◆ MECH ALLIED ◆ AERONAUTICAL ENGINEERING ◆ SEMESTER VII ELECTIVES– II ◆ENGINEERING CODE AE6603

COURSE OBJECTIVE
◆ TO MAKE THE STUDENT UNDERSTAND THE ELASTIC BEHAVIOR OF DIFFERENT STRUCTURAL COMPONENTS UNDER
VARIOUS LOADINGS AND BOUNDARY CONDITIONS.

COURSE OUTCOME
ABILITY TO USE MATHEMATICAL KNOWLEDGE TO SOLVE PROBLEM RELATED TO STRUCTURAL ELASTICITY.

COURSE CONTENT
UNIT I BASIC EQUATIONS OF ELASTICITY.
UNIT II PLANE STRESS AND PLANE STRAIN PROBLEMS.
UNIT III POLAR COORDINATES.
UNIT IV TORSION.
UNIT V INTRODUCTION TO THEORY OF PLATES AND SHELLS.

REFERENCE BOOKS
1. TIMOSHENKO, S., AND GOODIER, T.N., "THEORY OF ELASTICITY", MCGRAW – HILL LTD., TOKYO, 1990.
2. ANSEL C UGURAL AND SAUL K FENSTER, "ADVANCED STRENGTH AND APPLIED ELASTICITY", 4TH EDITION, PRENTICE HALL, NEW JERSEY, 2003.
3. BHASKAR, K., AND VARADAN, T. K., "THEORY OF ISOTROPIC/ORTHOTROPIC ELASTICITY", CRC PRESS USA, 2009.
1. WANG, C. T., "APPLIED ELASTICITY", MCGRAW – HILL CO., NEW YORK, 1993.
2. SOKOLNIKOFF, I. S., "MATHEMATICAL THEORY OF ELASTICITY", MCGRAW – HILL, NEW YORK, 1978.
3. VOLTERRA & J.H. CAINES, "ADVANCED STRENGTH OF MATERIALS", PRENTICE HALL, NEW JERSEY, 1991
4. BARBER, J. R., "ELASTICITY", KLUWER ACADEMIC PUBLISHERS, 2004

COURSE SOFTWARE
◆ APM WINMACHINE (MULTIPHYSICS)
◆ KOMPAS 2D/3D/PDM/BOM
◆ VARICAD 2D/3D/PDM/BOM
◆ UNIVERSAL MECHANISM(MBD).
◆ SAM (MECHANISM DESIGN)
◆ SALTIRE SOFTWARE
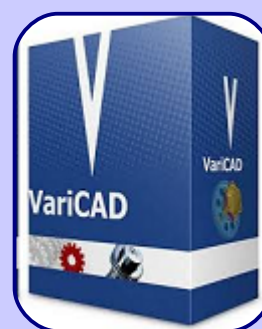◆ DOCUMENTATION & PRINTING

APM WINMACHINE
APM CAM/APM PLAIN/APM SCREW/APM STRUCTURE3D/APM DYNAMICS/APM BEAM/APM GRAPH/APM STUDIO
APM DRIVE/APM TRANS/APM SHAFT/APM BEAR/APM JOINT/APM SPRING/APM BASE/APM MECHANICAL DATA/APM MATERIAL DATA/APM SECTION DATA/APM CONSTRUCTION DATA/APM BOOK

APM WINMACHINE

KOMPAS 3D

VARICAD

DESCRIPTION	ONLINE	TRAINING CENTRE	WEBINAR	REMARKS
THEORY OF ELASTICITY	REGISTRATION	DOCUMENTS	COUNSELLING	OWN LAPTOP
ONLINE	2/UNIT TRAINING	4/UNIT ASSIGNMENT	2/UNIT ASSIGNED	SHEDULE
PRESENTATION	WEBINAR	NETWORK	PRESENTATION	2/UNIT ASSIGNED
PERIOD	2 HRS/1/UNIT IN SEQUENCE	NETWORKING/HRS*	PRESENTATION	* BROWSING FEE
PRICE (SEMESTER)	BY MAIL	* BROWSING FEE	NO COST	CERTIFICATE