



DEMAND

PAVIATH INTEGRATED SOLUTION

ENGINEERING

MECHANICAL

STRENGTH OF MATERIALS

Paviath ONLINE

◆ STRENGTH OF MATERIALS ◆ MECH ENGG ◆ SEMESTER IV (SECOND YEAR) ◆ ENGINEERING CODE PCC-ME 204

COURSE AIM

- TO UNDERSTAND THE NATURE OF STRESSES DEVELOPED IN SIMPLE GEOMETRIES SUCH AS BARS, CANTILEVERS, BEAMS, SHAFTS, CYLINDERS AND SPHERES FOR VARIOUS TYPES OF SIMPLE LOADS
- TO CALCULATE THE ELASTIC DEFORMATION OCCURRING IN VARIOUS SIMPLE GEOMETRIES FOR DIFFERENT TYPES OF LOADING

COURSE OBJECTIVE

- DEFORMATION IN SOLIDS
- BEAMS AND TYPES TRANSVERSE LOADING ON BEAMS
- MOMENT OF INERTIA ABOUT AN AXIS AND POLAR MOMENT OF INERTIA
- TORSION, STRESSES AND DEFORMATION IN CIRCULAR AND HOLLOW SHAFTS
- AXIAL AND HOOP STRESSES IN CYLINDERS

COURSE OUTCOME

- AFTER COMPLETING THIS COURSE, THE STUDENTS SHOULD BE ABLE TO RECOGNISE VARIOUS TYPES LOADS APPLIED ON MACHINE COMPONENTS OF SIMPLE GEOMETRY AND UNDERSTAND THE NATURE OF INTERNAL STRESSES THAT WILL DEVELOP WITHIN THE COMPONENTS
- THE STUDENTS WILL BE ABLE TO EVALUATE THE STRAINS AND DEFORMATION THAT WILL RESULT DUE TO THE ELASTIC STRESSES DEVELOPED WITHIN THE MATERIALS FOR SIMPLE TYPES OF LOADING

REFERENCE BOOKS

- EGOR P. POPOV, ENGINEERING MECHANICS OF SOLIDS, PRENTICE HALL OF INDIA, NEW DELHI, 2001.
- R. SUBRAMANIAN, STRENGTH OF MATERIALS, OXFORD UNIVERSITY PRESS, 2007.
- FERDINAND P. BEEN, RUSSEL JOHNSON JR AND JOHN J. DEWOLE, MECHANICS OF MATERIALS, TATA MCGRAWHILL PUBLISHING CO. LTD., NEW DELHI 2005.

COURSE SOFTWARE

- APM WINMACHINE
- KOMPAS 2D/3D/PDM/BOM
- VARICAD 2D/3D/PDM/BOM
- 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
STRENGTH OF MATERIAL	REGISTRATION	DOCUMENTS	COUNSELLING	OWN LAPTOP
ONLINE	2/UNIT TRAINING	4/UNIT ASSIGNMENT	2/UNIT ASSIGNED	SCHEDULE
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