



TONTADARYA COLLEGE OF ENGINEERING, GADAG.
DEPARTMENT OF MECHANICAL ENGINEERING



SEMESTER: VII

DESIGN LABORATORY

CARPET AREA : 80 Sq Mts

TOTAL COST : Rs 3,21,000

LIST OF EQUIPMENTS

Sl. NO	PARTICULARS	QTY
1	Universal vibration set up	2
2	Governors	1
3	Balancing of rotating masses	2
4	Journal Bearing	1
5	Whirling of shaft	2
6	Polariscope	1
7	Gyroscope	1
8	Curved beam setup	1
9	Strain gauge rosettes	2

BATCH SIZE: 20

STAFF IN-CHARGE

Dr. D M Goudar
H O D

Prof. B K Belleri
Faculty In-Charge

Mr. B C Goudar
Instructor



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LIST OF EXPERIMENTS

Sub Code: 15/18 MEL76

Hours/Week:03

Total Hours:42

IA Marks: 20

Exam Hours:03

Exam Marks:80/60

PART-A

- 1** Determination of natural frequency, logarithmic decrement, damping ratio and damping coefficient in a single degree of freedom vibrating systems (longitudinal and torsional).
- 2** Determination of critical speed of a rotating shaft.
- 3** Balancing of rotating masses.
- 4** Determination of Fringe constant of Photo elastic material using, (a) Circular disc subjected to diametral compression, (b) Pure bending specimen (four point bending).
- 5** Determination of stress concentration using Photo elasticity for simple components like plate with a hole under tension or bending load, circular disk with circular hole under compression, 2D Crane hook.

PART-B

- 6** Determination of equilibrium speed, sensitiveness, power and effort of Porter/Proell / Hartnel Governor (Only one or more).
- 7** Determination of Pressure distribution in Journal bearing.
- 8** Determination of Principal Stresses and strains in a member subjected to combined loading using Strain rosettes.
- 9** Determination of stresses in Curved beam using strain gauge.
- 10** Experiments on Gyroscope (Demonstration only)

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