

**GANESH INSTITUTE OF ENGINEERING AND TECHNOLOGY, POLYTECHNIC**

**DEPARTMENT OF CIVIL ENGINEERING**

**FACULTY NAME:- Artatrana Behera**

**LESSON PLAN CUM PROGRESS REPORT**

| SUBJECT:THEORY OF STRUCTURE |    |     |  | SEMESTER : 4 <sup>TH</sup>    |   |  | BRANCH: CIVIL ENGINEERING |             |               |
|-----------------------------|----|-----|--|-------------------------------|---|--|---------------------------|-------------|---------------|
| LECTURE NO.                 | CO | BTL | TOPIC TO BE COVERED  | BOOK NAME/CHAPT .NO./PAGE NO. | WEB REFERENCE IF ANY  | TEACHING LEARNING METHOD   | PLAN DATE                 | ACTION DATE | REVIEW BY HOD |
| 1                           | 1  | 4   | <b>Direct and Bending Stresses in vertical members</b>                                 | Ramamrutham, S/Khurmi, R. S   | <a href="https://youtu.be/tEGpPe1nh7U?si=GMQ9n1rIKK15ldzP">https://youtu.be/tEGpPe1nh7U?si=GMQ9n1rIKK15ldzP</a> | 1-Introduction to DSS-5 min<br>2-Prerequisites for DSS, PPT/Smart board-10 min<br>3-Syllabus & CO discussion-10 min<br>4-Lecturer-35 min | 22.12.2025                |             |               |
| 2                           | 1  | 2   | Introduction to axial and eccentric loads, eccentricity about one principal axis only, | Lecture Note                  |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min   | 23.12.2025                |             |               |
| 3                           | 1  | 2   | Condition for no tension or zero stress at extreme fiber, Limit of eccentricity,       | Lecture Note                  |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min   | 24.12.2025                |             |               |
| 4                           | 1  | 4   | Condition for no tension or zero stress at extreme fiber, Limit of eccentricity,       | Lecture Note                  |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min   | 29.12.2025                |             |               |
| 5                           | 1  | 4   | Chimneys of circular cross section subjected to wind pressure, Maximum                 | Lecture Note                  |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min   | 30.12.2025                |             |               |
| 6                           | 1  | 1   | Chimneys of circular cross section subjected to wind pressure, Maximum                 | Lecture Note                  |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min   | 31.12.2025                |             |               |
| 7                           | 1  | 1   | Analysis of dams subjected to conditions of stability                                  | Lecture Note                  |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min   | 05.01.2026                |             |               |
| 8                           | 1  | 1   | Analysis of dams subjected to horizontal water pressure, conditions                    | Lecture Note                  |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min & Assignment-10 min   | 06.01.2026                |             |               |
| 9                           | 2  | 2   | Slope and Deflection   | Ramamrutham, S/Khurmi, R. S   | <a href="https://youtu.be/yVv1ky6WeYc?si=Yqghy7iGEBGZ_GQ5">https://youtu.be/yVv1ky6WeYc?si=Yqghy7iGEBGZ_GQ5</a> | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min   | 07.01.2026                |             |               |

