

UNIT – V

ANALYSIS OF TRUSSES BY METHOD OF JOINTS:

Types of Trusses – Assumptions for forces in members of a perfect truss, Force table, Cantilever Trusses, Structures with one end hinged and the other freely supported on rollers carrying horizontal or inclined loads.

UNIT – VI

PRINCIPLE OF VIRTUAL WORK:

Equations for Translation, Work-Energy Applications to Particle Motion, Connected System-Fixed Axis Rotation and Plane Motion.

UNIT – VII

KINEMATICS OF RECTILINEAR TRANSLATION - I:

Introduction, displacement, velocity and acceleration. Motion with Uniform and Variable acceleration.

UNIT – VIII

KINETICS OF RECTILINEAR TRANSLATION - II:

Equations of rectilinear motion. Equations of Dynamic Equilibrium: D'Alembert's Principle. Work and Energy, Conservation of energy, Impulse and Momentum, Impact-Direct central Impact.

Learning resources

Text books :

1. Engineering Mechanics, (4th edition) by Timoshenko, S. and Young, D.H., Tata McGraw-Hill, 1956. (For Concepts and symbolic Problems).
2. Engineering Mechanics Statics and dynamics, (14th edition) by Tayal, A.K., Umesh Publication, Delhi, 2012.

Reference books:

1. Vector Mechanics for Engineers Statics and Dynamics, (3rd edition) by Beer and Johnston., Tata McGraw-Hill, New Delhi, 1997.
2. Engineering Mechanics by Bhavikatti, S.S. and Rajasekharappa, J.G., New Age International Publications, 2009.
3. Singer's Engineering Mechanics Statics and Dynamics, (3rd Edition) by Vijaya Kumar Reddy, K. and Suresh Kumar. J., BS Publications, 2012.

Web Reference:

1. http://openlibrary.org/books/OL22136590M/Basic_engineering_mechanics
2. http://en.wikibooks.org/wiki/Engineering_Mechanics
3. <http://nptel.iitm.ac.in/video.php?courseId=1048>
4. <http://imechanica.org/node/1551>
5. <http://emweb.unl.edu/>
6. <http://ebooks-freownload.com/2009/11/engineering-mechanics-statics-12.html>
7. http://www.ebookee.com/Engineering-Mechanics-Statics_37859.html