**D.Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY**

**Set-: I**

**Q. Paper Code:**

**22CE301501**

**KASABA BAWADA KOLHAPUR-416006**

**(An Autonomous Institute)**

T. Y. B. Tech CIVIL

**END SEMESTER EXAMINATION (ESE), DEC. – 2022**

Course Name: Theory of structures Course Code: 201CEL301

Seat No:

**Day and Date: Tuesday, 6.12.2022**

**Time: 2.00 pm to 4.00 pm Max. Marks- 50**

1. *Question No. 1&2 is compulsory.*
2. *Figure to the right indicate full marks.*
3. *Assume suitable data if necessary*

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| **BT** | **CO’s** | **Q.No.** |  | | **Marks** |
|  |  | **Q.1** | **All Questions are compulsory** | | **20** |
| **3** | **CO1** | **a** | Find Static and kinematic indeterminacy of structures |  | **4** |
| **3** | **CO2** | **b** | Calculate support reaction at B for propped cantilever shown below use consistent deformation method |  | **8** |
| **3** | **CO2** | c | Calculate all support moment for continuous beam shown below draw BMD use Three moment theorem. |  | **8** |
|  |  | **Q.2** | **All Questions are compulsory** | | **10** |
| **3** | **CO3** | **a**  a | Calculate all support moments for continuous beam shown below use slope deflection method    **OR**  Calculate all support moments for continuous beam shown below use slope deflection method |  |  |
|  | | | | | |
|  |  | **Q.3** | **All Questions are compulsory** | | **10** |
| **3** | **CO3** | **a**  **a** | Calculate all support moments for continuous beam shown below moment distribution method    **OR**  Calculate all support moments for continuous beam shown below moment distribution method |  |  |
|  | | | | | |
|  |  | **Q.4** | **Attempt any two out of three questions** | | **10** |
| **2** | **CO4** | **a** | Define Maxwell’s reciprocal theorem with suitable example |  | **5** |
| **b** | Describe Castigliano’s theorem of minimum energy with suitable example |  | **5** |
| **c** | Describe unit load method |  | **5** |

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