Maulana Azad

NATIONAL INSTITUTE OF TECHNOLOGY, Bhopal-462003

DEPARTMENT OF MECHANICAL ENGINEERING

MTech. in Mechanical Engineering

With Specialization in: Stress and Vibration Analysis

SCHEME OF STUDY (Revised April 2020)

First Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
MTH 101 SV	Advanced Engineering Mathematics	3	1	-	4
SV 102	Theory of Elasticity	3	1	-	4
SV 103	Theory of Vibrations-1	3	1	-	4
SV 104	Finite Element Method	3	1	-	4
	Elective 1 (A)	3	1	-	4
	Elective 2 (B)	3	1	-	4
SV 105	Vibration Analysis Lab.	-	-	2	1
SV 106	Seminar-1	-	-	2	1
SV 107	Communications Skill NPTEL/MOOC/Hum Dept.	2	-	-	2
Total Hours 30 **Total Credits (Cumulative) 28**		**Total Credits**			**28**

Second Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
SV 201	Experimental Stress Analysis	3	1	-	4
SV 202	Theory of Plasticity	3	1	-	4
SV 203	Theory of Vibrations-II	3	1	-	4
	Elective 3 (A)	3	1	-	4
	Elective 4 (A)	3	1	-	4
	Elective 5 (C)	3	1	-	4
SV 204	Experimental Stress Analysis Lab.	-	-	2	1
SV 205	Research Methodology, Technical Report and Paper Writing	-	2	-	2
SV 206	Seminar-2	-	-	2	1
Total Hours 30 **Total Credits (Cumulative) 56**		**Total Credits**			**28**

Third Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
SV 301	Project Phase-I	-	-	24	12
Total Hours 24 **Total Credits (Cumulative) 68**		**Total Credits**			**12**

Fourth Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
SV 401	Project Phase-II	-	-	24	12
Total Hours 24 **Total Credits (Cumulative) 80**		**Total Credits**			**12**

List of Electives

Group A		Group B	
SV 501	Advanced Computational Methods	SV 601	Advanced Machine Design
SV 502	Vibrations of Plates	SV 602	Product Design and Development
SV 503	Non-linear and Random Vibrations	SV 603	Fundamentals of Tribology
SV 504	Stress and Vibration Analysis in Turbo-machinery	SV 604	Surface Engineering
		SV 605	Advanced Computer Aided Graphics
SV 505	Rotor Dynamics and Balancing		
SV 506	Condition Monitoring	**Group C**	
SV 507	Advanced Optimization Techniques	SV 701	Advanced Theory of Vibrations
SV 508	Analysis of Composite Structures	SV 702	Non linear and Random Vibrations
SV 509	Mechanics of Composite Materials	SV 703	Theory of Elasticity & Plasticity
SV 510	Non-linear Finite Element Methods	SV 704	Experimental Stress Analysis
SV 511	Fatigue and Fracture Analysis	SV 705	Advanced Mechanics of Materials

Group-A Program Electives

Group-B Department Elective (for other programs of same department only)

Group-C Institute Elective (for other departments only)