

**Course Structure and Detailed Syllabus  
of  
B.Tech in Civil Engineering**  
(for Working Professionals admitted from AY 2024-25)  
**DEPARTMENT OF CIVIL ENGINEERING**



**MAHATMA GANDHI INSTITUTE OF TECHNOLOGY**  
**(Autonomous)**

Affiliated to JNTUH, Accredited by NAAC with 'A++' Grade &  
Eight UG programs accredited by NBA, New Delhi  
Kokapet (Village), Gandipet (Mandal), Hyderabad – 500 075, Telangana  
Email: [principal@mgit.ac.in](mailto:principal@mgit.ac.in) Website: [www.mgit.ac.in](http://www.mgit.ac.in), Phone: 040-24193057

---

**MAHATMA GANDHI INSTITUTE OF TECHNOLOGY****(Autonomous)****Course Structure and detailed syllabus****For Working Professionals****Applicable for students admitted from AY 2024-25****I SEMESTER**

S. No	Course Code	Course Title	Instruction			Credits
			Hours per week			
			L	T	P	
1	MA111BS	Probability and Statistics	3	1	0	4
2	CE101PC	Building Materials, Construction and Planning	3	0	0	3
3	CE102PC	Strength of Materials – I	3	0	0	3
4	CE103PC	Engineering Geology	2	0	0	2
5	EE131ES	Basic Electrical and Electronics Engineering	3	0	0	3
6	CE151PC	Strength of Materials Laboratory	0	0	2	1
7	EE161ES	Basic Electrical and Electronics Engineering Laboratory	0	0	2	1
<b>Total</b>			<b>14</b>	<b>1</b>	<b>4</b>	<b>17</b>

**II SEMESTER**

S. No	Course Code	Course Title	Instruction			Credits
			Hours per week			
			L	T	P	
1	CE201PC	Structural Analysis - I	3	0	0	3
2	CE202PC	Concrete Technology	3	0	0	3
3	CE203PC	Fluid Mechanics	3	0	0	3
4	CE204PC	Strength of Materials – II	3	0	0	3
5	CE251PC	Surveying Laboratory	0	0	2	1
6	CE252PC	Concrete Technology Laboratory	0	0	2	1
7	CE253PC	Computer Aided Drafting Laboratory	0	0	2	1
<b>Total</b>			<b>12</b>	<b>0</b>	<b>6</b>	<b>15</b>

**III SEMESTER**

S. No	Course Code	Course Title	Instruction			Credits
			Hours per week			
			L	T	P	
1	CE301PC	Hydraulics and Hydraulic Machinery	3	0	0	3
2	CE302PC	Structural Analysis - II	3	0	0	3
3	CE303PC	Transportation Engineering	3	0	0	3
4	CE304PC	Environmental Engineering	3	0	0	3
5	CE351PC	Fluid Mechanics and Hydraulic Machinery Laboratory	0	0	2	1
6	CE352PC	Transportation Engineering Laboratory	0	0	2	1
7	CE353PC	Environmental Engineering Laboratory	0	0	2	1
<b>Total</b>			<b>12</b>	<b>0</b>	<b>6</b>	<b>15</b>

**IV SEMESTER**

S. No	Course Code	Course Title	Instruction			Credits
			Hours per week			
			L	T	P	
1	CE401PC	Geotechnical Engineering	3	0	0	3
2	CE402PC	Structural Engineering -I (RCC)	3	0	0	3
3	MS401HS	Business Economics and Financial Analysis	3	0	0	3
4	CE403PC	Quantity Survey & Valuation	3	0	0	3
5		Professional Elective – I	3	0	0	3
6	CE451PC	Geotechnical Engineering Laboratory	0	0	2	1
7	EN451HS	Advanced English Communication Skills Laboratory	0	0	2	1
<b>Total</b>			<b>15</b>	<b>0</b>	<b>4</b>	<b>17</b>

