

Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
M.Tech I Year I Semester Regular & Supplementary Examinations May/June-2022
ADVANCED FLUID DYNAMICS

(Thermal Engineering)

Time: 3 hours

Max. Marks:60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 How would you describe the following: L1 12M
- (i) Bernoulli's equation
- (ii) Three dimensional flow
- (iii) Laminar flow
- (iv) Viscous flow

OR

- 2 Discuss in detail about the derivation of momentum equation by using integral and differential approach. L5 12M

UNIT-II

- 3 Discuss in detail about the irrotational flow and derived equations. L5 12M

OR

- 4 What are the application of empirical relation to various geometries for laminar and turbulent flows and explain in detail. L1 12M

UNIT-III

- 5 Evaluate in detail about the laminar boundary layers. L6 12M

OR

- 6 Explain in detail about the boundary layer equation. L1 12M

UNIT-IV

- 7 Explain the characteristics of turbulent flow. L1 12M

OR

- 8 Derive the governing equation for turbulent flow. L5 12M

UNIT-V

- 9 Discuss in detail about the layout of fluid flow experiments with suitable sketch. L5 12M

OR

- 10 Explain the importance of data analysis with some application. L1 12M

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