

**PSN COLLEGE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)**

**MELATHEDIYOOR- 627 152**

**M.E IN CRYOGENIC ENGINEERING (FULL TIME)**

**REGULATION - 2013**

**CURRICULUM**

**Semester I**

<b>S.NO</b>	<b>Sub Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Theory</b>						
1	022001	Applied Mathematics for Cryogenic Engineers	3	1	0	4
2	022002	Elements Of Cryogenic Engineering	3	0	0	3
3	022003	Advanced Heat & Mass Transfer	3	0	0	3
4	022004	Vacuum Engineering	3	0	0	3
5	022005	Advanced Refrigeration	3	1	0	4
6	#	Elective - I	3	0	0	3
<b>Practical</b>						
7	022501	Term Paper On Topics Of Relevance To Cryogenic Engineering	0	0	4	2
<b>Total Credits For Semester -I</b>			<b>18</b>	<b>2</b>	<b>4</b>	<b>22</b>

**# Electives For Semester I**

<b>S.NO</b>	<b>Sub Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
1.	022201	Materials for Low Temperature Applications	3	0	0	3
2.	022202	Productivity Management and Re-engineering	3	0	0	3
3.	022203	Cryo Physics	3	0	0	3
4.	022204	Systems and Simulation	3	0	0	3
5.	022205	Structure And Properties Of Materials	3	0	0	3

### Semester II

S.NO	SUB CODE	COURSE TITLE	L	T	P	C
<b>Theory</b>						
1.	022006	Cryogenic Systems	4	1	0	4
2.	022007	Cryogenic Plants And Equipments	3	0	0	3
3.	022008	Advanced Air Conditioning	4	1	0	4
4.	022009	Computational Fluid Dynamics	3	0	0	3
5.	022010	Cryogenic Applications	3	0	0	3
6.	***	Elective –II	3	0	0	3
<b>Practical</b>						
7.	022101	Cryogenic Engineering Laboratory	0	0	4	2
<b>Total Credits For Semester -II</b>			<b>20</b>	<b>2</b>	<b>4</b>	<b>22</b>

### **List of Electives For Semester II**

S.NO	SUB CODE	COURSE TITLE	L	T	P	C
1.	022206	Cryogenic Heat Exchangers	3	0	0	3
2.	022207	Advanced Cryo Coolers	3	0	0	3
3.	022208	Engineering Materials	3	0	0	3
4.	022209	Techniques Of Material Characterization	3	0	0	3
5.	022210	Advanced Fluid Mechanics	3	0	0	3

### Semester III

S.NO	SUB CODE	Course Title	L	T	P	C
<b>Theory</b>						
1.	022011	Cryogenic Rocket Propulsion	4	0	0	4
2.	***	Elective - III	3	0	0	3
3.	***	Elective -IV	3	0	0	3
<b>Practical</b>						
4.	122301	Project Work Phase- I	0	0	12	6
<b>Total Credits For Semester III</b>			<b>9</b>	<b>0</b>	<b>12</b>	<b>16</b>

### List of Electives For Semester –III

S.NO	SUBJECT CODE	SUBJECT TITLE	L	T	P	C
1.	022211	Low Temperature Measurement &Instrumentation	3	0	0	3
2.	022212	Cryofuel Systems	3	0	0	3
3.	022213	Radiant Heating And Cooling Systems	3	0	0	3
4.	022214	Advanced Thermodynamics	3	0	0	3
5.	022215	Superconductivity & Low Temperature Physics	3	0	0	3
6.	022216	Industrial Refrigeration Systems	3	0	0	3
7.	022217	Gas Turbines And Jet Propulsion	3	0	0	3
8.	022218	Advanced Cryogenics &Applied Superconductivity	3	0	0	3
9.	022219	Computer Simulation Of Refrigeration & Air conditioning Systems	3	0	0	3
10.	022220	Design Of Condensers, Evaporators & Cooling Towers	3	0	0	3

### SEMESTER –IV

S.NO	SUB CODE	Course Title	L	T	P	C
1.	022302	Project Work Phase- II	0	0	24	12
<b>Total Credits For Semester IV</b>			<b>9</b>	<b>0</b>	<b>24</b>	<b>12</b>

**Total Number of Credits = 72**