

**NPTEL course offered by IIT Madras
Computer methods of analysis of offshore structures**

Tutorial 1

Answer all questions

Total marks: 25

Part A

1. To solve structural models that are statically indeterminate, state one of the important requirements.
2. List basic assumptions common to both stiffness method and flexibility method
3. What is the fundamental difference between stiffness and flexibility methods in formulating the mathematical model?
4. Explain static indeterminacy
5. Explain kinematic indeterminacy
6. What are important indicators while solving a statically indeterminate problem?
7. Highlight salient differences between flexibility and stiffness approaches in solving the statically indeterminate systems
8. List the factors that are important to formulate and solve the problem using computer methods
9. Explain vertically partitioned, horizontally partitioned and cross-partitioned matrices.
10. Show the idealized beam model, used for deriving stiffness coefficients