

**DEPARTMENT OF EARTHQUAKE ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

Program Code: **24** **M.Tech. (Seismic Vulnerability and Risk Assessment)**
 Department: **EQ** **Earthquake Engineering**
 Year: **I**

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
Semester- I (Autumn)														
1.	EQN-502	Vibration of Elastic Media	PCC	4	3	1	0	3	-	25	-	25	50	-
2.	EQN-513	Numerical Methods for Dynamic Systems	PCC	3	3	0	0	3	-	25	-	25	50	-
3.	EQN-531	Seismological Modeling and Simulation	PCC	4	3	1	0	3	-	25	-	25	50	-
4.	EQN-532	Vulnerability and Risk Analysis	PCC	4	3	1	0	3	-	25	-	25	50	-
5.		Programme Elective	PEC	4	3	1	0	3	-	25	-	25	50	-
		Total		19	12	3	-							
Semester-II (Spring)														
1.	EQN-539	Ground Shaking Hazard	PCC	3	3	0	0	3	-	25	-	25	50	-
2.	EQN-700	Seminar	SEM	2	-	-	-	-	-	-	-	-	100	-
3.		Programme Elective	PEC	4	3	1	0	3	-	25	-	25	50	-
4.		Programme Elective	PEC	4	3	1	0	3	-	25	-	25	50	-
5.		Programme Elective	PEC	4	3	1	0	3	-	25	-	25	50	-
6.		Programme Elective	PEC	4	3	1	0	3	-	25	-	25	50	-
		Total		21	3	-	-							

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 Year: **II**

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
Semester- I (Autumn)														
1.	EQN-701A	Dissertation Stage-I (to be continued next semester)	DIS	12	-	-	-	-	-	-	-	-	100	-
		Total		12										
Note: Students can take 1 or 2 audit courses as advised by the supervisor, if required.														
Semester-II (Spring)														
1.	EQN-701B	Dissertation Stage-II (contd. From III semester)	DIS	18	-	-	-	-	-	-	-	-	100	-
		Total		18										

Summary				
Semester	1	2	3	4
Semester-wise Total Credits	19	21	12	18
Total Credits	70			

Program Elective Courses (Seismic Vulnerability and Risk Assessment)

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1.	EQN-514	Seismic Evaluation and Retrofitting of Structures	PEC	4	3	1	0	3	-	25	-	25	50	-
2.	EQN-534	Advanced Seismic Microzonation	PEC	4	3	1	0	3	-	25	-	25	50	-
3.	EQN-535	Seismic Disaster Mitigation and Management	PEC	4	3	1	0	3	-	25	-	25	50	-
4.	EQN-536	Ground Failure Hazard	PEC	4	3	1	0	3	-	25	-	25	50	-
5.	EQN-537	Earthquake Precursors and Early Warning Systems	PEC	4	3	1	0	3	-	25	-	25	50	-
6.	EQN-538	Geoinformatics	PEC	4	3	1	0	3	-	25	-	25	50	-
7.	EQN-546	Instrumentation and Model Testing Techniques	PEC	4	3	1	0	3	-	25	-	25	50	-
8.	EQN-571	Ground Improvement Techniques	PEC	4	3	1	0	3	-	25	-	25	50	-
9.	EQN-590	Strong Motion Seismology	PEC	4	3	1	0	3	-	25	-	25	50	-