

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 | √ | √ | √ | | √ | | | | |
| PRACTICAL / DRAWING / DESIGN | | | | | | | | | | | | | | | | | | | | | |
| 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 | √ | √ | √ | | √ | | √ | | |
| Total | | | | 12 | 4 | 3 | 20 | | | | | 500 | | | | | | | | | |

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 | | | | | | | | | | |
| PRACTICAL / DRAWING / DESIGN | | | | | | | | | | | | | | | | | | | | |
| 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 | √ | √ | √ | | √ | √ | | |
| Total | | | | 0 | 0 | 0 | 16 | | | | | 400 | | | | | | | | |

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)

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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.