CENTRE FOR NDT- NON DESTRUCTIVE TESTING

ABOUT

A Centre for Non-Destructive Testing (NDT) serves as a pivotal hub in the field of materials and structural analysis, playing a crucial role in various industries such as aerospace, automotive, construction, and manufacturing. Its primary objective is to employ advanced techniques and technologies for evaluating the integrity, quality, and performance of materials and components without causing any damage or disruption.NDT techniques encompass a wide array of methods, including ultrasonic testing, radiography, magnetic particle testing, liquid penetrant inspection, and visual inspection, among others. These methods enable the detection of hidden defects, cracks, corrosion, or structural irregularities, ensuring the safety and reliability of critical components and infrastructure. A Centre for NDT serves as a training and research centre, equipping professionals with the necessary expertise to conduct inspections and interpret results accurately. It also contributes to the development of innovative NDT technologies, advancing the field's capabilities and applications. Centre for Non-Destructive Testing is indispensable for maintaining quality standards, safety, and efficiency across various industries, making it a cornerstone in ensuring the reliability and longevity of critical structures and components.

OBJECTIVE

- To ensure the integrity and safety of materials and structures by employing advanced NDT techniques.
- > To provide critical quality control and assurance for various industries, including aerospace, manufacturing, and construction.
- > To train and certify professionals in the use of NDT methods, promoting skill development and standardization.
- To conduct research and development to advance NDT technologies, enhancing their accuracy and efficiency.
- To contribute to cost savings and risk reduction by detecting defects and weaknesses in materials and components without causing damage, thereby extending their service life.

COURSE SYLLABUS

INTRODUCTION TO NDT

Visual testing- sophisticated methods- visual test- magnetic particle testing- visual inspection- attention to training–Ultrasonic testing–Techniques used –volumetric inspection- components used –industries used – NDT using Radiography –health and safety implications- alternative methods – volumetric NDT methods –Eddy current testing–shallow swirling electric– surface detection– subsurface discontinuities.

IMPLEMENTATION OF NDT BY LATEST TECHNIQUES

Magnetic particle testing-surface detection- slight sub-surface-discontinuities in magnetic materials- Penetrant testing- locate surface-breaking discontinuities-non-metals detects identification- penetrating liquid-Infrared Thermography- Thermal and infrared testing-temperature variations-infrared portion-electromagnetic spectrum-Other Methods and competencies.

CENTRE HEAD

Mr.J Rajesh M.E-Assistant Professor/Mechanical Engineering

OUTCOME

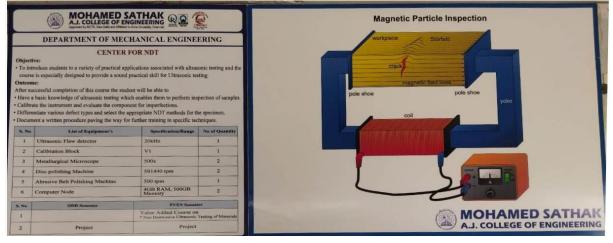
- Improved safety and reliability of materials and structures through effective defect detection.
- > Enhanced product quality and reduced maintenance costs in various industries
- > A skilled workforce with NDT expertise, contributing to industry competitiveness.
- > Advancements in NDT technologies, expanding their applications and capabilities.
- ➢ Greater sustainability and longevity of critical infrastructure and components, benefiting society and the economy.

Centre Name	Academic Year	Semester	Course Name	Certification	No of students	Total No of students
Centre for NDT- Non Destructive Testing	2022-23	Even	Non Destructive Ultrasonic Testing of Materials	MSAJCE	21	
	2021-22	Even	Non Destructive Ultrasonic Testing of Materials	MSAJCE	22	101
	2020-21	Even	Non Destructive Ultrasonic Testing of Materials	MSAJCE	26	
	2019-20	Even	Non Destructive Ultrasonic Testing of Materials	MSAJCE	32	

CERTIFICATION











CERTIFICATE OF APPRECIATION

This is to certify that

ADIL.M, IV Year – Mechanical Engineering

has successfully completed the Skill Development Course on "Non Destructive Ultrasonic Testing of Materials " from 16th March to 5th May 2022 under Centre for Non Destructive Testing, Department of Mechanical Engineering, Mohamed Sathak A J College of Engineering, Chennai.



