

Paper code P119-121 (T1)

OCTOBER 2019 / INSEM (T1)

F. Y. M. TECH. (Civil-WREE) (SEMESTER - I)

COURSE NAME: Advanced Fluid Mechanics

COURSE CODE: CVPA11181

(PATTERN 2018:R1)

Time: [1 Hour]

[Max. Marks: 20]

Solution and Marking Scheme

Q.1		$\Psi = \frac{q_1}{2\pi} \theta_1 - \frac{q_2}{2\pi} \theta_2 = -4.263 \text{ m}^2/\text{s}$	2
		$u = -\frac{\partial \psi}{\partial y} = -\frac{2}{\pi}$	3
		$v = \frac{\partial \psi}{\partial x} = -\frac{11}{\pi}$	3
		$V = 3.55 \text{ m/s}$	1
		$P = -12.675$	1
		OR	
Q.2		Derivation	10
Q.3		Derivation	10
		OR	
Q.4		$U_{av} = 0.797 \text{ m/s}$	3
		$Q = 0.025 \text{ m}^3/\text{s}$	2
		$T_w = 5.1 \text{ N/m}^2$	3
		$f = 0.08$	2