



Sri Sai VidyaVikasShikshanaSamithi ®

SAI VIDYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to VTU, Recognized by Govt. of Karnataka)

DEPARTMENT OF MECHANICAL ENGINEERING

RAJANUKUNTE, BANGALORE 560 064, KARNATAKA

Phone: 080-28468191/96/97/98 * E-mail: info@saividya.ac.in * URL www.saividya.ac.in

Content Beyond Syllabus

AY 2020-21ODD Semester			
III Semester			
SL NO	Subject Code	Subject Name	Topics Covered
1	18ME32	Mechanics of Material	Post and pre tension in concrete
2	18ME33	Basic Thermo Dynamics	Exhaust Emission characteristics of IC Engine using 5 gas analyzer
3	18ME34	Material Science	Calculation of Mechanical properties of Ductile and brittle material practically and draw Stress-Strain diagram
4	18ME35A	Metal cutting and Forming	Advanced Forming process https://saividya.ac.in/storage/1615025704.563WEBINARS.bzy6.pdf
5	18ME36A	CAMD	Exposure to Advanced Mechanical software training -CREO, Solid works
V Semester			
1	18ME51	Management and Economics	Case study discussion about management principles and economic policies adopted by various industries like Toyota, Ford, Coco-Cola, Infosys etc.
2	18ME52	Design of Machine Elements-I	Stress and Strain: Introduction, Hooke's law, Calculation of stresses in straight, Stepped and tapered sections, Composite sections, Stresses due to temperature change, Shear stress and strain, Lateral strain and Poisson's ratio, Generalized Hooke's law Analysis of Stress and Strain: Plane stress, Stresses on inclined planes, Principal stresses and maximum shear stress, Principal angles, Shear stresses on principal planes, Maximum shear stress Strain Energy: Strain energy due to normal stresses



Sri Sai VidyaVikasShikshanaSamithi ®

SAI VIDYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to VTU, Recognized by Govt. of Karnataka)

DEPARTMENT OF MECHANICAL ENGINEERING

RAJANUKUNTE, BANGALORE 560 064, KARNATAKA

Phone: 080-28468191/96/97/98 * E-mail: info@saividya.ac.in * URL www.saividya.ac.in

3	18ME53	Dynamics of Machinery	Discussed about mechanical calculator, rubber band propelled airplane, yacht vessel and its design and its dynamics, Perpetual motion machines, variable dampers.
4	18ME54	Turbomachines	Practical analysis of performance characteristics of Turbines
5	18ME55	Fluid Power Engineering	Speed control of Hydraulic And Pneumatic circuits using Fluid sim festo
VII Semester			
1	17ME71	Energy Engineering	Performance of Diesel engines in thermal power plant
2	17ME72	Fluid Power Systems	Speed control of Hydraulic And Pneumatic circuits using Fluid sim festo
3	17ME73	Control Engineering	Mathematical modeling, Stability of a system
4	17ME742	Tribology	This subject requires the student to know the basics of Engineering, Mechanics of Deformable Bodies, Material Science, Fluid Mechanics Analysis of Tribological aspects of machine components, including friction, lubrication, and wear, basics of Physics & other related engineering fields.
5	17ME753	Mechatronics	Recent Trends in Mechatronics Towards Industry 4.0, Internet of things and micro chip manufacturing, Nano sensors and their applications.



Sri Sai VidyaVikasShikshanaSamithi ®

SAI VIDYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to VTU, Recognized by Govt. of Karnataka)

DEPARTMENT OF MECHANICAL ENGINEERING

RAJANUKUNTE, BANGALORE 560 064, KARNATAKA

Phone: 080-28468191/96/97/98 * E-mail: info@saividya.ac.in * URL www.saividya.ac.in

Content Beyond Syllabus

AY 2019-20 Even Semester			
IV Semester			
SL-NO	Subject Code	Subject Name	Topics Covered
1	18ME43	Fluid Mechanics	Measurements of Pressure using Manometers, Energy losses in fluids and flow measuring devices
2	18ME44	Kinematics of Machines	Video demonstration of robotic arm, real time working machines with kinematic links and various principles.
3	18ME45B	Metal Cutting and Forming	Advanced Forming process
4	18ME46B	Mechanical Measurements and Metrology	Tomlinson surface meter
VI Semester			
1	17ME61	Finite Element Method	Mathematics: Numerical Methods: Numerical solution of ordinary differential equations of first order and first degree Complex Variables: Review of a function of a complex variable, limits, continuity, and differentiability Basics of Mechanics of Materials: Type of beams, Loads and reactions, Relationship between loads, shear forces and bending moments, Shear force and bending moments of cantilever beams Circular solid and hallow shafts, Torsional moment of resistance Twist in shaft sections
2	17ME62	Computer Integrated Manufacturing	Simulation of Turning and Milling programs using CADEM
3	17ME63	Heat Transfer	Design and Analysis of Different types of fin configuration using ANSYS
4	17ME64	Design of Machine	Design of IC Engine



