

**MATS School of Engineering & I.T**

**MATS University**

**Raipur**



**New CBCS Syllabus Scheme**

**(3<sup>rd</sup> Semester)**

**For**

**Bachelor of Technology**

**In**

**CIVIL ENGINEERING**

## **Subject Code For MATS School of Engineering & I.T**

### **3<sup>rd</sup> Semester (Civil)**

<b>S.No.</b>	<b>Subject Code</b>	<b>Subject Name</b>
<b>1</b>	<b>BT340</b>	Mathematics-III
<b>2</b>	<b>BT341</b>	Fluid Mechanics
<b>3</b>	<b>BT342</b>	Computer Programming
<b>4</b>	<b>BT343</b>	Structural Analysis-I
<b>5</b>	<b>BT344</b>	Surveying-I
<b>6</b>	<b>BT345</b>	Civil Engineering Materials
<b>7</b>	<b>BT346</b>	Fluid Mechanics Lab
<b>8</b>	<b>BT347</b>	Material Testing & Analysis Lab
<b>9</b>	<b>BT348</b>	Surveying-I Lab
<b>10</b>	<b>BT349</b>	Computer Programming Lab



**MATS School of Engineering & I.T**  
**MATS University, Raipur**  
**Scheme of Teaching & Examination**  
**III<sup>rd</sup> Semester**  
**B.Tech in Civil Engineering**



S. No.	Course code	SUBJECT	Periods per week			Evaluation Scheme		Total Credit
			L	T	P	IM	ESE	
<b>THEORY</b>								
1	BT340	Mathematics-III	3	0	0	30	70	3
2	BT341	Fluid Mechanics	4	0	0	30	70	4
3	BT342	Computer Programming	3	0	0	30	70	3
4	BT343	Structural Analysis-I	4	0	0	30	70	4
5	BT344	Surveying-I	4	0	0	30	70	4
6	BT345	Civil Engineering Materials	3	0	0	30	70	3
<b>PRACTICAL</b>								
7	BT346	Fluid Mechanics Lab	-	-	2	20	30	1
8	BT347	Material Testing & Analysis Lab	-	-	2	20	30	1
9	BT348	Surveying-I Lab	-	-	2	20	30	1
10	BT349	Computer Programming Lab	-	-	2	20	30	1
<b>TOTAL</b>			<b>21</b>	<b>0</b>	<b>8</b>	<b>540</b>	<b>260</b>	<b>25</b>

**L-Lecturer, P-Practical, ESE- End Semester Examination, IM-Internal Marks, T-Tutorial**

**MATS School of Engineering & I.T**  
**MATS University**  
**Raipur**



**Syllabus Scheme**  
**(4<sup>th</sup> Semester)**  
**For**  
**Bachelor of Technology**  
**In**  
**Civil Engineering**

## Subject Code For School of Engineering & I.T

### 4<sup>th</sup> Semester (Civil)

S.No.	Subject Code	Subject Name
1	BT440	Structural Analysis II
2	BT441	Engineering Geology
3	BT442	Surveying II
4	BT443	Civil Engineering Drawing
5	BT444	Building Construction
6	BT445x	Open Elective-I
7	BT446	Civil Engineering Drawing Lab
8	BT447	Surveying II Lab
9	BT448	Structural Analysis-II Lab
10	BT449	Engineering Geology Lab

Subject Code	Subject Name
BT4451	Engineering Risk-Benefit Analysis
BT4452	Disaster Management
BT4453	Global Strategy & Technology
BT4454	Project Management
BT4455	Software Engineering



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**MATS University, Raipur**  
**Scheme of Teaching & Examination**  
**IV<sup>th</sup> Semester**  
**B.Tech in Civil Engineering**



