

# PSN COLLEGE OF ENGINEERING AND TECHNOLOGY



(An Autonomous Institution Recognised by AICTE, New Delhi  
and Affiliated to Anna University, Chennai)

Accredited with A+ Grade by NAAC. An ISO 9001:2015 Certified Institution

Melathediyoore, Tirunelveli – 627 152

## DEPARTMENT OF MECHANICAL ENGINEERING

### MINOR DEGREE SUBJECT LIST

VERTICAL 1: THERMAL SCIENCES (COMMON TO MAE & MECH)								
1	ME606101	Power Plant Engineering	PE	Theory	3	0	0	3
2	ME606102	Heating Ventilation and Air Conditioning	PE	Theory	3	0	0	3
3	ME606103	Thermal Management of Batteries and Fuel Cells	PE	Theory	3	0	0	3
4	ME606104	Refrigeration and Air Conditioning	PE	Theory	3	0	0	3
5	ME606105	Internal Combustion Engine	PE	Theory	3	0	0	3
6	ME606106	Air Breathing Engines	PE	Theory	3	0	0	3
7	ME606107	Design of thermal systems	PE	Theory with project	3	0	0	3
8	ME606108	Inverse Methods in Heat Transfer (NPTEL)	PE	Theory	3	0	0	3
9	ME606109	Fundamentals of combustion for propulsion (NPTEL)	PE	Theory	3	0	0	3
10	ME606110	Fundamentals of Gas Dynamics (NPTEL)	PE	Theory	3	0	0	3
VERTICAL 2: ENERGY TECHNOLOGIES (COMMON TO MAE&MECH)								
1	ME606201	Fuel Cell and Hydrogen Technology	PE	Theory	3	0	0	3
2	ME606202	Alternate Energy Fuels	PE	Theory	3	0	0	3
3	ME606203	Bio Energy Conversion Technologies	PE	Theory	3	0	0	3
4	ME606204	Energy Storage Devices	PE	Theory	3	0	0	3
5	ME606205	Energy Conservation and Waste heat recovery	PE	Theory	3	0	0	3
6	ME606206	Solar energy technologies	PE	Theory with project	3	0	0	3
7	ME606207	Green energy sources	PE	Theory	3	0	0	3
8	ME606208	Micro and nano scale energy	PE	Theory	3	0	0	3

		transport (NPTEL)						
9	ME606209	<u>Design and Optimization of Energy systems (NPTEL)</u>	PE	Theory	3	0	0	3
10	ME606210	<u>Electric vehicles and Renewable energy (NPTEL)</u>	PE	Theory	3	0	0	3
<b>VERTICAL 3: LOGISTICS AND SUPPLY CHAIN MANAGEMENT (COMMON TO MAE&amp;MECH)</b>								
1	ME606301	Warehousing Automation	PE	Theory	3	0	0	3
2	ME606302	Business Process Re-engineering	PE	Theory	3	0	0	3
3	ME606303	Total Quality Management	PE	Theory	3	0	0	3
4	ME606304	Project Management (Common to MAE,MECH,AERO)	PE	Theory with project	3	0	0	3
5	ME606305	Industrial psychology	PE	Theory	3	0	0	3
6	ME606306	Resource management techniques	PE	Theory	3	0	0	3
7	ME606307	Enterprise resource planning	PE	Theory	3	0	0	3
8	ME606308	<u>Business Development: From Start to Scale (NPTEL)</u>	PE	Theory	3	0	0	3
9	ME606309	<u>Patent Law for Engineers and Scientists (NPTEL)</u>	PE	Theory	3	0	0	3
10	ME606310	<u>Business Analysis for Engineers (NPTEL)</u>	PE	Theory	3	0	0	3
<b>VERTICAL 4: COMPUTATIONAL ENGINEERING</b>								
1	ME606401	Computational Solid Mechanics	PE	Theory	3	0	0	3
2	ME606402	Computational Fluid Dynamics and Heat transfer	PE	Theory with project	3	0	0	3
3	ME606403	Computational Bio Mechanics	PE	Theory	3	0	0	3
4	ME606404	Advanced Statistics and Data Analytics	PE	Theory	3	0	0	3
5	ME606405	Machine Learning for Intelligent Systems	PE	Theory	3	0	0	3
6	ME606406	Theory on Computation and Visualization	PE	Theory	3	0	0	3
7	ME606407	<u>Foundations of Computational Materials Modelling (NPTEL)</u>	PE	Theory	3	0	0	3
8	ME606408	<u>Computational Fluid Dynamics using Finite Volume Method (NPTEL)</u>	PE	Theory	3	0	0	3
9	ME606409	<u>Foundation of Computational Fluid Dynamics (NPTEL)</u>	PE	Theory	3	0	0	3

