



DEMAND

PAVIATH INTEGRATED SOLUTION

ENGG SPECIALIZED

MECHANICAL

FAILURE ANALYSIS AND DESIGN

Paviath ONLINE

◆ SYLLABUS PROGRAM ◆ FAILURE ANALYSIS AND DESIGN ◆ SPECIALIZED BRANCH

COURSE OUTCOME

- ABILITY TO DEFINE AND CALCULATE STRESS AND STRAIN UNDER VARIOUS LOADING CONDITIONS WITHIN ELASTIC LIMIT.
- UNDERSTANDING CONSTITUTIVE EQUATIONS DEFINING ELASTIC PROPERTIES OF MATERIALS.
- ABLE TO MODEL THE MATERIALS IN PLASTIC ZONE AND ABILITY TO CONDUCT PLASTIC STRAIN ANALYSIS.

COURSE CONTENTS

- UNIT I ANALYSIS OF STRESS AND STRAIN.
- UNIT II CONSTITUTIVE EQUATIONS.
- UNIT III SOLUTION OF SOME SPECIAL BOUNDARY VALUE PROBLEMS.
- UNIT IV PLASTICITY.
- UNIT V PLASTIC STRAIN ANALYSIS.

COURSE OBJECTIVE

- TO INTRODUCE DIFFERENT FAILURE MECHANISMS AND ROLE OF MATERIALS AND DESIGN IN FAILURE
 - TO DEVELOP MATHEMATICAL MODEL FOR DIFFERENT MODES OF FRACTURE.
 - TO DEVELOP MATHEMATICAL MODEL FOR DYNAMIC FRACTURE.
 - TO INTRODUCE DIFFERENT TOOLS TO ANALYSE THE FRACTURE.
1. SHIGLEY AND MISCHKE, "MECHANICAL ENGINEERING DESIGN", MCGRAW HILL, 1992.
2. MAHMOUD M FARAG, "MATERIAL SELECTION FOR ENGINEERING DESIGN", PRENTICE HALL, 1997.
3. FACULTY OF MECHANICAL ENGINEERING, PSG COLLEGE OF TECHNOLOGY, "DESIGN DATA BOOK", DPV PRINTERS, 1993.

REFERENCE BOOKS

1. JOHN M BARSDOM AND STANLEY T ROLTE "FRACTURE AND FATIGUE CONTROL IN STRUCTURES", PRENTICE HALL, 1987.
2. ASM METALS HANDBOOK, "FAILURE ANALYSIS AND PREVENTION", ASM METALS PARK, OHIO, USA, VOL.10, TENTH EDITION, 1995.
3. MICHAEL F ASHBY, "MATERIAL SELECTION IN MECHANICAL DESIGN", BUTTERWORTH - HEINEMANN, 1999.
4. ANDERSON T.L., FRACTURE MECHANICS: FUNDAMENTALS AND APPLICATIONS, THIRD EDITION, 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

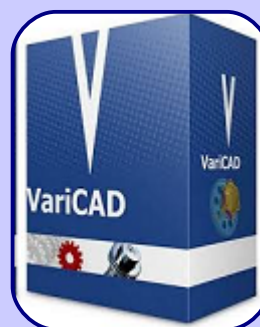
APM CAM/APM PLAIN/APM SCREW/APM STRUCTURE3D/APM DYNAMICS/APM BEAM/APM GRAPH/APM STUDIO
APM DRIVE/APM TRANS/APM SHAFT/APM BEAR/APM JOINT/APM SPRING/APM BASE/APM MECHANICAL DATA/APM MATERIAL DATA/APM SECTION DATA/APM CONSTRUCTION DATA/APM BOOK



APM WINMACHINE



KOMPAS 3D



VARICAD

PRODUCTION ENGG	MECH & AUTOMATION ENGG	MECH ENGG (SANDWICH)	ROBOTICS AND AUTOMATION	MECHATRONICS ENGG
		FAILURE ANALYSIS AND DESIGN		
		ELECTIVE V		
		MS6009		
DESCRIPTION	ONLINE	TRAINING CENTRE	WEBINAR	REMARKS
FAILURE ANALYSIS AND DESIGN	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

info@paviathintegratedsolution.com - www.paviathintegratedsolution.com - www.paviathjobportal.com