



# **SOLAPUR UNIVERSITY, SOLAPUR**

**FACULTY OF ENGINEERING & TECHNOLOGY**

**MECHANICAL ENGINEERING**

**Syllabus Structure for**

**S.E. (Mechanical Engineering) w.e.f. Academic Year 2013-14**

**T.E. (Mechanical Engineering) w.e.f. Academic Year 2014-15**

**B.E. (Mechanical Engineering) w.e.f. Academic Year 2015-16**

**Corrections as per BOS resolutions are as follows**

SE –change in note no.4 Industrial Training (B.E. Part 1) of minimum 15 (from 30 days given earlier) days is done

TE--- i) star \* (100\*) in examination scheme for TP marks 100 for subject Machine Design II removed

ii) Second note regarding open book examination removed.

III) change in note no.6 Industrial Training (B.E. Part 1) of minimum 15 (from 30 days given earlier) days is done



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**FACULTY OF ENGINEERING & TECHNOLOGY**  
**Mechanical Engineering**

**Structure of S.E. (Mechanical Engineering) w.e.f. from 2013-14**

**Semester-I**

Sr. No.	Subject	Teaching / Week					Examination Scheme				
		L	T	P	Dr	Total	TP	TW	OE	POE	Total
1	Analysis of Mechanical Elements	3	1			4	100	25			125
2	Applied Thermodynamics	3		2		5	100	25	25		150
3	Applied Mathematics-III	3	1			4	100	25			125
4	Machine Tools and Processes	3		2		5	100	25			125
5	Machine Drawing	3			4	7	100	50			150
6	Computer Programming in C++	1		2		3		25		50	75
7	Workshop Practice- II			2		2		25		#25	50
<b>Total</b>		<b>16</b>	<b>2</b>	<b>8</b>	<b>4</b>	<b>30</b>	<b>500</b>	<b>200</b>	<b>25</b>	<b>75</b>	<b>800</b>
8	Environmental Science	1				1					

**Semester-II**

Sr. No.	Subject	Teaching / Week					Examination Scheme				
		L	T	P	Dr	Total	TP	TW	OE	POE	Total
1	Theory of Machine – I	3		2		5	100	25			125
2	Manufacturing Processes	3		2		5	100	25			125
3	Fluid Mechanics	3		2		5	100	25	25		150
4	Numerical Methods	3		2		5	100	25			125
5	Electrical and Electronics Technology	3		2		5	100	25			125
6	Computer Aided Machine Drawing	1		2		3		50		50	100
7	Workshop Practice – III			2		2		50			50
<b>Total</b>		<b>16</b>		<b>14</b>		<b>30</b>	<b>500</b>	<b>225</b>	<b>25</b>	<b>50</b>	<b>800</b>
8	Environmental Science	1				1					

# indicates practical examination only

**Notes:**

- The Practical batch shall be of 20 students. After formation of batches, if the number of students remaining is more than 9, a new batch shall be formed.
- Practical / Tutorial load indicates the load per batch.
- TW: Term work assessment shall be a continuous process based on the performance of student in assignment, class test, quizzes, homework, interaction during theory and laboratory session, hand written lab book/ hand written journal, sheet drawing, subject seminar presentation etc. as applicable.
- Industrial Training (B.E. Part 1) of minimum 15 days in one slot shall be completed in any vacation after SE Part-II but before BE Part-I & the report shall be submitted in BE Part-I.
- For the subject 'Electrical and Electronics Technology', answer to the two sections must be written in separate answer books.



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**Mechanical Engineering**

**Structure of T.E. (Mechanical Engineering) w.e.f. from 2014-15**

**Semester-I**

Sr.No.	Subject	Teaching / Week					Examination Scheme				
		L	T	P	Dr	Total	TP	TW	OE	POE	Total
1	Theory of Machine –II	3		2		5	100	25	25		150
2	Heat and Mass Transfer	3		2		5	100	25		25	150
3	Metallurgy	3		2		5	100	25	25		150
4	Machine Design – I	3		2		5	100	25			125
5	Professional Elective - I	3		2		5	100	25			125
6	Advanced Computer Programming	1		2		3		25			25
7	Workshop Practice – IV			2		2		25			25
8	Self Learning (HSS)						50				50
<b>Total</b>		<b>16</b>		<b>14</b>		<b>30</b>	<b>550</b>	<b>175</b>	<b>50</b>	<b>25</b>	<b>800</b>

<b>Professional Elective I</b>	1) Machine Tool Design	2) Fluid Machinery and Fluid Power	3) Material Handling Systems
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**Semester-II**

Sr.No.	Subject	Teaching / Week					Examination Scheme				
		L	T	P	Dr	Total	TP	TW	OE	POE	Total
1	Metrology and Mechanical Measurements	3		2		5	100	25			125
2	Internal Combustion Engine	3		2		5	100	25			125
3	CAD/CAM	3		2		5	100	25			125
4	Machine Design – II	3		2		5	100	25	25		150
5	Professional Elective – II	3		2		5	100	25			125
6	Advanced Computing Techniques	1		2		3		25			25
7	Workshop Practice- V			2		2		25		#50	75
8	Self Learning (Technical)							50			50
<b>Total</b>		<b>16</b>		<b>14</b>		<b>30</b>	<b>500</b>	<b>225</b>	<b>25</b>	<b>50</b>	<b>800</b>

# indicates practical examination only

(note removed)