10	ME606410	<u>Computational Fluid Dynamics for Turbo machinery(NPTEL)</u>	PE	Theory	3	0	0	3
<b>VERTICAL 5: DIVERSIFIED COURSES GROUP I</b>								
1	ME606501	Design of Jigs, Fixtures and Press Tools	PE	Theory with project	3	0	0	3
2	MA606403	Mechanical Vibrations and Controls	PE	Theory	3	0	0	3
3	ME606502	Instrumentation for engineers	PE	Theory	3	0	0	3
4	ME606503	Automobile Engineering	PE	Theory	3	0	0	3
5	ME606504	Reverse Engineering	PE	Theory	3	0	0	3
6	ME606505	Nuclear Engineering	PE	Theory	3	0	0	3
7	ME606506	Production Planning and Control	PE	Theory	3	0	0	3
8	MA606408	<u>Design for Quality, Manufacturing and Assembly (NPTEL)</u>	PE	Theory	3	0	0	3
9	MA606409	<u>Oil Hydraulics and Pneumatics (NPTEL)</u>	PE	Theory	3	0	0	3
10	MA606410	<u>Advanced Operations Research (NPTEL)</u>	PE	Theory	3	0	0	3
<b>VERTICAL 6: MATERIALS SCIENCES(COMMON TO MAE&amp;MECH)</b>								
1	MA606101	Composite Materials	PE	Theory	3	0	0	3
2	MA606102	Tribology	PE	Theory	3	0	0	3
3	MA606103	Mechanical Behaviour of Materials	PE	Theory	3	0	0	3
4	MA606104	Polymer Technology	PE	Theory	3	0	0	3
5	MA606105	Smart Materials	PE	Theory with project	3	0	0	3
6	MA606106	Electrical, Electronic and Magnetic materials	PE	Theory	3	0	0	3
7	MA606107	Fracture mechanics	PE	Theory	3	0	0	3
8	MA606108	<u>Basics of Materials Engineering (NPTEL)</u>	PE	Theory	3	0	0	3
9	MA606109	<u>Transport Phenomena in Materials (NPTEL)</u>	PE	Theory	3	0	0	3
10	MA606110	<u>Welding Processes (NPTEL)</u>	PE	Theory	3	0	0	3
<b>VERTICAL 7: MANUFACTURING ENGINEERING(COMMON TO MAE&amp;MECH)</b>								
1	MA606201	Computer Integrated Manufacturing	PE	Theory	3	0	0	3
2	MA606202	Industry 4.0	PE	Theory	3	0	0	3
3	MA606203	Flexible Manufacturing Systems(Common to	PE	Theory	3	0	0	3

		MAE,MECH,AERO)						
4	MA606204	Additive Manufacturing Processes	PE	Theory with project	3	0	0	3
5	MA606205	Lean Manufacturing	PE	Theory	3	0	0	3
6	MA606206	Rapid Prototyping	PE	Theory	3	0	0	3
7	MA606207	Theory of metal cutting	PE	Theory	3	0	0	3
8	MA606208	<u>Steel Quality : Role of Secondary Refining &amp; Continuous Casting (NPTEL)</u>	PE	Theory	3	0	0	3
9	MA606209	<u>Laser Based Manufacturing (NPTEL)</u>	PE	Theory	3	0	0	3
10	MA606210	<u>Forming (NPTEL)</u>	PE	Theory	3	0	0	3
<b>VERTICAL 8: DIVERSIFIED COURSES GROUP 2</b>								
1	MA606501	Maintenance Engineering	PE	Theory	3	0	0	3
2	MA606502	Design of Pressure Vessels	PE	Theory	3	0	0	3
3	EE606604	Virtual Instrumentation (Common to MAE & EEE)	PE	Theory	3	0	0	3
4	MA606503	Computational Fluid Dynamics	PE	Theory	3	0	0	3
5	MA606504	Fluid Power Control System	PE	Theory	3	0	0	3
6	MA606505	Hydraulics and Pneumatics	PE	Theory with project	3	0	0	3
7	MA606506	Industrial Networking	PE	Theory	3	0	0	3
8	MA606507	Functional and Conceptual Design (NPTEL)	PE	Theory	3	0	0	3
9	MA606508	Vehicle Dynamics (NPTEL)	PE	Theory	3	0	0	3
10	MA606509	Micro fluidics (NPTEL)	PE	Theory	3	0	0	3