SRINIVAS UNIVERSITY
COLLEGE OF ENGINEERING & TECHNOLOGY
Main Campus: Srinivas Nagar, Mukka, Surathkal, Mangalore, - 574 146, INDIA
(Private University Established by Karnataka Govt. ACT No.42 of 2013. Recognized by UGC, New Delhi &
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DEPARTMENT OF MECHANICAL ENGINEERING

Master of Technology (M.TECH)
THERMAL POWER ENGINEERING

About the Course:

M.Tech. in Thermal Power Engineering is a two-year (4 Semester) full-time postgraduate engineering programme aimed at shaping the student's managerial and technical skills in the field of engineering. The aim of the Master of Technology in Thermal Power Engineering (M.Tech.) program is to prepare students for successful careers in the field of Thermal including Gas, Solar, Wind, Biomass etc., with exposure to on-job training for substantiation of Operational and Maintenance practices and concepts.

COURSE OBJECTIVES:

The objective of the course is to develop groomed manpower for the power sector having high skill and confidence in running the power plant. After completion of the course the students will acquire extensive basic and skilled knowledge of:

- Operation & maintenance of thermal power plant equipment and its process
- Necessary safety aspects required in a power plant
- Details of plant equipment
- Power plant project management
- Process flow
- Mechanical & Electrical aspects of power plant
- Power Plant schemes

Duration: 2 Years / 4 Semesters.
Eligibility: Candidates with B.Tech/B.E. Degree in Mechanical/ AMIE Degree in concerned discipline or its equivalent from a recognized University.

Courses Offered:

B.Tech. Mechanical Engineering
B.Tech. Robotics, Artificial Intelligence & Machine Learning
M.Tech. Robotics & Automation
M.Tech. Computer Integrated Manufacturing
M.Tech. Thermal Power Engineering
Ph.D.
PDF Engineering & Technology
D. Sc. Engineering & Technology

Vision and Mission:

Vision:

To become a leading learning centre in Mechanical Engineering by providing students the necessary knowledge and professional skills for innovations, research and development and capability for serving industry and research establishments with a strong concern for societal needs and environment.

Mission:

- Provide students the knowledge that builds within them, a strong foundation in the basic principles of mechanical engineering, problem solving abilities, analytical skills, soft skills and communication skills for their overall development.
- Develop talented and committed human resource with an aptitude for creativity, team-spirit, entrepreneurship abilities, for lifelong growth in their professional careers.
- Impart quality education to students to meet the needs of profession and society, and to promote high standards of professional ethics, transparency and accountability.

Special Features of the Programme:

- Industry oriented syllabus with special focus on experimental learning
- Seminars, Technical Talks and Interactions with industrial experts
- Placement support and research oriented projects for every student.
- Focus on smart skill development & training on Mechanical Engineering practices.
- Opportunity for internship and project work in industries
- Tie up with industries to get students trained in latest technology through industry sessions/ workshops.

Program Educational Objectives:

- To prepare students to meet the industrial requirements at global level competitiveness.
- To develop the students analytical skills to enable them to understand real world problems and formulate solutions.
- To impart basic education to students in the areas of Design Engineering, Manufacturing Engineering and Thermal Sciences that will enable them to take up higher studies in these areas.
- To allow students to work in teams through group project works and thus help them achieve interpersonal and communication skills.
- To inculcate the habit of lifelong learning, adherence to ethics in profession, concern for environmental and regard for good professional practices.

Career Opportunities:

Thermal engineers are required in the industries/companies that manufactures heat exchangers, A.C.s, Refrigerator, etc. They can also work in thermal power plants and hydro-electric power plant.

Career option in teaching field is also available for the candidates having postgraduate degree in thermal engineering.
Professionals of this field are generally recruited by the production firms. You can also get teaching jobs in various reputed universities and colleges.

After pursuing a degree in this field, you can easily find job opportunities in various areas like Engineering Equipment Industries, Nuclear Power Stations, Pollution Control Agencies, Space Research Organization, Oil Exploration and Refining, Thermal Power Stations, Energy Conservation Department, etc.

Unique Features:

The Department has been recognized as Research and Development Centre by Srinivas University for carrying out Research activities leading to Ph.D. Degrees. The department offers UG program namely, B.Tech. (Mechanical Engineering), and B.Tech. (Robotics, Artificial Intelligence & Machine Learning) in addition to the PG programmes M.Tech. Robotics & Automation, M.Tech. Computer Integrated Manufacturing, and M.Tech. Thermal Power Engineering. At present, the department has Ph.D. scholars working on Nanomaterials, Composites, Alternative fuels etc.

