SUBJECT NO-MT41023, SUBJECT NAME- COMPOSITE MATERIALS

LTP- 3-0-0,CRD- 3

SYLLABUS :-

Prerequisite - NilIntroduction, classification, types of reinforcement-metallic and ceramic fibres, whiskers, platelets and particulates, and their processing, structure and mechanical properties; characterization of fibres and weibull analysis; Ex-situ and In-situ processing techniques and microstructure of continuous fibre-reinforced or discontinuously reinforced, metal, ceramic and polymer matrix composites, carbon-carbon composites, laminated and nano-structured multilayered composites; functionally gradient composites; strengthening mechanisms in composites, continuum mechanics (macro and micro), overview of creep, fatigue and fracture of composites, role of matrix-reinforcement interfaces and interface engineering, design of composites for structural and functional applications.Text Books:(1)K.K. Chawla, Composite Materials: Science and Engineering, Springer, New York, 1998.(2)A. Kelly And C. Zweben, Comprehensive Composite Materials, Vol. 1-5, Elsevier Science Ltd., Oxford, UK, 2000.