

FR. Conceicao Rodrigues College of Engineering
 Father Agnel Ashram, Bandstand, Bandra-west, Mumbai-50
Department of Production Engineering

T.E. (Production) (semester V) (2020-2021)

Lab Plan

Subject: CAD/CAM/CIM (PEL503)

Credits- 01

Faculty: Dr. A.B.Rane

Syllabus (Any 6)

1. Programming for transformations,
2. API on Creating As built joints, Slider Joint Motion
3. Get the physical Properties API
4. Get the circle and arc data from the edge
5. Sketch spline through points creation : API
6. Solid modeling using any 3D modeling software
7. Part programming and part fabrication on CNC trainer (Turning / Milling)
8. Geometrical optimization of any mechanical component using computer aided engineering concepts. (Shape optimization)
9. Development of physical 3D mechanical structure using any one of the rapid prototyping processes.

CO Statements

Learner will be able to

PEL503.1	Do programming for transformations,
PEL503.2	Do solid modeling using 3D modeling software
PEL503.3	Do part programming and part fabrication on CNC
PEL503.4	Perform Structural analysis using ANSYS

CO-PO-PSO Mapping.

CO# / PO#	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PEL503.1	3	0	3	-	-	-	-	-	-	-	-	2
PEL503.2	3	2	3	-	-	-	-	-	-	-	-	2
PEL503.3	3	2	3	-	-	-	-	-	-	-	-	2
PEL503.4	3	2	3	-	-	-	-	-	-	-	-	2

CO# / PSO#	PSO1	PSO2
PEL503.1	3	-
PEL503.2	3	-
PEL503.3	3	-
PEL503.4	3	-

CO Assessment

Final CO achievement = 80 % of Direct assessment + 20 % of Indirect assessment

Direct assessment = 40 % of Lab work + 60 % of End semester result

In-direct assessment = Course exit survey

Curriculum Gap/Content beyond syllabus (if any).

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Lab Plan

Week No.	Topics	Hours
<u>Week 1</u> (06/7/2020 to 11/7/2020)	Nil	0
<u>Week 2</u> (13/7/2020 to 18/7/2020)	Nil	0
<u>Week 3</u> (20/7/2020 to 25/7/2020)	Programming for transformations,	2
<u>Week 4</u> (27/7/2020 to 1/8/2020)	Get the physical Properties API	1
<u>Week 5</u> (03/8/2020 to 8/8/2020)	Get the circle and arc data from the edge	1
<u>Week 6</u> (10/8/2020 to 15/8/2020)	Sketch spline through points creation	1
<u>Week 7</u> (17/8/2020 to 22/8/2020)	Solid modeling using any 3D modeling software	2

<u>Week 8</u> (24/8/2020 to 29/8/2020)	Solid modeling using any 3D modeling software	2
<u>Week 9</u> (31/8/2020 to 5/9/2020)	Solid modeling using any 3D modeling software	2
<u>Week 10</u> (7/9/2020 to 12/9/2020)	Part programming and part fabrication on CNC	2
<u>Week 11</u> (14/9/2020 to 19/9/2020)	Part programming and part fabrication on CNC	2
<u>Week 12</u> (21/9/2020 to 26/9/2020)	Unit Test 1	
<u>Week 13</u> (28/9/2020 to 3/10/2020)	Part programming and part fabrication on CNC Lathe	2
<u>Week 14</u> (5/10/2020 to 10/10/2020)	Part programming and part fabrication on CNC Lathe	2
<u>Week 15</u> (12/10/2020 to 17/10/2020)	Part programming and part fabrication on CNC Mill	2
<u>Week 16</u> (19/10/2020 to 24/10/2020)	Part programming and part fabrication on CNC Mill	2
<u>Week 17</u> (26/10/2020 to 31/10/2020)	Structural analysis using ANSYS	2
<u>Week 18</u> (2/11/2020 to 7/11/2020)	Structural analysis using ANSYS	2
<u>Week 19</u> (9/11/2020 to 14/11/2020)	Structural analysis using ANSYS	2

<u>Week 20</u> (16/11/2020 to 21/11/2020)	Shape optimization using ANSYS	1
<u>Week 21</u> (23/11/2020 to 28/11/2020)	Unit Test 2 Term End	