**BBDNITM**

**MECHANICAL DEPARTMENT**

**SESSION(2018-19)**

**Subject- Fluid Mechanics [ RCE-303]**

**Assignment no. 3**

1. What do you understand by ideal flow? Discuss its importance?
2. Write a short note on source & sink pair & the doublet?
3. Derive Euler’s equation of motion?
4. State Bernoulli theorem for steady flow of an incompressible liquid?
5. Explain the principle of a venturimeter with a neat sketch?
6. A venturimeter having a diameter of 75mm at the throat & 150mm diameter at the enlarged & is installed in a horizontal pipeline 150mm in diameter carrying oil of specific gravity 0.9 .the difference of pressure in between enlarged end & the throat is 175mm in mercury as recorded by a U-tube ‘differential manometer. Determine the discharge through the pipe .assume the coefficient of discharge of the meter as .97?
7. Describe momentum equation. Where this equation is used?
8. Derive an expression for the force exerted by a flowing fluid on a pipe bend?