

E.G.S Pillay Engineering College, Nagapattinam

B.E. Mechanical Engineering

Total Credits to be earned for the award of the degree: 160 / 124 (for Lateral entry)

Full Time Curriculum and Syllabus – R2019


First Year – First Semester

Course Code	Course Name	L	T	P	C	Maximum Marks			Category
						CA	ES	Total	
Theory Course									
1901MA104	Engineering Mathematics –I (Linear Algebra, Calculus and Partial differentiation)	3	2	0	4	40	60	100	BSC
1901PH101	Introduction to Mechanics	3	0	0	3	50	50	100	BSC
1901GEX01	Basic Electrical and Electronics Engineering	3	0	0	3	40	60	100	BSC
1901GEX02	Engineering Graphics	2	0	2	3	50	50	100	ESC
Laboratory Course									
1901GEX51	CAD Laboratory	0	0	2	1	50	50	100	ESC
1901GEX53	Basic Electrical and Electronics Engineering Laboratory	0	0	2	1	50	50	100	ESC
1901PHX51	Engineering Physics Laboratory	0	0	2	1	50	50	100	BSC
1901HS151	Engineering Intelligence-I	0	0	2	1	100	0	100	HSSC
Total		11	2	10	17	430	370	800	

First Year – Second Semester

Course Code	Course Name	L	T	P	C	Maximum Marks			Category
						CA	ES	Total	
Theory Course									
1901MA204	Engineering Mathematics –II (Calculus, Ordinary Differential Equations and Complex Variable)	3	2	0	4	40	60	100	BSC
1901CH203	Materials Chemistry	3	0	0	3	40	60	100	BSC
1901GEX03	Programming for Problem Solving	3	0	0	3	40	60	100	ESC
1901ENX01	English for Engineers	2	0	0	2	40	60	100	HSSC
1901GE201	Engineering Exploration	2	0	0	2	100	-	100	ESC
Laboratory Course									
1901CHX51	Engineering Chemistry Laboratory	0	0	2	1	50	50	100	BSC
1901GE253	Basic Workshop Laboratory	0	0	2	1	50	50	100	ESC
1901GEX52	Computer Programming Laboratory	0	0	2	1	50	50	100	BSC
1901HSX51	Communication Skill Laboratory	0	0	2	1	50	50	100	HSSC
1901GE252	Engineering Intelligence – II	0	0	2	1	100	0	100	HSSC
Total		13	2	10	19	560	440	1000	

ATTESTED


Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
 E.G.S. Pillay Engineering College,
 Thethi, Nagore - 611 002.
 Nagapattinam (Dt) Tamil Nadu.

Second Year – Third Semester

Course Code	Course Name	L	T	P	C	Maximum Marks			Category
						CA	ES	Total	
Theory Course									
1902ME301	Engineering Mechanics	3	2	0	4	40	60	100	BSC
1902ME302	Manufacturing Technology I	3	0	0	3	40	60	100	PCC
1902ME303	Fluid Mechanics & Machines	2	2	0	3	40	60	100	BSC
1902ME304	Strength of Materials	3	2	0	4	40	60	100	BSC
1902ME305	Thermodynamics	3	2	0	4	40	60	100	PCC
Laboratory Course									
1902ME351	Fluid Mechanics & Machines Laboratory	0	0	2	1	50	50	100	BSC
1902ME352	Strength of Materials Laboratory	0	0	2	1	50	50	100	BSC
1902ME353	Manufacturing Technology I Laboratory	0	0	2	1	50	50	100	PCC
1904GE351	Life Skills: Verbal Ability	0	0	2	1	100	-	100	HSSC
Audit Course									
1901MCX01	Environmental Science	2	0	0	0	100	-	100	MC
		16	8	8	22	550	450	1000	

