REGISTRATION NUMBER | | | | | | | | | | |

SRINIX COLLEGE OF ENGINEERING

1st INTERNAL EXAMINATION-2020-21

Subject-**FMHM** Semester-3rd Branch-**CIVIL**

Full Mark-60 Time-2.00Hrs

ANSWER ALL QUESTIONS (PART-A) **[2X6=12]**

1) (a) Fluids which do not follow the linear relationship between shear rate of deformation are termed as ……. Fluids.
   (b) Write down the formula to calculate the discharge of venturimeter.
   (c) The Renoylds no for flow of oil in a certain pipe is 640. Determine the Darcy-Weisbach factor f for this flow.
   (d) Write down the formula to calculate the loss of head at entrance of pipe.
   (e) Define equivalent of pipe.
   (f) Differentiate between ideal fluid and real fluid.

(**ANSWER ALL QUESTIONS (PART-B)** **[6×8=48]**

2) Discuss with a neat diagram showing various positions of G, B and M for different stability conditions for floating and submerged body.
3) What are the manometers? How the manometers are classified? Describe the U tube manometer.
4) Two large fixed parallel planes are 12 mm apart. The space between the surfaces is filled with oil of viscosity 0.972 Ns/m^2. A flat thin plate 0.25m^2 area moves through the oil at a velocity of 0.3m/s. Calculate the drag force
   a) When the plate is equidistant from both the planes.
   b) When the thin plate is at a distance 4mm from both the planes.
5) Write a short note of the following
   a) Fluid classification
   b) Flow net
6) The velocity components in a two dimensional flow are
   $U=y^3+6x-3x^2y$ $V=3xy^2-6y-x$
   Check whether the flow satisfies continuity and irrotationality.
7) Explain the constituents of Kaplan turbine and velocity triangle.
8) Explain the main parts of centrifugal pump.
9) Write a short note on pitot tube.