



DEMAND

PAVIATH INTEGRATED SOLUTION

ENGG SPECIALIZED

MECHANICAL

FINITE ELEMENT ANALYSIS

Paviath ONLINE

◆ SYLLABUS PROGRAM ◆ FINITE ELEMENT ANALYSIS IN MANUFACTURING ENGINEERING ◆ SPECIALIZED BRANCH

### COURSE OBJECTIVE

TO INTRODUCE THE CONCEPT OF FEM AND TO APPLY IN THE FIELD OF MANUFACTURING ENGINEERING

### COURSE CONTENTS

UNIT I INTRODUCTION.  
UNIT II GENERAL PROCEDURE OF FET.  
UNIT III FINITE ELEMENT ANALYSIS OF ONE DIMENSIONAL AND TWO DIMENSIONAL PROBLEMS.  
UNIT IV ISO-PARAMETRIC ELEMENTS.  
UNIT V APPLICATION OF FINITE ELEMENT ANALYSIS.

### COURSE OUTCOME

- DEVELOP ELEMENT STIFFNESS MATRIX EQUATION FROM SPRING ELEMENTS
- ASSEMBLE ELEMENT MATRIX EQUATION IN TO A GLOBAL MATRIX
- ENFORCE BOUNDARY CONDITION AND FORCES ON THE SYSTEM.
- SOLVE THE RESULTING SYSTEM AND INTERPRET RESULT.
- DEVELOP THE CONCEPT OF LOCAL, GLOBAL COORDINATE SYSTEM AND THEIR TRANSFORMATION

### REFERENCE BOOKS

1. CHANDRAPUTLA T.R. AND BELEGUNDU A.D., "INTRODUCTION OF FINITE ELEMENT IN ENGINEERING", PRENTICE HALL OF INDIA, 1997.
2. REDDY J.N., "AN INTRODUCTION TO FINITE ELEMENT METHOD" MCGRAW HILL, INTERNATIONAL STUDENT EDITION, 1993.
1. RAD S.S., "THE FINITE ELEMENT METHOD IN ENGINEERING", PERGAMON PRESS, 1993.
2. SEABLAND, L.J., "APPLIED FINITE ELEMENT ANALYSIS", JOHN WILEY AND SONS, INC.
3. SESHUP., "TEXT BOOK OF FINITE ELEMENT ANALYSIS", PRENTICE HALL OF INDIA, 2003
4. RAJASEKARAN S., "NUMERICAL METHODS FOR INITIAL AND BOUNDARY VALUE PROBLEMS", WHEELER AND CO., PVT. LTD., 1987
5. LEWIS R.W., MORGAN K., THOMAS H.R. AND SEETHARAMU K.N., THE FINITE ELEMENT METHOD IN HEAT TRANSFER ANALYSIS, JOHN WILEY & SONS LTD., 1996.

### 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

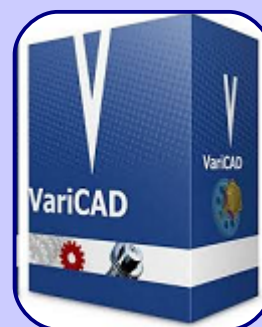
APM CAM/APM PLAIN/APM SCREW/APM STRUCTURE3D/APM DYNAMICS/APM BEAM/APM GRAPH/APM STUDIO  
APM DRIVE/APM TRANS/APM SHAFT/APM BEAR/APM JOINT/APM SPRING/APM BASE/APM MECHANICAL DATA/APM MATERIAL DATA/APM SECTION DATA/APM CONSTRUCTION DATA/APM BOOK



APM WINMACHINE



KOMPAS 3D



VARICAD

PRODUCTION ENGG	MECH & AUTOMATION ENGG	MECH ENGG (SANDWICH)	ROBOTICS AND AUTOMATION	MECHATRONICS ENGG
FINITE ELEMENT ANALYSIS	FINITE ELEMENT ANALYSIS	FINITE ELEMENT ANALYSIS		
SEMESTER VII	SEMESTER VI	SEMESTER VII		
PR670I	ME6603	ME6603		
DESCRIPTION	ONLINE	TRAINING CENTRE	WEBINAR	REMARKS
FINITE ELEMENT ANALYSIS	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

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