UNIT -8

Sequencing: Basic assumptions, sequencing 'n' jobs on single machine using priority rules, sequencing using Johnson's rule-'n' jobs on 2 machines, 'n' jobs on 3 machines, 'n' jobs on 'm' machines. Sequencing 2 jobs on 'm' machines using graphical method.

06 Hours

TEXT BOOKS:
1. **Operations Research,** P K Gupta and D S Hira, Chand Publications, New Delhi - 2007
2. **Operations Research,** Taha H A, Pearson Education

REFERNCE BOOKS:
1. **Operations Research,** A P Verma, S K Kataria &Sons, 2008
2. **Operations Research,** Paneerselvan, PHI
3. **Operations Research,** A M Natarajan, P Balasubramani, Pearson Education, 2005
4. **Introduction to Operations Research,** Hillier and Liberman,8th Ed., McGraw Hill
5. **Operations Research** S.D. Sharma, Ledarnath Ramanath & Co, 2002

DESIGN LABORATORY

Subject Code	: 10MEL77	IA Marks	: 25
Hours/Week	: 04	Exam Hours	: 03
Total Hours	: 42	Exam Marks	: 50

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. Balancing of rotating masses.
3. Determination of critical speed of a rotating shaft.
4. Determination of Fringe constant of Photoelastic material using.

a) Circular disc subjected to diametral compression.
b) Pure bending specimen (four point bending)

5. Determination of stress concentration using Photoelasticity for simple components like plate with a hole under tension or bending, circular disk with circular hole under compression, 2D Crane hook.

PART - B

6. Determination of equilibrium speed, sensitiveness, power and effort of Porter/Prowel /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)

Scheme of 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**

CIM & AUTOMATION LAB

Subject Code	**: 10MEL78**	**IA Marks**	**: 25**
Hours/Week	**: 04**	**Exam Hours**	**: 03**
Total Hours	**: 42**	**Exam Marks**	**: 50**

PART – A

CNC part programming using CAM packages. Simulation of Turning, Drilling, Milling operations. 3 typical simulations to be carried out using simulation packages like Master- CAM, or any equivalent software.