Appendix-

DEPARTMENT OF EARTHQUAKE ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code: **23** **M.Tech. (Structural Dynamics)**
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-501	Theory of Vibrations	PCC	4	3	1	2/2	3	-	20	20	20	40	-
2.	EQN-504	Finite Element Method	PCC	4	3	1	0	3	-	25	-	25	50	-
3.	EQN-513	Numerical Methods for Dynamic Systems	PCC	3	3	0	0	3	-	25	-	25	50	-
4.	EQN-563	Earthquake Resistant Design of Structures	PCC	4	3	1	0	3	-	25	-	25	50	-
5.		Programme Elective	PEC	4	-	-	-	-	-	-	-	-	-	-
		Total		19	12	3	1							
Semester-II (Spring)														
1.	EQN-512	Advanced Earthquake Resistant Design of Structures	PCC	3	3	0	0	3	-	25	-	25	50	-
2.	EQN-700	Seminar	SEM	2	-	-	-	-	-	-	-	-	100	-
3.		Programme Elective	PEC	4	-	-	-	-	-	-	-	-	-	-
4.		Programme Elective	PEC	4	-	-	-	-	-	-	-	-	-	-
5.		Programme Elective	PEC	4	-	-	-	-	-	-	-	-	-	-
6.		Programme Elective	PEC	4	-	-	-	-	-	-	-	-	-	-
		Total		21	3	-	-							

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Program Code: **23** **M.Tech. (Structural Dynamics)**
Department: **EQ** **Earthquake Engineering**
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 (Structural Dynamics)

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-503	Engineering Seismology	PEC	4	3	1	0	3	-	25	-	25	50	-
2.	EQN-511	Earthquake Resistant Design of Masonry Structures	PEC	4	3	1	0	3	-	25	-	25	50	-
3.	EQN-514	Seismic Evaluation and Retrofitting of Structures	PEC	4	3	1	0	3	-	25	-	25	50	-
4.	EQN-515	Mechanics of Deformable Media	PEC	4	3	1	0	3	-	25	-	25	50	-
5.	EQN-525	Seismic Hazard Assessment	PEC	4	3	1	0	3	-	25	-	25	50	-
6.	EQN-546	Instrumentation and Model Testing Techniques	PEC	4	3	1	0	3	-	25	-	25	50	-
7.	EQN-548	Discrete Time Signal Processing	PEC	4	3	1	0	3	-	25	-	25	50	-
8.	EQN-551	Random Vibrations	PEC	4	3	1	0	3	-	25	-	25	50	-
9.	EQN-552	Reliability Based Design	PEC	4	3	1	0	3	-	25	-	25	50	-
10.	EQN-558	Advanced Structural Dynamics	PEC	4	3	1	0	3	-	25	-	25	50	-
11.	EQN-560	Earthquake Resistant Design of Bridges and Concrete Dams	PEC	4	3	1	0	3	-	25	-	25	50	-
12.	EQN-562	Dynamics of Plates, Shells and Arches	PEC	4	3	1	0	3	-	25	-	25	50	-
13.	EQN-566	Structural Response Control for Seismic Protection	PEC	4	3	1	0	3	-	25	-	25	50	-