

Roll No. ....

**22607**

**M. Tech. 1st Semester (ME) CBCS Scheme  
Examination – January, 2023  
COMPUTATIONAL FLUID DYNAMICS**

Paper : MTME21D3

*Time : Three hours ]*

*[ Maximum Marks : 100*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

*Note : All questions carry equal marks. Attempt any five questions.*

1. Compare the *three* basic approaches in engineering solving the problem analytically. 20
2. What is Beam advance in computational technique ? How it is used, discuss. 20
3. What is the standard procedure for formulating a problem physical ? Discuss. 20
4. Explain the basic of finite difference method. 20
5. Discuss the Steady-state problem of one dimensional heat conduction transfer through a pin. 20

6. What is Explicit and implicit methods ? Explain. 20
7. Discuss the calculation of boundary layer over a flat plate. 20
8. Explain the Numerical algorithm for solving complete Navier-Stokes equation. 20