PRN:		Course Code :	CET2513

Third Year **B. Tech** End Semester Examination Winter 2023

Advanced Fluid Mechanics

Day and Date: wednesday, 06/12/2023 Max Marks: **50**

Time : 10.30 am to 12.30 PM Duration: **02** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt any two from the following**			
	a)	Derive continuity equation along stream line.	06	02	CO1
	b)	How are the flow classified?	06	02	CO1
	c)	For the following flow, Find the equation of streamline passing through (1,1).	06	02	CO1
Q.2		**Attempt any two from the following**			
	a)	Distinguish between Rotational and Irrotational flow.	06	02	CO2
	b)	What is velocity potential and stream function	06	02	CO2
	c)	State Bernoulli's theorem and the assumptions made in	06	02	CO2
Q.3		**Attempt the following**			
	a)	What do you understand by laminar and turbulent flow.	06	03	CO3
	b)	Write note on Prandtl Mixing length Theory	07	03	CO3
		or			
	b)	For steady flow in horizontal circular pipe, derive expression for shear stress and pressure drop.	07	03	CO3
Q.4		**Attempt the following**			
	a)	State concept of Boundary layer and state where it is useful.	06	03	CO4
	b)	Define and explain Nominal and displacement thickness.	07	03	CO4
		or			
	b)	Derive expression for Momentum thickness and energy thickness.	07	03	CO4

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