[EURME-722]
B.Tech. Degree Examination
Mechanical Engineering
VII SEMESTER

COMPUTATIONAL FLUID DYNAMICS
(Effective from the admitted batch 2011–12 onwards)

Time: 3 Hours  Max.Marks: 60

Instructions:  Each Unit carries 12 marks.
Answer all units choosing one question from each unit.
All parts of the unit must be answered in one place only.
Figures in the right hand margin indicate marks allotted.

UNIT-I

1. Derive the equation for viscous flow  12

   OR

2. Explain how you categorize the partial differential equations and also elaborate its importance with an application  12

UNIT-II

3. Explain the concept of stability criterion in CFD  12

   OR

4. Explain the numerical method approach for Parabolic equations  12

UNIT-III

5. Explain briefly about the governing equations suited for CFD  12

   OR

6. Explain about the Unstructured Meshes  12

UNIT-IV

7. Explain space marching procedure of solution for steady inviscid flow using Lax-Wendroff technique  12
OR

8. Explain about the Alternating-Direct-Impact (ADI) technique

UNIT-V

9. Explain about the different types of turbulent models for CFD simulations

OR

10. Discuss turbulent diffusivity based on the Baldwin Lomax model

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