

**EINSTEIN ACADEMY OF TECHNOLOGY AND MANAGEMENT**

Approved by AICTE, Affiliated to BPUT Odisha

At: Baniatangi, PO: Bajapur, Khurdha, PIN: 752060, Bhubaneswar

2nd YEAR**MECHANICS OF SOLIDS**

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| CO1 | Explain the fundamental concepts of rigid and deformable solids in the perspective of stress, strain and modulus of elasticity. |
| CO2 | Apply the principles of bi-axial state of stresses in various problems, analysis of thin cylinder. |
| CO3 | Calculate the loads in beams, shear forces and bending moments associated with different sections. |
| CO4 | Illustrate the theory, principles associated to torsion in solid, hollow shafts, helical springs. |
| CO5 | Evaluation of deflection in beams by using by different methods. |
| CO6 | Analysis of different columns under different end conditions. |

FLUID MECHANICS AND HYDRAULIC MACHINES

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| CO1 | State and explain various fluid properties in rest and in transit. |
| CO2 | Understand concepts related to fluid statics. |
| CO3 | Apply the concepts of fluid kinematics to various types of fluid flow and flow lines also determine various flow parameters. |
| CO4 | Apply conservation laws to fluid flow problems in engineering applications. |
| CO5 | Analyses the fluid flow problems like flow through pipes, ducts and nozzles. |
| CO6 | Evaluate performance parameters of hydraulic machines like turbines and pumps. |

SURVEYING

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| CO1 | Able to understand the basic of survey engineering like chain surveying, Plane table surveying, levelling, counteracting etc. |
| CO2 | The students are able to understand the use of different surveying instruments and their use. |
| CO3 | Ability to formulate and solve various problems in levelling and appreciate the need for understanding various type of curves used in surveying. |
| CO4 | To prepare topographical map and contour map on an area. |
| CO5 | To learn the use of theodolite and modern surveying instruments. |
| CO6 | Students are able to do the surveying of different civil engineering projects. |

CONCRETE TECHNOLOGY

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| CO1 | Understand the theoretical concept and the physical & chemical properties of Concrete material which includes Cement, Admixtures and Aggregates. |
| CO2 | Study the behaviour of concrete at its fresh and hardened state, describe and carry out tests of Fresh concrete. |
| CO3 | Understand the properties & tests of hardened concrete. |
| CO4 | Understand the factors affecting Elasticity, creep & Shrinkage in concrete. |
| CO5 | Learn about different types of Special & No fines concrete and their uses. |

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| CO6 | Understand the concept and factors influencing concrete mix design utilizing various methods. |
| STRUCTURAL ANALYSIS - I | |
| CO1 | Ability to distinguish between determinate and indeterminate structures. |
| CO2 | Learn different theorems and methods of analyzing a structure. |
| CO3 | Ability to analyze indeterminate plane trusses. |
| CO4 | Ability to use influence line diagrams as a valid tool for structural analysis. |
| CO5 | Student will also be able to analyze columns. |
| CO6 | Student will also be able to analyze three hinge arches and three hinge suspension bridges. |
| TRANSPORTATION ENGINEERING | |
| CO1 | To learn the importance of highway transportation and Principle of highway planning. |
| CO2 | Understand the Highway Materials and introduction to Traffic Engineering. |
| CO3 | Learn the basics design of highway pavements. |
| CO4 | Understand the concept of highway construction and maintenance. |
| CO5 | To understand the Traffic engineering & different types of traffic control device. |
| CO6 | Basic idea about the Bridge engineering & Components parts of a bridge. |