**V SEMESTER**

S. No	Course Code	Course Title	Instruction			Credits
			Hours per week			
			L	T	P	
1	CE501PC	Hydrology and Water Resources Engineering	3	0	0	3
2	CE502PC	Structural Engineering -II (Steel Structures)	3	0	0	3
3	CE503PC	Foundation Engineering	3	0	0	3
4		Professional Elective – II	3	0	0	3
5		Open Elective - I	3	0	0	3
6	CE551PC	Real-time Research Project/ Field-Based Project	0	0	4	2
<b>Total</b>			<b>15</b>	<b>0</b>	<b>4</b>	<b>17</b>

**VI SEMESTER**

S. No	Course Code	Course Title	Instruction			Credits
			Hours per week			
			L	T	P	
1		Professional Elective – III	3	0	0	3
2		Professional Elective – IV	3	0	0	3
3		Open Elective – II	3	0	0	3
4	CE651PC	Computer Aided Design Laboratory	0	0	2	1
5	CE652PC	Industry Oriented Mini Project/ Internship	0	0	4	2
6	CE653PC	Project Stage – I	0	0	6	3
<b>Total</b>			<b>9</b>	<b>0</b>	<b>12</b>	<b>15</b>

**VII SEMESTER**

S. No	Course Code	Course Title	Instruction			Credits
			Hours per week			
			L	T	P	
1	CE701PC	Project Management	3	0	0	3
2		Professional Elective – V	3	0	0	3
3		Professional Elective – VI	3	0	0	3
4		Open Elective – III	3	0	0	3
5	CE751PC	Civil Engineering Software Laboratory	0	0	2	1
6	CE752PC	Project Stage-II including Seminar	0	0	22	11
<b>Total</b>			<b>12</b>	<b>0</b>	<b>24</b>	<b>24</b>

**List of Professional Electives****Professional Elective – I**

CE411PE	Green Building Technologies
CE412PE	Geomatic Applications in Civil Engineering
CE413PE	Smart Cities Planning and Management

**Professional Elective – II**

CE511PE	Prestressed Concrete
CE512PE	Elements of Earthquake Engineering
CE513PE	Advanced Structural Analysis

**Professional Elective-III**

CE611PE	Earth Retaining Structures
CE612PE	Ground Improvement Techniques
CE613PE	Stability Analysis of Slopes

**Professional Elective -IV**

CE614PE	Design of Hydraulic Structures
CE615PE	Advanced Water Resources Engineering
CE616PE	Ground Water Hydrology

**Professional Elective –V**

CE711PE	Solid Waste Management
CE712PE	Environmental Impact Assessment for Civil Engineers
CE713PE	Air pollution

**Professional Elective -VI**

CE714PE	Airports, Railways and Waterways
CE715PE	Pavement Asset Management
CE716PE	Pavement Analysis & Design

**List of Open Electives****Open Elective -I**

CE521OE	Disaster Preparedness & Planning Management
CE522OE	Environmental Impact Assessment

**Open Elective -II**

CE621OE	Remote Sensing & Geographical Information Systems
CE622OE	Solid Waste Management

**Open Elective -III**

CE721OE	Energy Efficient Buildings
CE722OE	Environmental Pollution and control

**Distribution of Theory and Laboratory Courses:**

<b>Semester</b>	<b>No of Theory Courses</b>	<b>No of Laboratory Courses</b>	<b>IOMP/RTRP/ PS-1/PS-2</b>	<b>Total Credits</b>
I	5	2	-	17
II	4	3	-	15
III	4	3	-	15
IV	5	2	-	17
V	5	-	RTRP	17
VI	3	1	IOMP & PS-I	15
VII	4	1	PS-II	24
<b>Total</b>	<b>30</b>	<b>12</b>	<b>4</b>	<b>120</b>

RTRP: Real Time Research Project

IOMP: Industry Oriented Mini-project

PS-1: Project Stage-I

PS-II: Project Stage-II