**Doc. No.:** DCE/0/10
**Revision:** 01

DRONACHARYA College of Engineering

**Khentawas, Farrukh Nagar,Gurgaon**

**Lesson Plan & Execution**

**Department: MECHANICAL ENGINEERING**

**Academic Session: 2017-18**

**Subject with code: STRENGTH OF MATERIAL-I (ME-206-F)**

**Name of Faculty with Designation: Mr. RAJESH MATTOO ( ASSOCIATE PROFESSOR )**

| S. No. | Month | Date | Sem/ Class | Unit | Topic/Chapter covered | Academic activity | Test / Assignment |
|---|---|---|---|---|---|---|---|
| 1 | II -JAN | 10-1-2018 | | | Need of the Strength of Material –I, Subject and Teaching methodology of Dronacharya college of Engineering. Syllabus contents of the subject were given to the Students. | | |
| 2 | II -JAN | 11-1-2018 | | | Introduction to simple stress and strain: concept of type of stress and strain in simple and compound bar under axial loading. | | |
| 3 | II -JAN | 12-1-2018 | | A-I | Poison's ratio, stress and strain diagram, hook's law. | | |
| 4 | III -JAN | 17-1-2018 | | | Elastic constant and their relationship. | | |
| 5 | III -JAN | 18-1-2018 | | | Temperature stress and strain in simple and compound bar under axial loading. | | |
| 6 | III -JAN | 19-1-2018 | | A-II | Compound stress and strain: concept of surface and volumetric strain. | | |
| 7 | IV-JAN | 24-1-2018 | | | Two dimensional stress system. | | |
| 8 | IV-JAN | 25-1-2018 | IV-ME | | Conjugate stress system at a point on a plane. | | |
| 9 | V-JAN | 31-1-2018 | | | Principal stress strain and principal plane. | | |
| 10 | V-JAN | 1-2-2018 | | B-I | Introduction to shear force and bending moment diagram: definition & draw SFD and BMD for cantilever. | | |
| 11 | II-FEB | 2-2-2018 | | | Definition & draw SFD and BMD Simply supported beam with or without overhanging. | | |

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|---|---|---|---|---|---|---|---|
| 12 | II-FEB | 7 - 2-2018 | IV-ME | B-I | Calculation of maximum BM and SF and a point of contraflexure under concentrated load, uniformly distributed load, uniformly varying load. | | |
| 13 | II-FEB | 8-2-2018 | | | Introduction to torsion: Torsion of thin circular tube. | | |
| 14 | IV-FEB | 21-2-2018 | | | Solid and hollow circular shaft, tapered shaft and composite circular shaft under torsion. | | |
| 15 | IV-FEB | 22-2-2018 | | B-II | Combined torsion, equivalent torque, effect of thrust. | | |
| 16 | IV-FEB | 23-2-2018 | | | Bending and shear stress in beam: bending stress in beam with derivation. | | |
| 17 | V-FEB | 28-2-2018 | | C-I | Application to beam of circular, rectangular, I, T and channel section. | | |
| 18 | I-MAR | 1-3-2018 | | | Composite beam, shear stress in beam with combined bending. | | |
| 19 | I-MAR | 2-3-2018 | | | Torsion and axial loading of beam. | | |
| 20 | II-MAR | 7-3-2018 | | C-II | Introduction to column and struts: column under axial load. Concept of instability and buckling, slenderness ratio. | | |
| 21 | II-MAR | 8-3-2018 | | | Derivation of Euler's formula for buckling load, Euler, rankine, Gordon's formula. | | |
| 22 | II-MAR | 9-3-2018 | | | Derivation of Euler's formula for buckling load, Euler, rankine, Gordon's formula. | | |

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|---|---|---|---|---|---|---|---|
| 23 | III-MAR | 14-3-2018 | IV-ME | C-II | Johnson's empirical formula for axial loading of column and their application. | | |
| 24 | III-MAR | 15-3-2018 | | | Eccentric compression of a short strut of rectangular and circular sections. | | |
| 25 | III-MAR | 16-3-2018 | | | Introduction to slope and deflection : relation ship between bending moment, slope and deflection,Mohr's theorem. | | |
| 26 | V-MAR | 28-3-2018 | | D-I | Moment area method and method of integration, Macaulay's method.Calculation of slope and deflection: of cantilever. | | |
| 27 | II-APR | 4-4-2018 | | | Simply supported beam with or without overhanging under concentrated load or UDL. | | |
| 28 | II-APR | 5-4-2018 | | D-II | Fixed beam: deflection, reaction and fixing moment with SF and BM.Calculation and diagram for fixed beam under concentrated load, UDL. | | |
| 29 | II-APR | 6-4-2018 | | | Calculation and diagram for fixed beam under combination of concentrated and UDL. | | |