

B.Tech. SEM -VI Production 2014 Course (CBCS) : SUMMER - 2019
SUBJECT: FLUID MECHANICS AND MACHINE TOOL CONTROL SYSTEM

Day : Wednesday
Date : 29/05/2019

Time : 02.30 PM TO 05.30 PM
Max Marks : 60

S-2019-2768

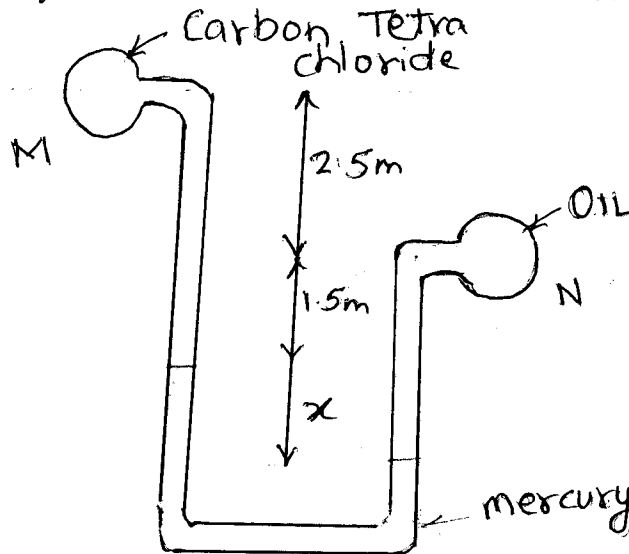
N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labeled diagram **WHEREVER** necessary.
- 4) Assume suitable data, if necessary.

Q.1 Explain with neat sketch the construction and working of U tube differential Manometer. (10)

OR

Q.1 As shown in figure, pipe M contains carbon tetra chloride of specific gravity 1.594 under a pressure of 1.05 kgf/cm^2 and pipe N contains oil of specific gravity 0.8. If the pressure in the pipe N is 1.75 kgf/cm^2 and the manometric fluid is mercury. Find the difference x between the levels of mercury (10)



Q.2 Explain in detail with neat the orificemeter. (10)

OR

Q.2 A vertical pipe line 2 m long tapers top to bottom from 80 mm diameter to 180 mm diameter. Find the difference in pressure in kN/m^2 , if the discharge through the pipe is 30 lit/sec. (10)

Q.3 Discuss the various sealing and packing devices used in hydraulic circuits. (10)

OR

Q.3 Discuss any 5 ISO symbols used in hydraulic and pneumatic circuits. (10)

Q.4 Explain the construction and working of pressure reducing type pressure control valve. (10)

OR

Q.4 Discuss with neat sketch the flow control valve. (10)

P. T. O.

- Q.5 a) Explain in detail with neat sketch the accumulator and intensifier units. (05)
- b) Discuss with neat sketch the Bi-stable flip-flop unit. (05)

OR

- Q.5 Discuss the working circuit of a hydraulic shaper machine. (10)
- Q.6 Explain in detail with neat sketch the rotary type vane compressor. (10)

OR

- Q.6 Carry out the comparison between air and electric motor. Discuss with neat sketch the vane type air motor. (10)

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