K.RAMAKRISHNAN
COLLEGE OF TECHNOLOGY
An Autonomous Institution
Affiliated to Anna University Chennai, Approved by AICTE New Delhi,
ISO 9001:2015 & ISO 14001:2015 Certified Institution, Accredited with 'A+' grade by NAAC
Samayapuram, Tiruchirappalli – 621 112, Tamilnadu, India.

Department of Mechanical Engineering

Question Bank

Semester	:	VII
Subject Code	:	OLM 751
Subject Name	:	TESTING OF MATERIALS
Regulations	:	2017
Academic Year	:	2022-2023
Prepared By	:	S DINESH

K.RAMAKRISHNAN
COLLEGE OF TECHNOLOGY
An Autonomous Institution
Affiliated to Anna University Chennai, Approved by AICTE New Delhi,
ISO 9001:2015 & ISO 14001:2015 Certified Institution, Accredited with 'A+' grade by NAAC
Samayapuram, Tiruchirappalli – 621 112, Tamilnadu, India.

PART-A			
S.No.	**Questions**	**Knowledge Level**	**Competence**
1	What do you understand form Non-Destructive testing?	K2	UNDERSTAND
2	Write the importance of NDT.	K1	REMEMBER
3	List the advantage of NDT.	K1	REMEMBER
4	List the steps involved in NDT.	K1	REMEMBER
5	Explain the principle of Liquid Penetrant Testing.	K2	UNDERSTAND
6	Explain the role of developer and penetrant	K2	UNDERSTAND
7	A turbine blade is made of CFRP and is coupled to a generator through a shaft. In this case to ensure power transmission without loss, which technique would you prefer to test the turbine blade. Justify.	K4	ANALYSE
8	Transformer core is to be tested for defects. Which method would you prefer to study the surface defects and justify you selection?	K4	ANALYSE
9	How densities of the material affect the radiography testing?	K2	UNDERSTAND
10	State some of the applications of eddy current testing.	K2	UNDERSTAND
11	Differentiate Radiography and Ultrasonic Testing.	K2	UNDERSTAND
12	Define pulsed Thermography testing.	K2	UNDERSTAND
13	Define inherent discontinuities.	K1	REMEMBER
14	A material has a very small thermal diffusivity and where a small pulse is used for measuring the thermal diffusivity. Select an appropriate method.	K4	ANALYSE
15	Choose the interpretation method in UT test for analysing the cross sectional size and location of defect in a material. Justify the selection.	K4	ANALYSE
PART-B			
S.No.	**Questions**	**Knowledge Level**	**Competence**
1	As an Assistant Engineer at TNEB, you are responsible for ensuring the quality of the wires used to install transmission lines. Choose an appropriate testing technique to assess the quality of the wires.	K4	ANALYSE

2	Pipelines in a power plant are quite intricate, and failure occurs due to uneven steam pressure. These breakdowns occur as a result of cracking on the pipeline's outer surface. Choose and describe the surface analysis method. Justify your choice as well.	K4	ANALYSE
3	Select an emulsification technique for removing the penetrant and illuminating the discontinuity in a steel boiler in a thermal power plant.	K4	ANALYSE
4	'Half-shafts' are used as drive shafts in electric vehicles to distribute power from the motor to individual wheels. These drive shafts are cylindrical pieces that are 300 mm in length and 19 mm in diameter. The power transmission is affected during the test drive due to a defective shaft. As an engineer, you must use an NDT method to analyse the fault and send a report to the R&D department. Choose an approach and clearly explain the steps you will use to identify the problem.	K4	ANALYSE
5	Transformer cases are fitted to the cross beams of a transformer support unit with the help of fasteners. In order to make the connection, holes are to be drilled in both the cross beam and the transformer case. Select a method to inspect the drilled holes for defect and elaborate the method.	K4	ANALYSE
6	Select an NDT method that is can be used to analyse the defects in Welded specimens. Support your selection with reasons and constructional features.	K4	ANALYSE
7	Select a NDT method which is used to analyse the welding joints and castings. Support your selection with reasons and constructional features.	K4	ANALYSE
8	Choose and justify the selection of the method for analyzing the materials used in power sector.	K4	ANALYSE
9	Pick and justify the method used to trace the defects in cables, health issues, laminates hydrogen cracking.	K4	ANALYSE
10	Identify a method which reads the the input energy absorbed by the object to analysis the material defects. Justify with reasons for opting this method.	K4	ANALYSE
11	Opt a method to test a material where short bursts are used. Explain the reasons for selecting this method.	K4	ANALYSE