

Universal Engineering College, Thrissur

Vallivattom, ThrissurKerala

Department:ME Batch:ME2023 Semester:S3

Subject :PCMET302MECHANICS OF SOLIDS

Subject Plan Report between: 01-07-2025 to 17-10-2025

| Sl No. | Topic Name | Proposed Plan | | | Topic Name | Actual Plan | | |
|--------|-----------------------------------|---------------|--------|------|-------------------------|-------------|-------------------|------|
| | | Date | Module | Hour | | Date | Teaching Pedagogy | Hour |
| 1 | Introduction to deformable bodies | 01/07/2025 | 1 | 1 | deformable bodies | 01/07/2025 | chalk and board | 1 |
| 2 | Types of external loads | 01/07/2025 | 1 | 5 | Types of external loads | 01/07/2025 | chalk and board | 2 |
| 3 | Normal stress | 03/07/2025 | 1 | 3 | Normal stress | 03/07/2025 | chalk and board | 3 |
| 4 | Shear stress | 04/07/2025 | 1 | 5 | Shear stress | 04/07/2025 | chalk and board | 5 |
| 5 | Shear stress | 05/07/2025 | 1 | 4 | Shear stress | 05/07/2025 | chalk and board | 6 |
| 6 | Bending stress | 07/07/2025 | 1 | 5 | Bending stress | 07/07/2025 | chalk and board | 7 |
| 7 | Bearing stress | 08/07/2025 | 1 | 1 | Bearing stress | 08/07/2025 | chalk and board | 1 |
| 8 | Linear strain | 08/07/2025 | 1 | 5 | Linear strain | 08/07/2025 | chalk and board | 2 |
| 9 | Shear strain | 10/07/2025 | 1 | 3 | Shear strain | 10/07/2025 | chalk and board | 5 |
| 10 | Hooke's law | 11/07/2025 | 1 | 5 | Hooke's law | 11/07/2025 | chalk and board | 1 |
| 11 | Stress-strain diagram | 14/07/2025 | 1 | 5 | Stress-strain diagram | 14/07/2025 | ppt | 6 |
| 12 | Isotropy | 15/07/2025 | 1 | 1 | Isotropy | 15/07/2025 | chalk and board | 3 |
| 13 | Orthotropy | 15/07/2025 | 1 | 5 | Orthotropy | 15/07/2025 | chalk and board | 5 |
| 14 | Anisotropy | 17/07/2025 | 1 | 3 | Anisotropy | 17/07/2025 | chalk and board | 6 |
| 15 | Young's modulus | 18/07/2025 | 1 | 5 | Young's modulus | 18/07/2025 | chalk and board | 1 |

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|----|--------------------------------------|------------|---|---|--------------------------------|------------|-----------------|---|--|--|--|
| 16 | Bulk modulus | 19/07/2025 | 1 | 4 | Bulk modulus | 19/07/2025 | chalk and board | 2 | | | |
| 17 | Rigidity modulus | 21/07/2025 | 1 | 5 | Rigidity modulus | 21/07/2025 | chalk and board | 2 | | | |
| 18 | Poisson's ratio | 22/07/2025 | 1 | 1 | Poisson's ratio | 22/07/2025 | chalk and board | 3 | | | |
| 19 | Axial deformation of uniform bar | 21/07/2025 | 1 | 5 | deformation of uniform bar | 21/07/2025 | chalk and board | 2 | | | |
| 20 | Axial deformation of varying section | 22/07/2025 | 1 | 3 | deformation of varying section | 22/07/2025 | chalk and board | 4 | | | |
| 21 | Axial deformation of composite bars | 23/07/2025 | 1 | 5 | deformation of composite bars | 23/07/2025 | chalk and board | 5 | | | |
| 22 | Principle of superposition | 25/07/2025 | 1 | 4 | Principle of superposition | 25/07/2025 | chalk and board | 6 | | | |
| 23 | Thermal stress in simple bars | 04/08/2025 | 1 | 5 | Thermal stress in simple bars | 04/08/2025 | chalk and board | 1 | | | |
| 24 | Thermal stress in composite bars | 05/08/2025 | 1 | 1 | in composite bars | 05/08/2025 | chalk and board | 2 | | | |
| 25 | Torsion of shafts | 05/08/2025 | 2 | 5 | Torsion of shafts | 05/08/2025 | chalk and board | 6 | | | |
| 26 | Assumptions in torsion theory | 07/08/2025 | 2 | 3 | Assumptions in torsion theory | 07/08/2025 | chalk and board | 3 | | | |
| 27 | Polar modulus | 11/08/2025 | 2 | 5 | Polar modulus | 11/08/2025 | chalk and board | 5 | | | |
| 28 | Torsional rigidity | 12/08/2025 | 2 | 1 | Torsional rigidity | 12/08/2025 | chalk and board | 6 | | | |
| 29 | Design of shafts in torsion | 12/08/2025 | 2 | 5 | Design of shafts in torsion | 12/08/2025 | chalk and board | 1 | | | |
| 30 | Classification of beams | 14/08/2025 | 2 | 3 | Classification of beams | 14/08/2025 | chalk and board | 5 | | | |
| 31 | Supports and loading conventions | 16/08/2025 | 2 | 5 | loading conventions | 16/08/2025 | chalk and board | 1 | | | |
| 32 | Load-SF-BM relations | 18/08/2025 | 2 | 5 | Load-SF-BM relations | 18/08/2025 | chalk and board | 2 | | | |
| 33 | Shear force diagram | 19/08/2025 | 2 | 1 | Shear force diagram | 19/08/2025 | chalk and board | 3 | | | |
| 34 | Bending moment diagram | 19/08/2025 | 2 | 5 | moment diagram | 19/08/2025 | chalk and board | 5 | | | |
| 35 | Cantilever beam with point load | 21/08/2025 | 2 | 3 | beam with point load | 21/08/2025 | chalk and board | 6 | | | |
| 36 | Cantilever beam with UDL | 22/08/2025 | 2 | 5 | Cantilever beam with UDL | 22/08/2025 | chalk and board | 1 | | | |
| | Simply supported beam with | | | | beam with | | | | | | |