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|----------------|-----------|------------|---|---------------------------|---|--|------------------|--------------------|----------------------|
| 10             | 2         | 2          | Concept of slope and deflection, stiffness of beams, Relation among bending                                   | Ramamrutham. S/Khurmi, R. |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts                             | 12.01.2026       |                    |                      |
| <b>LECTURE</b> | <b>CO</b> | <b>BTL</b> | <b>TOPIC COVERED</b>  | <b>TO BE</b>              | <b>WEBREFERENCE ANY</b>   | <b>TEACHING LEARNING METHOD</b>  | <b>PLAN DATE</b> | <b>ACTION DATE</b> | <b>REVIEW BY HOD</b> |
| 11             | 2         | 4          | Concept of slope and deflection, stiffness of beams, Relation among bending moment, slope, deflection and     | Ramamrutham. S/Khurmi, R. |   | 1-Previous class topic Review-5 min<br>2- PPT/Smart board-15 min<br>3-Lecturer-30<br>4-Doubts    | 13.01.2026       |                    |                      |
| 12             | 2         | 1          | Double integration method to find slope and deflection of cantilever and simply supported beams subjected to  | Lecture Note              |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 15.01.2026       |                    |                      |
| 13             | 2         | 1          | Double integration method to find slope and deflection of cantilever and simply                               | Lecture Note              |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 19.01.2026       |                    |                      |
| 14             | 2         | 1          | Macaulay's method for slope and deflection, application to cantilever and                                     | Lecture Note              |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 20.01.2026       |                    |                      |
| 15             | 2         | 2          | Macaulay's method for slope and deflection, application to cantilever and simply supported                    | Lecture Note              |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 21.01.2026       |                    |                      |
| 16             | 2         | 2          | Macaulay's method for slope and deflection, application to cantilever and                                     | Lecture Note              |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min & Assignment-10 min | 27.01.2026       |                    |                      |
| 17             | 3         | 2          | Determinate and Indeterminate structures (Fixed and Continuous Beam)  | Lecture Note              | <a href="https://youtu.be/tukC1r0Q7So?si=SyVpmX2H4YvpsmzJ">https://youtu.be/tukC1r0Q7So?si=SyVpmX2H4YvpsmzJ</a> | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 28.01.2026       |                    |                      |
| 18             | 3         | 4          | Concept of Determinate and Indeterminate structures   | Lecture Note              |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 29.01.2026       |                    |                      |
| 19             | 3         | 4          | Concept of fixity, effect of fixity, advantages and disadvantages of fixed beam over                          | Lecture Note              |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 02.02.2026       |                    |                      |
| 20             | 3         | 4          | Principle of superposition, Fixed end moments from first principle for beam subjected to point load, UDL over | Lecture Note              |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts                             | 03.02.2026       |                    |                      |
| 21             | 3         | 4          | Application of standard formulae in finding end moments, end reactions and                                    | Ramamrutham. S/Khurmi, R. |   | 1-Previous class topic Review-5 min<br>2- PPT/Smart board-15 min<br>3-Lecturer-30                | 04.02.2026       |                    |                      |

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| 22                             | 3         | 1          | Definition, effect of continuity, nature of moments induced due to continuity, concept                         | Ramamrutham. S/Khurmi, R. S |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 09.02.2026           |                             |                               |
| <b>LE<br/>CT<br/>UR<br/>EN</b> | <b>CO</b> | <b>BTL</b> | <b>TOPIC TO BE<br/>COVERED</b>   |                             | <b>WEB REFERENCE IF<br/>ANY</b>   | <b>TEACHING<br/>LEARNING<br/>METHOD</b>   | <b>PLAN<br/>DATE</b> | <b>ACTIO<br/>N<br/>DATE</b> | <b>REVIE<br/>W BY<br/>HOD</b> |
| 23                             | 3         | 2          | Definition, effect of continuity, nature of moments induced due  | Ramamrutham. S/Khurmi, R. S |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 10.02.2026           |                             |                               |
| 24                             | 3         | 2          | Clapeyron's theorem of three moment (no derivation), Application of Clapeyron's theorem                        | Lecture Note                |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 11.02.2026           |                             |                               |
| 25                             | 3         | 2          | Concept of influence line diagram (ILD)  | Lecture Note                |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 16.02.2026           |                             |                               |
| 26                             | 3         | 3          | Concept of influence line diagram (ILD)  | Lecture Note                |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min & Assignment-10 min | 17.02.2026           |                             |                               |
| 27                             | 4         | 3          | Moment distribution method   | Ramamrutham. S/Khurmi, R. S | <a href="https://youtu.be/sn_QqH96ks?si=VQi6RM5IT_e-wtut">https://youtu.be/sn_QqH96ks?si=VQi6RM5IT_e-wtut</a> | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 18.02.2026           |                             |                               |
| 28                             | 4         | 2          | Introduction to moment distribution method, sign convention. Carry   | Lecture Note                |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 23.02.2026           |                             |                               |
| 29                             | 4         | 2          | Introduction to moment distribution method, sign convention. Carry   | Lecture Note                |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts                             | 24.02.2026           |                             |                               |
| 30                             | 4         | 2          | Application of moment distribution method to various types of continuous                                       | Lecture Note                |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 25.02.2026           |                             |                               |
| 31                             | 4         | 4          | Application of moment distribution method to various types of continuous beams subjected to concentrated loads | Lecture Note                |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 02.03.2026           |                             |                               |
| 32                             | 4         | 4          | Application of moment distribution method to various types of continuous                                       | Lecture Note                |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 05.03.2026           |                             |                               |
| 33                             | 4         | 4          | Application of moment distribution method to various types of continuous                                       | Lecture Note                |   | 1-Previous class topic<br>Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                     | 06.03.2026           |                             |                               |