Second Year – Fourth Semester

Course Code	Course Name	L	T	P	C	Maximum Marks			Category
						CA	ES	Total	
Theory Course									
1901MA402	Engineering Mathematics III	3	2	0	4	40	60	100	BSC
1902ME401	Engineering metrology & measurements	3	0	0	3	40	60	100	PCC
1902ME402	Thermal Engineering	3	2	0	4	40	60	100	PCC
1902ME403	Manufacturing Technology II	3	0	0	3	40	60	100	PCC
1901ME404	Biology for Engineers	3	0	0	3	40	60	100	BSC
Laboratory Course									
1902ME451	Thermal Engineering Laboratory	0	0	2	1	50	50	100	PCC
1902ME452	Manufacturing Technology II Laboratory	0	0	2	1	50	50	100	PCC
1902ME453	Engineering metrology & measurements Laboratory	0	0	2	1	50	50	100	PCC
1904GE451	Life Skills: Verbal Reasoning	0	0	2	1	100	-	100	HSSC
Audit Course									
1901MCX02	Constitution of India	2	0	0	0	100	-	100	MC
		17	4	8	21	550	450	1000	

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

Third Year – Fifth Semester

Course Code	Course Name	L	T	P	C	Maximum Marks			Category
						CA	ES	Total	
Theory Course									
1902ME501	Heat and Mass Transfer	3	2	0	4	40	60	100	PCC
1902ME502	Design of Machine Elements	3	2	0	4	40	60	100	PCC
1902ME503	Kinematics of Machines	3	2	0	4	40	60	100	PCC
1902ME504	CAD	3	0	0	3	40	60	100	PCC
	PC Elective -I	3	0	0	3	40	60	100	PEC
Laboratory Course									
1902ME551	Computer Aided Design And Analysis Laboratory	0	0	2	1	50	50	100	PCC
1902ME552	Heat and Mass Transfer Laboratory	0	0	2	1	50	50	100	PCC
1904GE551	Life Skills: Aptitude I	0	0	2	1	100	-	100	HSSC
Audit Course									
1901MCX03	Essence of Indian Traditional Knowledge	2	0	0	0	100	-	100	MC
		17	6	6	21	500	400	900	

Third Year – Sixth Semester

Course Code	Course Name	L	T	P	C	Maximum Marks			Category
						CA	ES	Total	
Theory Course									
1902ME601	Materials science and Metallurgy	3	0	0	3	40	60	100	PCC
1902ME602	Design of Transmission systems	3	2	0	4	40	60	100	PCC
	PC Elective II	3	0	0	3	40	60	100	PEC
	HSS Elective 1	3	0	0	3	40	60	100	HSSC
1902ME603	Dynamics of Machines	3	2	0	4	40	60	100	PCC
	Open Elective I		0	0	3	40	60	100	OEC
Laboratory Course									
1902ME651	Theory of Machines Laboratory	0	0	2	1	50	50	100	PCC
1904ME652	Mini project (Design and fabrication Project)	0	0	4	2	50	50	100	EEC
1904ME653	Industrial Visit Presentation	0	0	0	1	100	-	100	EEC
1904GE651	Life Skills: Aptitude II & GD	0	0	2	1	100	-	100	HSSC
		18	4	8	25	540	460	1000	

ATTESTED


 Dr. S. RAMABALAN, M.E., Ph.D.,
 PRINCIPAL
 E.G.S. Pillay Engineering College,
 Thethi, Nagore - 611 002,
 Nagapattinam (Dt) Tamil Nadu.

Final Year – Seventh Semester

Course Code	Course Name	L	T	P	C	Maximum Marks			Category
						CA	ES	Total	
Theory Course									
1902ME701	Automation in Manufacturing	3	0	0	3	40	60	100	PCC
	PC Elective III	3	0	0	3	40	60	100	PEC
	HSS Elective 2	3	0	0	3	40	60	100	HSSC
	Open Elective II	3	0	0	3	40	60	100	OEC
	HSS Elective 3	3	0	0	3	40	60	100	HSSC
1901MGX07	Universal Human Values and Ethics	3	0	0	3	40	60	100	HSSC
Laboratory Course									
1902ME751	CAM & Automation Laboratory	0	0	2	1	50	50	100	PCC
1904GE751	Life Skills: Comprehensive Viva	2	0	0	2	100	-	100	EEC
1904ME752	Inplant training/ Internship Presentation	0	0	0	1	100	-	100	EEC
		20	0	2	22	490	410	900	

Final Year – Eight Semester

Course Code	Course Name	L	T	P	C	Maximum Marks			Category
						CA	ES	Total	
Theory Course									
	PC Elective IV	3	0	0	3	40	60	100	PEC
	PC Elective V	3	0	0	3	40	60	100	PEC
Laboratory Course									
1904ME851	Project Viva Voce	-	-	14	7	50	50	100	EEC
		6	0	14	13	130	170	300	

a. Humanities, Social Science and Management Electives(9)

