



K. RAMAKRSHNAN COLLEGE OF TECHNOLOGY
(An Autonomous Institution)
Samayapuram, Trichirappalli – 621 112.

Format NO.: OBECAP
Issue No.:01
Date:30.09.2021

Review Period: Every Semester

Validation authority: IQAC

COURSE ASSESSMENT PLAN (SUMMATIVE)

Academic Year :2022-2023

Department: Mechanical Engineering

Programme :B.E.,

Semester: VII

Course Title : Testing of Materials

Course Code: OML 751

Course Category : Theory

Total duration (HRS):45

Prerequisite : NIL

Total credits: 3

Name of the Faculty : Mr.S.Dinesh

	Unit #	Learning outcome for assessment	Pertaining CO'S	Assessment method / activity	Measurable	Corrective action	Duration
	1	Overview of materials, Classification of material testing, Purpose of testing, Selection of material, Development of testing, Testing organizations and its committee, Testing standards, Result Analysis, Advantages of testing.	CO1	CIAT 1 Preparatory exam (SA) Mind Map (FA)	Accuracy-correct Vs error	<50 %- Assignment	3 hrs



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2	Introduction to mechanical testing, Hardness test (Vickers, Brinell, Rockwell), Tensile test, Impact test (Izod, Charpy) - Principles, Techniques, Methods, Advantages and Limitations, Applications. Bend test, Shear test, Creep and Fatigue test - Principles, Techniques, Methods, Advantages and Limitations, Applications.	CO2	CIAT1 Preparatory exam (SA) Mind Map (FA)	Accuracy-correct Vs error	<50 %- Assignment	3 hrs
3	Visual inspection, Liquid penetrant test, Magnetic particle test, Thermography test – Principles, Techniques, Advantages and Limitations, Applications. Radiographic test, Eddy current test, Ultrasonic test, Acoustic emission- Principles, Techniques, Methods, Advantages and Limitations, Applications.	CO3	CIAT2 , Preparatory exam Seminar (FA)	Accuracy-correct Vs error	<50 %- Assignment	
4	Macroscopic and Microscopic observations, Optical and Electron microscopy (SEM and TEM) - Principles, Types, Advantages and Limitations, Applications. Diffraction techniques, Spectroscopic Techniques, Electrical and Magnetic Techniques- Principles, Types, Advantages and Limitations, Applications.	CO4	CIAT2 Preparatory exam Seminar (FA)	Accuracy-correct Vs error	<50 % coaching	
5	Thermal Testing: Differential scanning calorimetry, Differential thermal analysis. Thermo-mechanical and Dynamic mechanical analysis: Principles, Advantages, Applications. Chemical Testing: X-Ray Fluorescence, Elemental Analysis by Inductively Coupled Plasma-Optical Emission Spectroscopy andnPlasma-Mass Spectrometry.	CO5	Preparatory exam Seminar (FA)	Accuracy-correct Vs error	<50 % coaching	



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COURSE HANDLER

IQAC CO OORDINATOR

HOD