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|---------------------------------------|---|------------|---|---|--------------------------------|------------|-----------------|---|--|--|--|
| 37 | point load | 23/08/2025 | 2 | 4 | point load | 23/08/2025 | chalk and board | 5 | | | |
| 38 | Simply supported beam with UDL | 25/08/2025 | 2 | 5 | supported beam with UDL | 25/08/2025 | chalk and board | 1 | | | |
| 39 | Point of inflection | 26/08/2025 | 2 | 1 | Point of inflection | 26/08/2025 | chalk and board | 2 | | | |
| 40 | Pure bending | 26/08/2025 | 3 | 5 | Pure bending | 26/08/2025 | chalk and board | 3 | | | |
| 41 | Flexure formula | 08/09/2025 | 3 | 5 | Flexure formula | 08/09/2025 | chalk and board | 5 | | | |
| 42 | Section modulus | 09/09/2025 | 3 | 1 | Section modulus | 09/09/2025 | chalk and board | 6 | | | |
| 43 | Deflection of beams | 09/09/2025 | 3 | 5 | Deflection of beams | 09/09/2025 | chalk and board | 1 | | | |
| 44 | Moment-curvature relation | 19/09/2025 | 3 | 3 | curvature relation | 19/09/2025 | chalk and board | 5 | | | |
| 45 | Double integration method | 20/09/2025 | 3 | 5 | integration method | 20/09/2025 | chalk and board | 1 | | | |
| 46 | Macaulay's method | 22/09/2025 | 3 | 5 | Macaulay's method | 22/09/2025 | chalk and board | 2 | | | |
| 47 | Stress on inclined plane (uniaxial) | 23/09/2025 | 4 | 1 | inclined plane (uniaxial) | 23/09/2025 | chalk and board | 3 | | | |
| 48 | Simulation Based Learning | 23/09/2025 | | 5 | Simulation Based Learning | 23/09/2025 | ansys | 5 | | | |
| 49 | Stress with shear and normal components | 25/09/2025 | 4 | 5 | normal components | 25/09/2025 | chalk and board | 6 | | | |
| 50 | Principal stresses | 29/09/2025 | 4 | 5 | Principal stresses | 29/09/2025 | chalk and board | 1 | | | |
| 51 | Principal planes | 30/09/2025 | 4 | 1 | Principal planes | 30/09/2025 | chalk and board | 5 | | | |
| 52 | Mohr's circle | 30/09/2025 | 4 | 5 | Mohr's circle | 30/09/2025 | chalk and board | 1 | | | |
| 53 | Buckling of columns | 04/10/2025 | 4 | 4 | Buckling of columns | 04/10/2025 | chalk and board | 2 | | | |
| 54 | Euler's buckling load | 02/10/2025 | 4 | 3 | Euler's buckling load | 02/10/2025 | chalk and board | 3 | | | |
| 55 | End conditions of columns | 14/10/2025 | 4 | 1 | End conditions of columns | 14/10/2025 | chalk and board | 5 | | | |
| 56 | Euler derivation (hinged ends) | 16/10/2025 | 4 | 3 | Euler derivation (hinged ends) | 16/10/2025 | chalk and board | 6 | | | |
| 57 | Rankine's formula | 17/10/2025 | 4 | 5 | Rankine's formula | 17/10/2025 | chalk and board | 1 | | | |
| Staffname & Signature:Shibu Augustine | | | | | | | | | | | |

