ISO/GOST/EN/DIN

SEMESTER UNITS

REFERENCE BOOKS

POLYTECH – AICTE - UNIVERSITY

INTERNSHIP SYLLABUS

MECHANISM

MACHINE ELEMENT

STRUCTURAL

II KINEMATICS AND THEORY OF MACHINES

ACADEMIC SYLLABUS

▪

INDUSTRY DB/APPLN

▪

ROFESSIONAL COACH

DEGREE/DIPLOMA*

SYLLABUS PROGRAM
- KINEMATICS AND THEORY OF MACHINES
- MECHANICAL ENGINEERING
- SEMESTER V (III YEAR)
- ENGINEERING CODE PCC-ME 304

COURSE SEMESTER
- OBJECTIVE OF COURSE
- COURSE CONTENTS
- COURSE OUTCOMES
- REFERENCE BOOKS

OBJECTIVE

E# TO UNDERSTAND THE KINEMATICS AND RIGID- BODY DYNAMICS OF KINEMATICALLY DRIVEN MACHINE COMPONENTS
TO UNDERSTAND THE MOTION OF LINKED MECHANISMS IN TERMS OF THE DISPLACEMENT, VELOCITY AND ACCELERATION AT ANY POINT IN A RIGID LINK
TO BE ABLE TO DESIGN SOME LINKAGE MECHANISMS AND CAM SYSTEMS TO GENERATE SPECIFIED OUTPUT MOTION
TO UNDERSTAND THE KINEMATICS OF GEAR TRAINS

COURSE CONTENT

▪ CLASSIFICATION OF MECHANISMS. ▪ DISPLACEMENT, VELOCITY AND ACCELERATION ANALYSIS OF SIMPLE MECHANISMS. ▪ CLASSIFICATION OF CAMS AND FOLLOWERS. ▪ INVOLUTE AND CYCLOIDAL GEAR PROFILES. ▪ SURFACE CONTACTS

COURSE OUTCOMES

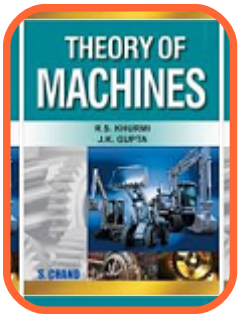
▪ AFTER COMPLETING THIS COURSE, THE STUDENTS CAN DESIGN VARIOUS TYPES OF LINKAGE MECHANISMS FOR OBTAINING SPECIFIC MOTION AND ANALYSE THEM FOR OPTIMAL FUNCTIONING.

REFERENCE BOOKS

1. THOMAS BEVAN, THEORY OF MACHINES, 3RD EDITION, CBS PUBLISHERS & DISTRIBUTORS, 2005.
2. CLEGHORN WL. , MECHANISMS OF MACHINES, OXFORD UNIVERSITY PRESS, 2005.
3. ROBERT L. NORTON, KINEMATICS AND DYNAMICS OF MACHINERY, TATA MCGRAWHILL, 2009.
4. GHOSH A. AND MALLICK A.K., THEORY OF MECHANISMS AND MACHINES, AFFILIATED EAST-WEST PVT. LTD, NEW DELHI, 1988.

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

SAM
(SYNTHESIS ANALYSIS MECHANISM)
GENERAL - DESIGN WIZARDS - MODELLING - INPUT MOTION - CAD INTERFACE - ANALYSIS - RESULTS - POST-PROCESSING - OPTIMIZATION - TUTORIALS



SOFTWARE
APM WINMACHINE
SAM
SALTIRE
VARICAD
KOMPAS 3D

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