SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B. Tech II Year I Semester Supplementary Examinations August-2021
FLUID MECHANICS
(Civil Engineering)

Time: 3 hours   Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1 a State Pascal's law. What do you understand the terms Absolute, Gauge, atmospheric   **4M**
      & vacuum Pressure?
   b Define Manometer. Briefly explain the types of manometers in detail?   **8M**

OR

2 a Derive expression for surface tension on liquid droplet and soap bubble.   **6M**
   b Write short notes on viscosity, kinematic viscosity and Newton's law of viscosity.   **6M**

UNIT-II

3 a Define stream line, streak line and path line, stream tube and control volume.   **6M**
   b Write a brief note on continuity equation for a one- dimensional flow.   **6M**

OR

4 a What is the relation between stream function and velocity potential function?   **7M**
   b Explain briefly the analysis of free liquid jets.   **5M**

UNIT-III

5 a Derive the expression for flow through pipes in series.   **6M**
   b Derive the expression for flow through parallel pipes.   **6M**

OR

6 a Find the loss of head when a pipe of diameter 200 mm is suddenly enlarged to a   **8M**
      diameter of 400 mm. The rate of flow of water through the pipe is 250 lit/s.
   b Derive the expression for head loss in pipes due to friction by chezy's formula   **4M**

UNIT-IV

7 a What are the advantages of V-Notch over a rectangular notch?   **6M**
   b Differentiate between sharp-crested weir and Board-crested weir.   **6M**

OR

8 a Find the discharge over a triangular notch of angle 60 when the head over the V-   **6M**
      Notch is 0.3M assumes Cd is 0.6.
   b What is a notch and a weir? Classify the Notchs.   **6M**

UNIT-V

9 a Explain the Reynolds's experiment with neat sketch.   **6M**
   b Difference between Venturimeter and orifice meter.   **6M**

OR

10 a What is the function pitot tube with neat sketch?   **4M**
   b Explain the separation of Boundary layer.   **8M**

*** END ***