Sri Sai VidyaVikasShikshanaSamithi ®

SAI VIDYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to VTU, Recognized by Govt. of Karnataka)

DEPARTMENT OF MECHANICAL ENGINEERING

RAJANUKUNTE, BANGALORE 560 064, KARNATAKA

Phone: 080-28468191/96/97/98 * E-mail: info@saividya.ac.in * URL www.saividya.ac.in

		Elements-II	
5	17ME655	Automobile Engineering	Discussed about latest innovations in the field of automobile industry, Electric vehicles of Tesla and pros and cons of e-vehicle industry, Concept cars design, BS 6 emission norms etc.
6	17ME664	Total Quality Management	Discussed cost optimization, waste management/Improvement, reducing of errors, lean management and process enhancement techniques, examples of global industrial leaders.
VIII Semester			
1	15ME81	Operations Research	Replacement models
2	15ME832	Experimental Stress Analysis	Basic principles of wave phenomenon and motion. Optical Physics, basics of photo-elasticity, Transducers. Different testing methods available for modeling and testing of engineering materials



Sri Sai VidyaVikasShikshanaSamithi ®

SAI VIDYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to VTU, Recognized by Govt. of Karnataka)

DEPARTMENT OF MECHANICAL ENGINEERING

RAJANUKUNTE, BANGALORE 560 064, KARNATAKA

Phone: 080-28468191/96/97/98 * E-mail: info@saividya.ac.in * URL www.saividya.ac.in

Content Beyond Syllabus

AY 2019-20 Odd Semester			
III Semester			
SL NO	Subject Code	Subject Name	Topics Covered
1	18ME33	Basic Thermodynamics	Exhaust Emission characteristics of IC Engine using 5 gas analyzer
2	18ME34	Mechanics of Materials	Post and pre tension in concrete
3	18ME35A	Metal Casting and welding	Pressure die casting of aluminium https://saividya.ac.in/storage/1615481500.1453MechGlimpse.JysV.pdf
V Semester			
1	17ME51	Management and Economics	1. Financial ratios to evaluate company financial performance 2. Ledger and journal entries 3. Initial Public offer by companies
2	17ME52	Design of Machine Elements-I	Stress and Strain: Introduction, Hooke's law, Calculation of stresses in straight, Stepped and tapered sections, Composite sections, Stresses due to temperature change, Shear stress and strain, Lateral strain and Poisson's ratio, Generalized Hooke's law Analysis of Stress and Strain: Plane stress, Stresses on inclined planes, Principal stresses and maximum shear stress, Principal angles, Shear stresses on principal planes, Maximum shear stress Strain Energy: Strain energy due to normal stresses
3	17ME54	Dynamics of Machinery	Discussed about mechanical calculator, rubber band propelled airplane, yatch



Sri Sai VidyaVikasShikshanaSamithi ®

SAI VIDYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to VTU, Recognized by Govt. of Karnataka)

DEPARTMENT OF MECHANICAL ENGINEERING

RAJANUKUNTE, BANGALORE 560 064, KARNATAKA

Phone: 080-28468191/96/97/98 * E-mail: info@saividya.ac.in * URL www.saividya.ac.in

			vessel and its design and its dynamics, Perpetual motion machines, variable dampers.
VII Semester			
1	15ME71	Energy Engineering	Wind Turbine Design- 3 wings, Briquette formation
2	15ME73	Control Engineering	Checking of Stability of a system
3	15ME742	Tribology	Analysis of Tribological aspects of machine components, including friction, lubrication, and wear, basics of Physics & other related engineering fields.
4	15ME753	Mechatronics	Recent Trends in Mechatronics Towards Industry 4.0, Internet of things and micro chip manufacturing, Nano sensors and their applications.