S. No.	Course code	SUBJECT	Periods per week			Evaluation Scheme		Total Credits
			L	T	P	IM	ESE	
<b>THEORY</b>								
1	BT440	Structural Analysis II	4	0	0	30	70	4
2	BT441	Engineering Geology	3	0	0	30	70	3
3	BT442	Surveying II	3	0	0	30	70	3
4	BT443	Civil Engineering Drawing	3	0	0	30	70	3
5	BT444	Building Construction	3	0	0	30	70	3
6	BT445x	Open Elective-I	3	0	0	30	70	3
<b>PRACTICAL</b>								
7	BT446	Civil Engineering Drawing Lab	0	0	2	20	30	1
8	BT447	Surveying-II Lab	0	0	2	20	30	1
9	BT448	Structural Analysis-II Lab	0	0	4	20	30	2
10	BT449	Engineering Geology Lab	0	0	2	20	30	1
<b>TOTAL</b>			<b>19</b>	<b>0</b>	<b>10</b>	<b>260</b>	<b>540</b>	<b>24</b>

**L-Lecturer, P-Practical, ESE- End Semester Examination, IM-Internal Marks, T-Tutorial**

Subject Code	Subject Name
BT4451	Engineering Risk-Benefit Analysis
BT4452	Disaster Management
BT4453	Global Strategy & Technology
BT4454	Project Management
BT4455	Software Engineering

**MATS School of Engineering & I.T**  
**MATS University**  
**Raipur**



**Syllabus Scheme**  
**For (5<sup>th</sup> Semester)**  
**Bachelor of Technology**  
**In**  
**Civil Engineering**

## Subject Code For School of Engineering & I.T

### 5<sup>th</sup> Semester (Civil)

S.No.	Subject Code	Subject Name
1	BT540	Soil Mechanics
2	BT541	Highway & Airport Engineering
3	BT542	Reinforced Cement Concrete Design
4	BT543	Water Supply Engineering
5	BT544	Engineering Hydrology
6	BT545x	Open Elective – II
7	BT546	Vocational & Industrial Training Evaluation and Presentation
8	BT547	Soil Mechanics Lab
9	BT548	Highway Engineering Laboratory
10	BT549	Water Supply Engineering Laboratory

Subject Code	Subject Name
BT5451	Artificial Intelligence and Robotics
BT5452	Analog & Digital Communication
BT5453	Infrastructure Systems Planning
BT5454	Rural Technology & Community Development
BT5455	Managing Innovation and Entrepreneurship





**MATS School of Engineering & I.T**  
**MATS University, Raipur**  
**Scheme of Teaching & Examination**  
**V<sup>th</sup> Semester**  
**B.Tech in Civil Engineering**



S.N.	code	Subject	Periods per week			Scheme of marks		Total Credit
			L	T	P	ESE	IM	
1.	BT540	Soil Mechanics	4	0	-	70	30	4
2.	BT541	Highway & Airport Engineering	4	0	-	70	30	4
3.	BT542	Reinforced Cement Concrete Design	4	0	-	70	30	4
4.	BT543	Water Supply Engineering	4	0	-	70	30	4
5.	BT544	Engineering Hydrology	3	0	-	70	30	3
6.	BT545x	Open Elective – II	3	0	-	70	30	3
7.	BT546	Vocational & Industrial Training Evaluation and Presentation	-	-	2	30	20	1
8.	BT547	Soil Mechanics Laboratory	-	-	2	30	20	1
9.	BT548	Highway Engineering Laboratory	-	-	2	30	20	1
10.	BT549	Water Supply Engineering Laboratory	-	-	2	30	20	1
<b>Total</b>			<b>22</b>	<b>0</b>	<b>8</b>	<b>540</b>	<b>260</b>	<b>26</b>

**L-Lecturer, P-Practical, ESE- End Semester Examination, IM-Internal Marks, T-Tutorial**

Subject Code	Subject Name
BT5751	Artificial Intelligence and Robotics
BT5752	Analog & Digital Communication

BT5753	Infrastructure Systems Planning
BT5754	Rural Technology & Community Development
BT5755	Managing Innovation and Entrepreneurship

