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Code No: 155SP

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, March - 2021

AERODYNAMICS - I
(Aeronautical Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

1. Derive the energy equation with neat sketch. [15]
2. Discuss about the role of viscosity, enthalpy, specific heats and temperature in Aerodynamics. [15]
3. Derive the velocity potential and stream function of flow over Rankine oval shape. [15]
4. Discuss about various types of elementary flows with neat sketches. [15]
5. Derive Prandtl's Lifting line equation. [15]
6. Explain about source panel and vortex lattice methods. [15]
7. Explain the wing body interaction and its effect on aerodynamic efficiency. [15]
8. Discuss briefly about Kutta-Zhukovasky transformation and circle to cambered airfoil. [15]

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