Sri Sai VidyaVikasShikshanaSamithi ®

SAI VIDYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to VTU, Recognized by Govt. of Karnataka)

DEPARTMENT OF MECHANICAL ENGINEERING

RAJANUKUNTE, BANGALORE 560 064, KARNATAKA

Phone: 080-28468191/96/97/98 * E-mail: info@saividya.ac.in * URL www.saividya.ac.in

Content Beyond Syllabus

AY 2018-19 Odd Semester			
III Semester			
SL-NO	Subject Code	Subject Name	Topics Covered
1	18ME33	Basic Thermodynamics	Exhaust Emission characteristics of IC Engine using 5 gas analyzer
2	18ME34	Mechanics of Materials	Statically Indeterminate structures SFD and BMD for inclined loading
3	18ME35A	Metal Casting and welding	Pressure die casting
V Semester			
1	17ME51	Management and Economics	Case study discussion about management principles and economic policies adopted by various industries like Toyota, Ford, Coco-Cola, Infosys etc.
2	17ME52	Design of Machine Elements-I	Stress and Strain: Introduction, Hooke's law, Calculation of stresses in straight, Stepped and tapered sections, Composite sections, Stresses due to temperature change, Shear stress and strain, Lateral strain and Poisson's ratio, Generalized Hooke's law Analysis of Stress and Strain: Plane stress, Stresses on inclined planes, Principal stresses and maximum shear stress, Principal angles, Shear stresses on principal planes, Maximum shear stress Strain Energy: Strain energy due to normal stresses
3	17ME54	Dynamics of Machinery	Discussed about mechanical calculator, rubber band propelled airplane, yacht vessel and its design and its dynamics, Perpetual motion



Sri Sai VidyaVikasShikshanaSamithi ®

SAI VIDYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to VTU, Recognized by Govt. of Karnataka)

DEPARTMENT OF MECHANICAL ENGINEERING

RAJANUKUNTE, BANGALORE 560 064, KARNATAKA

Phone: 080-28468191/96/97/98 * E-mail: info@saividya.ac.in * URL www.saividya.ac.in

			machines, variable dampers.
VII Semester			
1	15ME72	Fluid Power Systems	Speed control of Hydraulic And Pneumatic circuits using Fluid sim festo
2	15ME73	Control Engineering	Mathematical modeling, Stability of a system
3	15ME742	Tribology	This subject requires the student to know the basics of Engineering, Mechanics of Deformable Bodies, Material Science, Fluid Mechanics Analysis of Tribological aspects of machine components, including friction, lubrication, and wear, basics of Physics & other related engineering fields.
4	15ME753	Mechatronics	Recent Trends in Mechatronics Towards Industry 4.0, Internet of things and micro chip manufacturing, Nano sensors and their applications.



Sri Sai VidyaVikasShikshanaSamithi ®

SAI VIDYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to VTU, Recognized by Govt. of Karnataka)

DEPARTMENT OF MECHANICAL ENGINEERING

RAJANUKUNTE, BANGALORE 560 064, KARNATAKA

Phone: 080-28468191/96/97/98 * E-mail: info@saividya.ac.in * URL www.saividya.ac.in

Content Beyond Syllabus

AY 2018-19 Even Semester			
IV Semester			
SL-NO	Subject Code	Subject Name	Topics Covered
1	18ME43	Fluid Mechanics	Demonstration of Losses of Energy
2	18ME44	Kinematics of Machines	Video demonstration of robotic arm, real time working machines with kinematic links and various principles.
3	18ME45B	Metal Cutting and Forming	Calculation of Mechanical properties of Ductile and brittle material practically and draw Stress-Strain diagram
VI Semester			
1	17ME61	Finite Element Method	Mathematics: Numerical Methods: Numerical solution of ordinary differential equations of first order and first degree Complex Variables: Review of a function of a complex variable, limits, continuity, and differentiability Basics of Mechanics of Materials: Type of beams, Loads and reactions, Relationship between loads, shear forces and bending moments, Shear force and bending moments of cantilever beams Circular solid and hallow shafts, Torsional moment of resistance Twist in shaft sections
2	17ME62	Computer Integrated Manufacturing	Simulation of Turning and Milling programs using CADEM
3	17ME63	Heat Transfer	Design and Analysis of Different types of fin configuration using ANSYS
4	17ME655	Automobile Engineering	Discussed about latest innovations in the field of automobile industry, Electric vehicles



Sri Sai VidyaVikasShikshanaSamithi ®

SAI VIDYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to VTU, Recognized by Govt. of Karnataka)

DEPARTMENT OF MECHANICAL ENGINEERING

RAJANUKUNTE, BANGALORE 560 064, KARNATAKA

Phone: 080-28468191/96/97/98 * E-mail: info@saividya.ac.in * URL www.saividya.ac.in

			of Tesla and pros and cons of e-vehicle industry, Concept cars design, BS 6 emission norms etc.
5	17ME664	Total Quality Management	Discussed cost optimization, waste management/Improvement, reducing of errors, lean management and process enhancement techniques, examples of global industrial leaders.
VIII Semester			
1	15ME81	Operations Research	Replacement models
2	15ME832	Experimental Stress Analysis	Basic principles of wave phenomenon and motion. Optical Physics, basics of photo-elasticity, Transducers. Different testing methods available for modeling and testing of engineering materials
3	15ME82	Additive Manufacturing	3-D Printing