Course Code	Name of the Course	Number of Hours / Week			Credit
		L	T	P	
Elective 1					
	Project Management and Finance	3	-	-	3
	Total Quality Management	3	-	-	3
	Operations Research	3	-	-	3
	Principles of Management	3	-	-	3
Elective 2					
	Innovation & Entrepreneurship fundamentals	3	-	-	3
	Intellectual Property Rights for Engineers	3	-	-	3
	Startup Entrepreneurship	3	-	-	3
	Business Model Innovation	3	-	-	3
Elective 3					
	Social Entrepreneurship	3	-	-	3
	Design Thinking for Innovation	3	-	-	3

ATTESTED



**Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL**

E.G.S. Pillay Engineering College,
Thefti, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu

	Indian Patent Law & Patent Drafting	3	-	-	3
	IP Management & Commercialization	3	-	-	3

A. PROFESSIONAL CORE ELECTIVES

Credits to be earned: (15)

Course Code	Name of the Course	Number of Hours / Week			Credit
		L	T	P	
Electives I and III – Manufacturing stream					
1903ME001	Non - traditional machining processes	3	-	-	3
1903ME002	Advanced Welding technology	3	-	-	3
1903ME003	Process planning and cost estimation	3	-	-	3
1903ME004	Composite materials and mechanics	3	-	-	3
1903ME005	Flexible manufacturing systems	3	-	-	3
1903ME006	Mechatronic Systems	3	-	-	3
1903ME007	Computer integrated manufacturing	3	-	-	3
1903ME008	Advanced casting and forming processes	3	-	-	3
1903ME009	Industrial safety engineering	3	-	-	3
1903ME010	Industrial robotics	3	-	-	3
1903ME011	Additive manufacturing	3	-	-	3
1903ME012	Industrial maintenance engineering	3	-	-	3
Electives II and V -(thermal stream)					
1903ME013	Power plant Engineering	3	-	-	3
1903ME014	Automobile Engineering	3	-	-	3
1903ME015	Refrigeration and air-conditioning	3	-	-	3
1903ME016	Renewable energy sources	3	-	-	3
1903ME017	Cryogenic engineering	3	-	-	3
1903ME018	Gas dynamics and jet propulsion	3	-	-	3
1903ME019	Energy Conservation and Management	3	-	-	3
1903ME020	Internal combustion engines	3	-	-	3
Electives IV - (design stream)					
1903ME021	Applied hydraulics and pneumatics	3	-	-	3
1903ME022	Machine Drawing	1	-	4	3
1903ME023	Instrumentation & Control	3	-	-	3
1903ME024	Optimization techniques	3	-	-	3
1903ME025	Finite element analysis	3	-	-	3

ATTESTED


Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
 E.G.S. Pillay Engineering College,
 Thethi, Nagore - 611 002.
 Nagapattinam (Dt) Tamil Nadu.

A. Open elective offered by mechanical engineering**Credits to be earned:****(6)**

Course Code	Name of the Course	Number of Hours / Week			Credit
		L	T	P	
THEORY					
	Principles of Management	3	-	-	3
1903ME026	Nanotechnology and Surface Engineering	3	-	-	3
1903ME027	Maintenance engineering	3	-	-	3
1903ME010	Industrial robotics	3	-	-	3
1903ME024	Optimization techniques	3	-	-	3
1903ME028	Renewable energy sources	3	-	-	3
1903ME029	Safety engineering	3	-	-	3
1903ME030	Statistical Quality control	3	-	-	3

Course Components	Curriculum Content (% of total number of credits of the program)	Total number of contact hours	Total number of credits
Basic Sciences	25	51.00	40
Engineering Sciences	6.88	15.00	11
Humanities and Social Scie	13.13	28.00	21
Program Core	33.75	69.00	54
Program Electives	9.38	15.00	15
Open Electives	3.75	6.00	6
Project(s)	5.63	18.00	9
Internships/Seminars	0.63	0.00	1
Any other (Please specify)	1.88	8.00	3
Total	100		160

ATTESTED

**Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL****E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.**