SUBJECT NO-MT41025, SUBJECT NAME- NON DESTRUCTIVE TESTING

LTP- 3-0-0,CRD- 3

SYLLABUS :-

Prerequisite - NilIntroduction: Aims, visual inspection, basic techniques.Liquid penetrant testing: the method, effect of surface tension, applications.Magnetic Particle Testing: types of magnetization, equipment used, demagnetization. Industrial Radiography: generation of X-rays, isotope sources, properties of X- and gamma rays. Contrast, film characteristics and Image quality indicators, Ultrasonic testing: Acoustic impedance, pulse echo, through transmission and resonance techniques. Probes employed. Oblique incidence. Beam characteristics. Flaw size determination, types of scan.Eddy current technique: principles, equipment, applications.Acoustic emission: Introduction, methodology and equipment. Other techniques: Thermal imaging, neutron radiography, holographic techniques, etc. Case studies.NDT in structural health monitoring. NDTin microstructural characterization and mechanical propery evaluation . Standards and codes. Text Books: 1. Baldev Raj, T. Jayakumar, and M. Thavasimuthu: Practical Non-destructive Testing, Narosa Publishing House, New Delhi, 2002. 2.ASM Handbook, Non-destructive evaluation and quality control, Vol.17, ASM International, Materials Park, Ohio, USA.