Regulation R18 **Subject code: 2P4DB**

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech IV Semester Regular Examinations, November 2020

Fluid Mechanics and Hydraulic Machines

(Mechanical Engineering)

Maximum Marks: 70 Date:05.11.2020 **Duration: 2 Hours**

Part-A

All the following questions carry equal marks **(10x1M=10 Marks)**

1 Define fluid Mechanics
2 Define Density
3 Define surface tension
4 State the Bernoulli's theorem.
5 Write one example of boundary layer concept.
6 Write one application of Reynold's number.
7 Write the application of Pitot tube.
8 Write the types body forces in a fluid.
9 Define the term cavitation.
10 Define the terms pacific speed for the turbine.

Part-B

Answer **ANY FIVE QUESTIONS** **(12MX 5=60Marks)**

11 Write the any six properties of fluids with units.
12 Derive equation of pressure in U-tube manometers with neat sketch.
13 Derive Bernoulli's equation from the Eulers equation of motion.
14 The water is flowing through a pipe having diameter of 20cm and 10cm at section1 and 2 respectively. The rate of flow through the pipe is 35 liters per sec. The section1 is 6m above the datum line and section2 is 4m above datumline. If the pressure at section1 is 39.24N/cm^2. Find the intensity of pressure at section2.
15 Describe Boundary Layer Concepts.
16 Derive the Darcy Weisbach equation.
17 Derive the expression for force exerted by the jet on a stationary vertical flat plate.
18 Explain hydro electric power station with neat sketch.
19 Draw and explain Reciprocating pump with neat sketch.
20 Differentiate between Reciprocating and Centrifugal pumps