

**B.TECH. SEM -VI PRODUCTION 2014 COURSE (CBCS) :
WINTER - 2017**

SUBJECT: FLUID MECHANICS & MACHINE TOOL CONTROL SYSTEM

Day: **Thursday**
Date: **23/11/2017**

Time: **10.00 AM TO 01.00 PM**
Max. Marks: 60

W-2017-2236

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use of non-programmable **CALCULATOR** is allowed.

Q.1 Discuss with neat sketch the concept of surface tension and capillarity. (10)

OR

Q.1 Explain with neat sketch the vertical single column manometer. (10)

Q.2 Derive the Bernoulli's equation from Euler's equation and state the assumptions made. (10)

OR

Q.2 Explain with neat sketch the venturimeter and derive the formula for theoretical discharge. (10)

Q.3 Explain with neat sketch the working of single stage reciprocating air compressor. (10)

OR

Q.3 Draw the ISO symbols for following: (10)
i) Pneumatic motor uni-directional ii) 3/2 D.C valve normally closed
iii) 5/2 D.C valve iv) Non return flow control valve
v) Quick exhaust valve

Q.4 Explain with neat sketch the sequence valve? (10)

OR

Q.4 Explain with neat sketch the working of double acting cylinder (Actuator)? (10)

Q.5 Explain with neat sketch the hydraulic circuit for shaper machine? (10)

OR

Q.5 Explain with neat sketch the hydraulic meter-out circuit? (10)

Q.6 Distinguish between the Air and Electric motor (10)

OR

Q.6 Explain with neat sketch any one hydro-pneumatic circuit? (10)

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