)

**Year – II, Semester – IV**

S. No.	Course Category	Code No	Name of Subject	Periods				Evaluation Scheme			Subject Total	Attributes						United Nations Sustainable Development Goals (SDGs)		
				L	T	P	C	Continuous Assessment (CA)				Exam ESE	Employ ability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability		Human Value	Professional Ethics
								UE	TA	Total										
<b>PRACTICAL / DRAWING / DESIGN</b>																				
1	DC	CE699	M.Tech Dissertation	0	0	0	4	0	60	60	40	100	√	√	√		√		√	
2	DC	CE699	M.Tech Dissertation	0	0	0	4	0	60	60	40	100	√	√	√		√		√	
3	DC	CE699	M.Tech Dissertation	0	0	0	4	0	60	60	40	100	√	√	√		√		√	
4	DC	CE699	M.Tech Dissertation	0	0	0	4	0	60	60	40	100	√	√	√		√		√	
<b>Total</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>					<b>400</b>								

**L** – Lecture; **T** – Tutorial; **P** – Practical; **C** – Credits; **UE** – Unit Exams; **TA** – Teacher Assessment  
**Continuous Assessment (CA)** = Unit Exams + Teacher Assessment

**Subject Total** = Continuous Assessment (CA) + End Semester Examination (ESE)

**BS** – Basic Sciences            **DC** – Departmental Core  
**HM** – Humanities            **OE** – Open Elective  
**DE** – Departmental Elective   **ESA** – Engineering Science & Art (Foundation Course & Engineering Courses)

**INTEGRAL UNIVERSITY**

***DEPARTMENT OF CIVIL ENGINEERING***

**PROGRAMME:** M. Tech (Structural Engineering)

**PROGRAM SPECIFIC OUTCOMES (PSO):**

**PSO-1:** Orientation of graduate students to have high research value in Structural Engineering to pursue research through lifelong learning, enhancing society and sustainable development.

**PSO-2:** Developing Analytical and Ethical Designing Skills among students to make them capable to have a career as an entrepreneur, design engineer and quality control engineer.

**PROGRAM EDUCATIONAL OBJECTIVES (PEO):**

**PEO-1:** Enabling the learners to apply advance structural analysis, design, and quality control methods using latest national design codes in civil engineering works.

**PEO-2:** Developing the skill to follow the latest research trend to have high research value for better contributing to society and environment.

**PEO-3:** Promoting lifelong learning to meet the ever evolving professional demands by developing ethical, IT, inter personal and team skills.

**PROGRAM OUTCOMES (PO):**

**PO1- Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2- Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO3- Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO4- Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO5- Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**PO6- The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO7- Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO8- Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9- Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10- Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO11- Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12- Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.