DEPARTMENT OF CIVIL ENGINEERING INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program code: 21 M. Tech. (Transportation Engineering)

Department: CE Civil Engineering

Year: I

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weights (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	Т	Р	Theory	Practical	CWS	PRS	MTE	ETE	PRE
				Semester –	- I (Autu	mn)								1
1	CEN-561	Traffic Analysis and Design	PCC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
2	CEN-562	Pavement Analysis and Design	PCC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
3	CEN-563	Urban Mass Transit Systems	PCC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
4	CEN-564	Geometric Design	PCC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
5	-	Program Elective – I	PEC	3/4										
		Total		19/20										
				Semester -	– II (Spri	ng)								
1	CEN-664	Transportation Planning	PCC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
2	CEN-700	Seminar	SEM	2	0	0	2	3	-	-	-	-	100	-
3		Program Elective – II	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
4		Program Elective – III	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
5		Program Elective - IV	PEC	3/4										
6		Program Elective - V	PEC	2	-	-	4	-	3	-	50	-	50	-
		Total		19/20										

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Program code: 21 M. Tech. (Transportation Engineering)

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Year: II

Teaching Scheme						Contact Hours/Week			Exam Duration		Relative Weights (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	Т	Р	Theory	Practical	CWS	PRS	MTE	ETE	PRE	
				Semester –	- I (Autui	mn)									
1	CEN-701A	Dissertation Stage-I (to be continued in Spring semester)	DIS	12	-	-	-	-	-	-	-	-	100	-	
		Total		12											
Note: St	udent can take	2 1 or 2 audit courses as advised by the	supervisor,	if required										•	
				Semester -	– II (Spri	ng)									
1	CEN-701B	Dissertation Stage-II (to be continued in Spring semester)	DIS	18	-	-	-	-	-	-	-	-	100	-	
		Total		18											

Summary									
Semester	1	2	3	4					
Semester wise total credits	19/20	19/20	12	18					
Total credits	68/70								

<u>Programme Elective Courses (Transportation Engineering)</u>

	Teaching Scheme					Contac ours/We		Exam [Ouration	Relative Weights (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	Т	Р	Theory	Practical	CWS	PRS	MTE	ETE	PRE
Courses	Against Autu	mn Semester Electives	L			1			1		l		1	
1	BM-513	Business Statistics	PEC	3	3	-	-	3	-	15	-	35	50	-
2	CEN-501	Environmental Modelling and Simulation	PEC	4	3	1	2/2	3	-	20	20	20	40	-
3	CEN-513	Remote Sensing and Digital Image Processing	PEC	4	3	0	2	3	-	15	25	20	40	-
4	CEN-521	Advanced Numerical Analysis	PEC	4	3	0	2	3	-	15	25	20	40	-
5	CEN-522	Advanced Soil Mechanics	PEC	4	3	1	2/2	3	-	20	20	20	40	-
6	CEN-543	Advanced Concrete Design	PEC	4	3	0	2	3	-	15	25	20	40	-
7	CEN-545	Finite Element Analysis	PEC	4	3	-	2	3	-	15	25	20	40	-
8	CEN-565	Planning, Design and Construction of Rural Roads	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
9	CEN-566	Airport Planning and Design	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
10	CEN-567	Transportation Systems Analysis	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
11	CEN-568	Advanced Highway Material Characterisation	PEC	4	3	1	2/2	3	-	15-30	20	15-25	30-40	-
12	CTN-501	Quantitative Techniques for Infrastructure Systems Analysis	PEC	4	3	-	2	3	-	15	25	20	40	-

1	CEN-604	Environmental Impact and Risk Assessment	PEC	4	3	1	-	3	-	25	-	25	50	-
2	CEN-614	Theory and Application of GIS	PEC	4	3	-	2	3	-	15	25	20	40	-
3	CEN-621	Advanced Geotechnical Exploration and Testing	PEC	4	3	1	-	3	-	25	-	25	50	-
4	CEN-661	Advanced Highway Construction and Maintenance	PEC	4	3	1	2/2	3	-	15-30	20	15-25	30-40	-
5	CEN-662	Intersection Design and Control	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
6	CEN-663	Pavement Evaluation and Management	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
7	CEN-665	Road Traffic Safety	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
8	CEN-666	Transport Economics	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
9	CEN-667	Transportation Studies and Analysis Lab	PEC	2	-	-	4	-	3	-	50	-	-	50
10	CEN-668	Multi-Agent Transport Simulation Framework	PEC	2	-	-	4	-	3	-	50	-	-	50