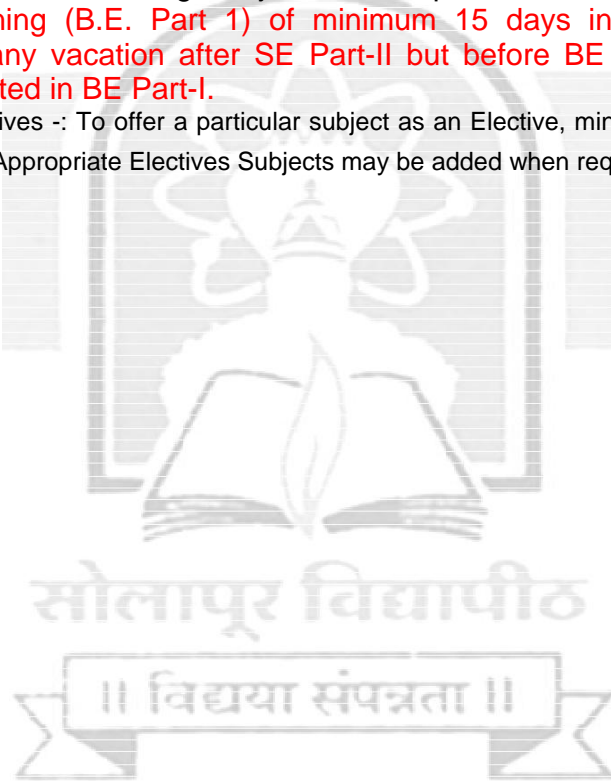
<b>Professional Elective II</b>	1) Experimental Stress Analysis	2) Power Plant and Energy Engineering	3) Tool Engineering	4) Mechanical Vibrations
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w.e.f. academic year 2014-15



**Note –**

1. The Practical batch shall be of 15 students. After formation of batches, if the number of students remaining is more than 7 a new batch shall be formed.
2. Syllabus of Self learning (H.S.S.) is common for all Under Graduate Programs under Faculty of Engineering and Technology.
3. For Self learning monitoring and assessment responsibility is to be given to the faculty with one hour load per batch.
4. Practical / Tutorial load indicates the load per batch.
5. TW: Term work assessment shall be a continuous process based on the performance of student in assignment, class test, quizzes, homework, interaction during theory and laboratory session, hand written lab book/ hand written journal, sheet drawing, subject seminar presentation etc. as applicable.
6. Industrial Training (B.E. Part 1) of minimum 15 days in one slot shall be completed in any vacation after SE Part-II but before BE Part-I & the report shall be submitted in BE Part-I.
7. Professional Electives -: To offer a particular subject as an Elective, minimum 15 students shall opt for the same. Appropriate Electives Subjects may be added when required.





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**Mechanical Engineering**

**Structure of B.E. (Mechanical Engineering) w.e.f. from 2015-16**

**Semester-I**

Sr. No.	Subject	Teaching / Week					Examination Scheme				
		L	T	P	Dr	Total	TP	TW	OE	POE	Total
1	Automatic Control Engineering	3		2		5	100	25	25		150
2	Operations Research	3		2		5	100	25			125
3	Refrigeration and Air Conditioning	3		2		5	100	25			125
4	Professional Elective - 3	3		2		5	100	25	25		150
5	Free Elective - I	3		2		5	100	25			125
6	Industrial Training			1		1		25	50		75
7	Project Work– I			4		4		50			50
<b>Total</b>		<b>15</b>		<b>15</b>		<b>30</b>	<b>500</b>	<b>200</b>	<b>100</b>	<b>-</b>	<b>800</b>

<b>Professional Elective III</b>	1) Finite Element Methods	2) Automobile Engineering	3) Process Engineering
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<b>Free Elective I</b>	1) Industrial Robotics	2) Sugar Engineering	3) Textile Engineering	4) Entrepreneurship Development
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**Semester-II**

Sr.No.	Subject	Teaching / Week					Examination Scheme				
		L	T	P	Dr	Total	TP	TW	OE	POE	Total
1	Industrial and Quality Management	3		2		5	100	25			125
2	Industrial Engineering	3		2		5	100	25			125
3	Professional Elective - 4	3		2		5	100	25	25		150
4	Free Elective - II	3		2		5	100	25	25		150
5	Project Work – II			8		8		100	100		200
6	General Proficiency	2				2		50			50
<b>Total</b>		<b>14</b>		<b>16</b>		<b>30</b>	<b>400</b>	<b>250</b>	<b>150</b>	<b>-</b>	<b>800</b>

<b>Professional Elective IV</b>	1) Mechatronics	2) Computational Fluid Dynamics	3) Production and Operation Management
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<b>Free Elective II</b>	1) Software Engineering & cyber security	2) Agro Machine Engineering	3) Plastic Engineering	4) Economics for Engineers
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**Note –**

1. The Practical batch shall be of 15 students. After formation of batches, if the number of students remaining is more than 7 a new batch shall be formed.
2. Project group shall not be of more than four students.
3. Practical / Tutorial load indicates the load per batch.
4. TW: Term work assessment shall be a continuous process based on the performance of student in assignment, class test, quizzes, homework, interaction during theory and laboratory session, hand written lab book/ hand written journal, sheet drawing, subject seminar presentation etc. as applicable.
5. For Elective -: To offer a particular subject as an Elective, minimum 15 students should opt for the same. Appropriate Electives Subjects may be added when required.

