

Choice Based Credit System Syllabus
(W.e.f. June 2015-16)



SOLAPUR UNIVERSITY, SOLAPUR
FACULTY OF ENGINEERING & TECHNOLOGY

Structure of M.E.-Mechanical (Design Engineering)

PART-I

Sr.No	Name of the Subject	Teaching Scheme			Examination Scheme			
		Lectures	Tutorials	Practical	Theory Paper Marks	Term Work Marks	Oral Marks	Total Marks
1	Computational Techniques in Design Engineering	3	--	2	100	25	--	125
2	Machine Dynamics	3	--	2	100	*	25	125
3	Solid Mechanics	3	1	--	100	25	--	125
4	Design of Experiments And Research Methodology	3	1	--	100	*	25	125
5	Elective –I	3	1	--	100	25	--	125
6	Seminar I	--	--	2	--	25	-	25
Total		15	3	6	500	100	50	650

PART-II

Sr.No	Name of the Subject	Teaching Scheme			Examination Scheme			
		Lectures	Tutorials	Practical	Theory Paper Marks	Term Work Marks	Oral Marks	Total Marks
1	Advanced Design Engineering	3	1	--	100	*	25	125
2	Finite Element Analysis	3	--	2	100	*	25	125
3	Experimental Stress Analysis	3	--	2	100	25	--	125
4	Industrial Product Design	3	1	--	100	25	--	125
5	Elective II	3	1	--	100	25	--	125
6	Seminar II	--	--	2	--	25	-	25
Total		15	3	6	500	100	50	650

Elective –I	Elective –II
1) Synthesis & Analysis of Mechanisms and Machines	1) Industrial Tribology
2) Industrial instrumentation	2) Engineering Fracture Mechanics
3) Reliability Engineering	3) Theory and Analysis of Composite Materials
4) Mechanical System Design	4) Engineering Design Optimization

- In-plant training report for the training of at least one month undertaken after semester II is to be submitted in semester III.
- The Oral examination is to be conducted by one internal and one external examiner appointed by university.
- *Quality of Term Work of the subject may also be considered during oral examination.



- Seminar I and Seminar II is to be conducted by one internal and one external examiner from outside university area appointed by university.

PART-III

Sr.No	Name of the Subject	Teaching Scheme			Examination Scheme			
		Lectures	Tutorials	Practical	Theory Paper Marks	Term Work Marks	Oral Marks	Total Marks
1	In-plant Training	--	--	1	--	50	--	50
2	Mini Project (Based on Dissertation)	--	--	4	--	50	50	100
Total		--	--	5	--	100	50	150

PART-IV

Sr.No	Name of the Subject	Teaching Scheme			Examination Scheme			
		Lectures	Tutorials	Practical	Theory Paper Marks	Term Work Marks	Oral Marks	Total Marks
1	Dissertation	--	--	5	--	200	100	300
Total		--	--	5	--	200	100	300

- The Viva-voce on dissertation work is to be arranged only after submission of paper based on dissertation work carried out and acceptance of one paper in International conference or Journal



SOLAPUR UNIVERSITY, SOLAPUR
SEM-III

M.E.-Mechanical (Design Engineering) Syllabus
Sub: In-plant Training

Teaching Scheme:

Practical: 1 Hour/ Week

Examination Scheme:

TW: 50 marks

In plant training for (full time) one month duration shall be undertaken and completed by the candidate during vacation after **Semester-II**. The report of this training shall be submitted in the prescribed format at the beginning of Part II **Semester-III**. It will be approved by the guide and endorsed by the Head of Department. It will be assessed for term work during Part II **Semester-I**, by the evaluation committee (*) appointed by the Principal/ Head of the Department.



SOLAPUR UNIVERSITY, SOLAPUR
SEM-III

M.E.-Mechanical (Design Engineering) Syllabus

Sub: MINI PROJECT

Teaching Scheme:
Practical: 4 Hour/ Week

Examination Scheme:
TW: 50 marks
Oral: 50 Marks

A **Mini Project** based on the subjects studied during Part-I **Semester-I** and Part-I **Semester-II**, shall be undertaken and completed by the candidate during vacation after Part-I **Semester-II**. The report of this project shall be submitted in the prescribed format at the beginning of Part II **Semester-I**. It will be approved by the guide and endorsed by the Head of Department. It will be assessed for term work during Part II **Semester-I**, by the evaluation committee (*) appointed by the Principal/ Head of the Department.



**SOLAPUR UNIVERSITY, SOLAPUR
SEM-IV**

M.E.-Mechanical (Design Engineering) Syllabus

Sub: DISSERTATION

Teaching Scheme:

Practical: 5 Hour/ Week

Examination Scheme:

Viva Voce: 100 Marks

TW: 200 marks

1. TOPIC SELECTION SEMINAR: Topic shall be based on topic of the Dissertation Work. It may include literature review, required theoretical input, study and comparison of various approaches for the proposed dissertation work. The candidate shall prepare a report of about 25 pages. The report typed on A4 sized sheets and bound in the prescribed format shall be submitted after approval by the Guide and endorsement of the Head of Department. It will be assessed for term work by the evaluation committee(*) appointed by the Principal/ Head of the Department.

2. DISSERTATION PHASE I /Progress Seminar: It shall include the problem definition, literature survey, approaches for handling the problem, finalizing the methodology for the dissertation work and design calculations / experimental design etc. A report of the work shall be submitted after approval by the Guide and endorsement of the Head of Department to the evaluation committee (*) appointed by the Principal/Head of the Department, for appropriateness, sufficiency of contents and offer suggestions if any.

3. SYNOPSIS APPROVAL: The Head of the Department shall appoint a committee comprising of the Guide and two experts to review and approve the synopses before submitting them to the University for approval. The candidates shall submit the synopsis to the University authorities for approval in the prescribed format before the due date.

4. DISSERTATION PHASE II: The candidate shall submit the detailed report as per the synopsis approved by the university, of the dissertation work in the prescribed format after approval by the Guide and endorsement by the Head of the Department. It will be assessed for term work by the evaluation committee (*) appointed by the Principal/Head of the Department, for completion of the proposed work.

NOTES FOR DISSERTATION:

The dissertation work to be carried out individually commences in the Part III and extends through Part IV. The topic of dissertation work related should be related to the areas of Design Engineering/Mechanical applications. Applications of computer as a tool for design, analysis, optimization etc, various aspects of manufacturing, manufacturing planning /management, quality engineering, simulation of products / processes / mechanisms / systems, experimental study, etc. are to be encouraged and preferred in the work.