**MATS School of Engineering & I.T**  
**MATS University**  
**Raipur**



**Syllabus Scheme**  
**(6<sup>th</sup> Semester)**  
**For**  
**Bachelor of Technology**  
**In**  
**Civil Engineering**

## Subject Code For School of Engineering & I.T

### 6<sup>th</sup> Semester (Civil)

S.No.	Subject Code	Subject Name
1	BT640	Design of Steel Structures
2	BT641	Railway & Harbor Engineering
3	BT642	Sewage & Sanitary Engineering
4	BT643	Foundation Engineering
5	BT644	Construction Planning & Management
6	BT645x	Professional Elective – I
7	BT646	Minor Project
8	BT647	Design of Steel Structures Laboratory
9	BT648	Concrete Testing Laboratory
10	BT649	Geo-tech Engineering laboratory

Subject Code	Subject Name
BT6451	Concrete Technology
BT6452	Composite Materials
BT6453	Water Power Engineering
BT6454	Structural Dynamics
BT6455	Architecture and Town Planning



**MATS School of Engineering & I.T**  
**MATS University, Raipur**  
**Scheme of Teaching & Examination**  
**VI<sup>th</sup> Semester**  
**B.Tech in Civil Engineering**



S.N.	code	Subject	Periods per week			Scheme of marks		Total Credit
			L	T	P	ESE	IM	
1.	BT640	Design of Steel Structures	4	0	-	70	30	4
2.	BT641	Railway, Harbor & Tunnel Engineering	4	0	-	70	30	4
3.	BT642	Sewage & Sanitary Engineering	4	0	-	70	30	4
4.	BT643	Foundation Engineering	3	0	-	70	30	3
5.	BT644	Construction Planning & Management	3	0	-	70	30	3
6.	BT645x	Professional Elective – I	3	0	-	70	30	3
7.	BT646	Minor Project	-	-	3	30	20	2
8.	BT647	Design of Steel Structures Laboratory	-	-	2	30	20	1
9.	BT648	Concrete Testing laboratory	-	-	2	30	20	1
10.	BT649	Geo-tech Engineering Lab	-	-	2	30	20	1
		<b>Total</b>	<b>21</b>	<b>0</b>	<b>09</b>	<b>540</b>	<b>260</b>	<b>26</b>

**L-Lecturer, P-Practical, ESE- End Semester Examination, IM-Internal Marks, T-Tutorial**

Subject Code	Subject Name
BT6751	Concrete Technology
BT6752	Composite Materials
BT6753	Water Power Engineering
BT6754	Structural Dynamics
BT6755	Architecture and Town Planning

**MATS School of Engineering & I.T**  
**MATS University**  
**Raipur**



**Syllabus Scheme**  
**(7<sup>th</sup> Semester)**  
**For**  
**Bachelor of Technology**  
**In**  
**Civil Engineering**

## Subject Code For School of Engineering & I.T

### 7<sup>th</sup> Semester (Civil)

S.No.	Subject Code	Subject Name
1	BT740	Advance Design of Structure – I
2	BT741	Water Resources Engineering
3	BT742	Quantity Surveying and Cost Evaluation
4	BT743	Pre stressed Concrete Structure
5	BT744x	Professional Elective – II
6	BT745	Advance Structural Engineering design Lab
7	BT746	Water Resources Engineering Lab
8	BT747	Computer Aided Drafting Laboratory
9	BT748	Structural Analysis & Programming Lab

Subject Code	Subject Name
BT7441	Construction Equipment & Techniques
BT7442	Building Maintenance & Repairs
BT7443	Solid & Hazardous Waste Management
BT7444	Environmental Impact Assessment & Audit
BT7445	FEM Application in Civil Engineering





**MATS School of Engineering & I.T**  
**MATS University, Raipur**  
**Scheme of Teaching & Examination**  
**VII<sup>th</sup> Semester**  
**B.Tech in Civil Engineering**



