NIIST BHOPAL	NRI INSTITUTE OF INFORMATION SCIENCE & TECHNOLOGY DEPARTMENT NAME: MECHANICAL ENGINEERING LIST OF EXPERIMENTS	FORM NO	NIIST/A/10
BRANCH: ME		REV. NO	0
SESSION:		REV. DT	30/06/2011

SUBJECT NAME: Internal Combustion Engines **SUBJECT CODE: ME-501**

1	Determination of Valve timing diagram
2	Load test on Petrol Engine
3	Heat Balance of SI engine
4	. Heat Balance of CI Engine
5	Study of Battery Ignition system and Electronic Ignition System
6	Study of Diesel fuel pump
7	Study of Diesel fuel injectors
8	Study of Carburetors
9	Study of Fuel Injection system in SI Engine
10	Study of lubricating system in CI Engine

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BRANCH	ME		REV. NO	0
SESSION			REV. DT	30/06/2011

SUBJECT NAME: Mechanical Vibrations **SUBJECT CODE: ME-502**

1	To find out effect of load on natural frequency of vibrations of a lever pin supported at one end carrying adjustable load on a vertical screwed bar and spring supported at some intermediate point (i) When the dead weight of rods is neglected and (ii) when their dead weight is taken into account
2	To find out frequency of damped free vibration and rate of decay of vibration-amplitude in the system.
3	To find out natural frequency and damped free frequency of a torsion pendulum and , hence to find out coefficient of damping of the oil.
4	To observe the phenomenon of 'whirl' in a horizontal light shaft and to determine the critical speed of the shaft.
5	To observe the mode shapes of a spring-connected, double pendulum and hence to demonstrate the phenomenon of beats.
6	To demonstrate the principle of tuned Undamped Dynamic Vibration Absorber and to determine the effect of mass-ratio (of main and auxiliary mass) on the spread of the resulting natural frequencies;
7	To take measurements of sound Pressure Level (SPL) and to carry out octave band analysis of a machine using Noise Level Meter

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BRANCH	ME		REV. NO	0
SESSION			REV. DT	30/06/2011

SUBJECT NAME: Dynamics of Machine **SUBJECT CODE: ME-503**

1	Study of various models of governors.
2	Study of gyroscopic motion and calculation of value of gyroscopic couple.
3	Study of various types of Cams and followers and drawing the cam profile with the help of test kit.
4	Study of various first order vibration systems.
5	To study working of friction clutches using models

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BRANCH: ME		REV. NO	0
SESSION: July 48		REV. DT	30/06/2011

SUBJECT NAME: FEM/CFD Lab **SUBJECT CODE: ME-505**

1	To study fundamentals of Computational Fluid Dynamics (CFD)
2	To perform CFD analysis of lid driven cavity in Open-Foam
3	To perform CFD analysis of square tube in Open-Foam
4	To perform CFD analysis of a 2D-plate in Open-Foam
5	To perform CFD analysis of bifurcated blood vessel in FEM
6	To study fundamentals of Finite element method and FEA
7	To perform FEM analysis of deep drawing process in FEM
8	To study fundamentals of Sci-Lab
9	To perform matrix operations in Sci-lab
10	To plot 2D & 3D graphs in Sci-lab

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