

TEXT BOOKS:

1. **Mechatronics**, W.Bolton, Longman, 2Ed, Pearson Publications, 2007.
2. **Microprocessor Architecture, Programming And Applications With 8085/8085A**, R.S. Ganokar, Wiley Eastern.

REFERENCE BOOKS:

1. **Mechatronics and Microprocessors**, K.P.Ramchandran, G.K.Vijayraghavan, M.S.Balasundran, Wiley, 1st Ed, 2009
2. **Mechatronics - Principles, Concepts and applications** – Nitaigour and Premchand Mahalik - Tata McGraw Hill- 2003.
3. **Mechatronics Principles & applications**, Godfrey C. Onwubolu, Elsevier..
4. **Introduction Mechatronics & Measurement systems**, David.G. Aliciatore & Michael. B. Bihistaned, Tata McGraw Hill, 2000.

HEAT & MASS TRANSFER LABORATORY

Sub Code	: 10MEL 67	IA Marks	: 25
Hrs/week	: 03	Exam Hours	: 03
Total Lecture Hrs	: 42	Exam Marks	: 50

PART - A

1. Determination of Thermal Conductivity of a Metal Rod.
2. Determination of Overall Heat Transfer Coefficient of a Composite wall.
3. Determination of Effectiveness on a Metallic fin.
4. Determination of Heat Transfer Coefficient in a free Convection on a vertical tube.
5. Determination of Heat Transfer Coefficient in a Forced Convection Flow through a Pipe.
6. Determination of Emissivity of a Surface.

21 Hours**PART - B**

1. Determination of Stefan Boltzman Constant.
2. Determination of LMDT and Effectiveness in a Parallel Flow and Counter Flow Heat Exchangers
3. Experiments on Boiling of Liquid and Condensation of Vapour



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4. Performance Test on a Vapour Compression Refrigeration.
5. Performance Test on a Vapour Compression Air - Conditioner
6. Experiment on Transient Conduction Heat Transfer

21 Hours

Scheme for Examination:

One Question from Part A	-	20 Marks (05 Write up +15)
One Question from Part B	-	20 Marks (05 Write up +15)
Viva-Voce	-	10 Marks
Total		50 Marks

COMPUTER AIDED MODELING AND ANALYSIS LABORATORY

Sub Code	: 10MEL 68	IA Marks	: 25
Hrs/week	: 03	Exam Hours	: 03
Total Lecture Hrs	: 42	Exam Marks	: 50

PART - A**Study of a FEA package and modeling stress analysis of**

- a. Bars of constant cross section area, tapered cross section area and stepped bar

6 Hours

- b. Trusses – (Minimum 2 exercises)

3 Hours

- c. Beams – Simply supported, cantilever, beams with UDL, beams with varying load etc (Minimum 6 exercises)

12 Hours

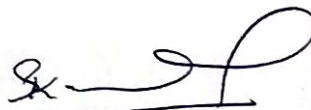
PART - B

- a) Stress analysis of a rectangular plate with a circular hole

3 Hours

- b) Thermal Analysis – 1D & 2D problem with conduction and convection boundary conditions (Minimum 4 exercises)

9 Hours



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