S.N.	code	Subject	Periods per week			Scheme of marks		Total Credit
			L	T	P	ESE	IM	
1.	BT740	Advance Design of Structure – I	4	0	-	70	30	4
2.	BT741	Water Resources Engineering	4	0	-	70	30	4
3.	BT742	Quantity Surveying and Cost Evaluation	4	0	-	70	30	4
4.	BT743	Pre Stressed Concrete Structure	4	0	-	70	30	4
5.	BT744x	Professional Elective – II	4	0	-	70	30	4
6.	BT745	Advance Structural Engineering design Lab	-	-	2	30	20	1
7.	BT746	Water Resources Engineering Lab	-	-	2	30	20	1
8.	BT747	Computer Aided Drafting Lab	-	-	2	30	20	1
9.	BT748	Structural Analysis & Programming Lab	-	-	2	30	20	1
<b>Total</b>			<b>20</b>	<b>0</b>	<b>8</b>	<b>470</b>	<b>230</b>	<b>24</b>

L – Lecture,      T – Tutorial,    ESE – End Semester Examination,  
P – Practical,    IM – Internal Marks (Include Class Test & Teacher’s Assessments)

Subject Code	Subject Name
BT7441	Construction Equipment & Techniques
BT7442	Building Maintenance & Repairs
BT7443	Solid & Hazardous Waste Management

BT7444	Environmental Impact Assessment & Audit
BT7445	FEM Application in Civil Engineering

**MATS School of Engineering & I.T**  
**MATS University**  
**Raipur**



**Syllabus Scheme**  
**(8<sup>th</sup> Semester)**  
**For**  
**Bachelor of Technology**  
**In**  
**Civil Engineering**

## Subject Code For School of Engineering & I.T

### 8<sup>th</sup> Semester (Civil)

S.No.	Subject Code	Subject Name
1	BT840	Advance Design of Structure – II
2	BT841X	Professional Elective – III
3	BT842X	Open Elective – III
4	BT843	Computational Structural Analysis and Design Laboratory
5	BT844	Major Project Work &Dissertation

Professional Elective:

Subject Code	Subject Name
BT8411	Bridge Engineering
BT8412	Geographic Data Analysis & Applications
BT8413	Oil and Natural Gas Exploration
BT8414	Highway and Traffic Engineering
BT8415	Earthquake Engineering

Open Elective

Subject Code	Subject Name
BT8421	Engineering System Analysis and Design
BT8422	Engineering System Design Optimization
BT8423	Engineering System Modeling and Simulation
BT8424	GIS and its Applications
BT8425	Supply Chain Management-Planning



# MATS UNIVERSITY

## ARANG, RAIPUR(C.G.)



### VIII - Semester

S.N.	code	Subject	Periods per week			Scheme of marks		Total Credit
			L	T	P	ESE	IM	
1.	BT870	Advance Design of Structure – II	4	0	-	70	30	4
2.	BT871X	Professional Elective – III	4	0	-	70	30	4
3.	BT872X	Open Elective – III	3	0	-	70	30	3
4.	BT873	Computational Structural Analysis and Design Laboratory	-	-	2	30	20	1
5.	BT874	Major Project Work & Dissertation	-	-	18	120	80	12
<b>Total</b>			<b>11</b>	<b>0</b>	<b>20</b>	<b>470</b>	<b>230</b>	<b>24</b>

L – Lecture, T – Tutorial, ESE – End Semester Examination,  
P – Practical, IM – Internal Marks (Include Class Test & Teacher’s Assessments)

Professional Elective:

Subject Code	Subject Name
BT8411	Bridge Engineering
BT8412	Geographic Data Analysis & Applications
BT8413	Oil and Natural Gas Exploration
BT8414	Highway and Traffic Engineering
BT8415	Earthquake Engineering

Open Elective:

Subject Code	Subject Name
BT8421	Engineering System Analysis and Design
BT8422	Engineering System Design Optimization
BT8423	Engineering System Modeling and Simulation
BT8424	GIS and its Applications
BT8425	Supply Chain Management-Planning