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| 34             | 4         | 4          | Introduction to portal frames – Symmetrical and unsymmetrical portal frames with the                             | Ramamrutham. S/Khurmi, R. S |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                                    | 09.03.2026       |                    |                      |
| <b>LECTURE</b> | <b>CO</b> | <b>BTL</b> | <b>TOPIC TO BE COVERED</b>   |                             | <b>WEBREFERENCE IF ANY</b>  | <b>TEACHING LEARNING METHOD</b>   | <b>PLAN DATE</b> | <b>ACTION DATE</b> | <b>REVIEW BY HOD</b> |
| 35             | 4         |            | Introduction to portal frames – Symmetrical and unsymmetrical portal frames with the                             | Ramamrutham. S/Khurmi, R. S |   | 1-Previous class topic Review-5 min<br>2-Lecturer-<br>3-Doubts  | 10.03.2026       |                    |                      |
| 36             | 4         | 2          | Introduction to portal frames – Symmetrical and unsymmetrical portal frames with the concept of Bays and stories | Ramamrutham. S/Khurmi, R. S |   | 1-Previous class topic Review-5 min<br>2- PPT/Smart board-15 min<br>3-Lecturer-<br>4-Doubts & Assignment-10 min | 11.03.2026       |                    |                      |
| 37             | 5         | 2          | Simple trusses   | Ramamrutham. S/Khurmi, R. S | <a href="https://youtu.be/3-4wNORPjXY?si=56DMkrdeBP_sfOtm">https://youtu.be/3-4wNORPjXY?si=56DMkrdeBP_sfOtm</a> | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                                    | 16.03.2026       |                    |                      |
| 38             | 5         | 2          | Types of trusses (Simple, Fink, compound fink, French truss)   | Lecture Note                |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                                    | 17.03.2026       |                    |                      |
| 39             | 5         | 2          | light truss, King post and Queen post truss)   | Lecture Note                |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                                    | 18.03.2026       |                    |                      |
| 40             | 5         | 2          | Calculate support reactions for trusses subjected to point   | Lecture Note                |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                                    | 23.03.2026       |                    |                      |
| 41             | 5         | 1          | Calculate support reactions for trusses subjected to point   | Lecture Note                |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                                    | 24.03.2026       |                    |                      |
| 42             | 5         | 3          | Calculate support reactions for trusses subjected to point load at joints  | Lecture Note                |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                                    | 30.03.2026       |                    |                      |
| 43             | 5         |            | Calculate forces in members of truss using Method of   | Lecture Note                |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                                    | 31.03.2026       |                    |                      |
| 44             | 5         | 1          | Calculate forces in members of truss using Method of joints and Method of  | Lecture Note                |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts -10 min                                    | 02.04.2026       |                    |                      |
| 45             | 5         | 1          | Calculate forces in members of truss using Method of joints and Method of  | Lecture Note                |   | 1-Previous class topic Review-5 min<br>2-Lecturer-45 min<br>3-Doubts & Assignment-10 min                        | 06.04.2026       |                    |                      |

Principal

Faculty

HOD, Civil Engineering