Being a private university, we have a feasibility to form our own syllabus. Thus we have approached several industrialists and have framed the syllabus according to the industry requirements and prepared an Industry oriented syllabus.

The students of the department will undergo internship in various reputed organizations all over the country. The students participate in various National and International level competitions, events regularly. The department possesses the state of the art research facilities to support the academic programs and research. Several projects of the students have been funded by the Government of Karnataka.

The department has a distinguished record in both teaching and research. The faculty members have excellent academic credentials and are highly regarded. They have publications at National and International levels. Several faculty members serve on the editorial boards of national and international journals, review technical articles for journals on a regular basis and organize conferences and workshops.

Course Structure:

SEMESTER 1		SEMESTER 2	
Sl. No.	**Subject**	**Sl. No**	**Subject**
1	Numerical Methods For Engineers	1	Advanced Heat Transfer
2	Finite Element Method	2	Steam And Gas Turbines
3	Advanced Fluid Mechanics	3	Design Of Heat Transfer Equpment For Thermal Power Plant
4	Combustion Thermodynamics	4	Operations Management
5	Advanced Power Plant Cycles	5	Professional Elective II
6	Professional Elective I	6	Professional Elective III
7	Fluid Machinary Laboratory	7	MAT Lab
8	Seminar	8	Seminar

Sl. No.	Professional Elective I	Sl. No.	Professional Elective II	Sl. No.	Professional Elective III
1	Hydraulics & Pneumatics	1	Refrigeration And Air Conditioning	1	Non Conventional Energy Sources
2	Internal Combustion Engines	2	Nuclear Engineering In Power Generation	2	Gas Dynamics
3	Theory Of Plasticity & Metal Forming Process	3	Cryogenics	3	Jet Proplusion And Rocketry
4	Probability & Statistics	4	Thermal Power Station	4	Thermal Storage System
5	Hydraulics & Pneumatics	5	Refrigeration And Air Conditioning	5	Non Conventional Energy Sources

SEMESTER 3		SEMESTER 4	
Sl. No.	**Subject**	**Sl. No.**	**Subject**
1	Seminar/Presentation on Internship (After 8 weeks from the date of commencement)	1	Project Work
2	Report on Internship	2	Report on Project work
3	Evaluation and Viva-Voce	3	Final Evaluation of Project Work and Viva-Voce

Internship

1. **Internship:** All the students shall have to undergo mandatory internship of 16 weeks during III semester and University examination shall be conducted at the end of 16 weeks. Internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/complete the internship shall be declared as failed and have to complete during the subsequent University examination after satisfying the internship requirements.
2. **Seminar /Presentation of Internship:** Students in consultation with the guide/co-guide if any, shall prepare and present a seminar after 8eeks of Internship. IA marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide if any, and a senior faculty of the department. The IA marks awarded for Seminar/Presentation on Internship, shall be based on the evaluation of Internship Report, Presentation skill and Question and Answer session.
3. **Evaluation and Viva-Voce:** Students in consultation with the guide/co-guide if any, shall prepare relevant Internship report, and present a seminar at the end of 16weeks. IA marks shall be awarded by a committee comprising of HOD as Chairman, Guide/co-guide if any, and a senior faculty of the department based on the evaluation of Internship Report, Presentation skill and Question and Answer session. Examination marks shall be awarded by External Guide sand the Internal Guide/co-guide if any, based on the evaluation of Internship Report, Presentation skill and Question and Answer session.

Project Work

1. **Project Phase-1:** Students in consultation with the guide/co-guide if any, shall pursue literature survey and complete the preliminary requirements of selected Project work. Each student shall prepare relevant introductory project document, and present a seminar. IA marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide if any, and a senior faculty of the department. The IA marks awarded for project work phase:1, shall be based on the evaluation of Project Report, Project Presentation skill and Question and Answer session.
2. **Final Evaluation of Project Work and Viva-Voce:** Students in consultation with the guide/co-guide if any, shall prepare relevant project report, and present a seminar. IA marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide if any, and a senior faculty of the department based on the evaluation of Project Report, Project Presentation skill and Question and Answer session. Examination marks shall be awarded by External Guide and the Internal Guide/co-guide if any, based on the evaluation of Project Report, Project Presentation skill and Question and Answer session.