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Courses » Fire Protection, Services and Maintenance Management of Building

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Unit 8 - Week 7

Course outline

How to access the portal

Week 1

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Week 7

- Flow in Pipe Networks and Fixture Units
- Flow in Pipe Networks (Continued) and Design of Water Supply Distribution System
- Design of Water Supply Distribution System (Continued) and Flow in Waste Water pipes
- Electrical Systems (introduction)
- Design of Electrical Systems
- PDF of lecture slides for week 7
- Quiz : Assignment 7
- Solution of Assignment-7

Week 8

Week 9

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Week 12

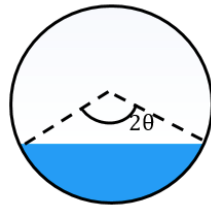
Assignment 7

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2018-09-19, 23:59 IST.

Please try to get all your doubts related to missing data, assignment answering and submission clarified before the due date in order to minimize the number of re-evaluations. In multiple choice questions, please mark the closest answer in case of minor differences due to rounding off the numbers.

- 1) Consider a circular pipe running partially filled with water as shown below. If the pipe roughness coefficient $C=100$, internal radius of the pipe is 25 mm. Assume that the measured head loss over a stretch of 5m is 100 mm and the included angle 2θ in the figure is 135°



Determine hydraulic radius (in mm).

No, the answer is incorrect.

Score: 0

Accepted Answers:
(Type: Range) 8.0,9.5

3 points

- 2) Determine the flow velocity (in m/s) for the information given in question 1.

- 0.329
- 0.519
- 0.729
- 1.236

No, the answer is incorrect.

Score: 0

Accepted Answers:
0.519

2 points

- 3) Three pipes A, B and C are connected in parallel. The diameters, lengths and head losses of the pipes are given in the table below. Assume the roughness coefficient of each of the pipes to be 100.

Pipe	Diameters (mm)	Length (m)	Head loss (m)
A	50	30	2
B	32	40	2
C	25	50	2

Determine the discharge in pipe A (in kL/day)

- 75.6
- 155.4
- 211.3
- 298.6

No, the answer is incorrect.

Score: 0

Accepted Answers:
211.3

2 points

- 4) Based on the information given in question 3, determine the cumulative discharge (cu.m/s), summing up the individual discharges in each pipe.

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5) The electrical services system is more efficient when reactive load is more compared to resistive load. State True/False. 1 point

- True
- False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

6) Water seals are provided in waste water pipe networks to prevent the ingress of obnoxious gases. State True/False. 1 point

- True
- False

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

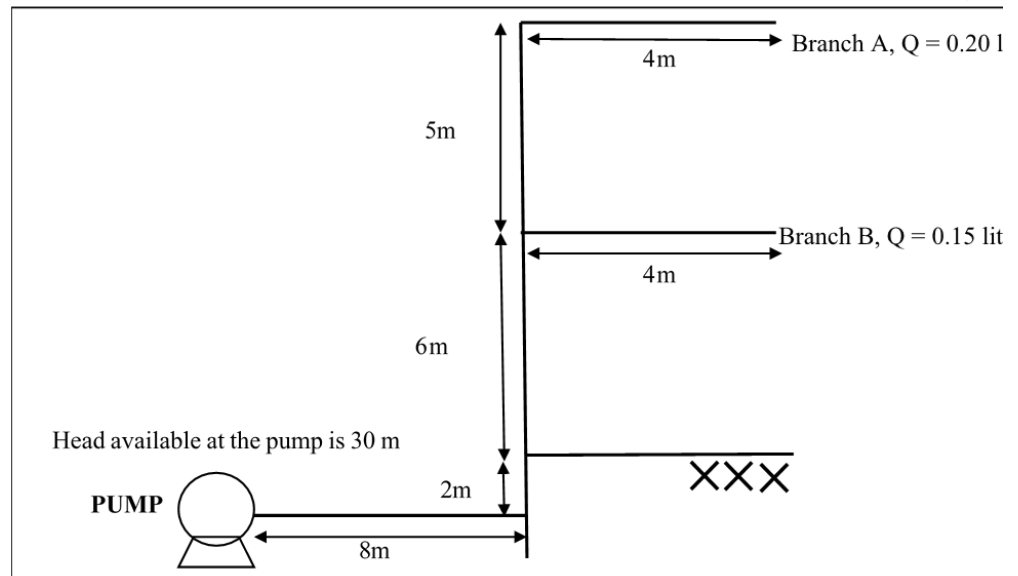
7) Which of the following are helpful in preventing siphonage of the water seals 1 point

- A) Vent pipe is parallel to the main water pipe/stack
- B) Large sized main pipes
- Both A and B
- Neither A nor B

No, the answer is incorrect.
Score: 0

Accepted Answers:
Both A and B

8) In a water supply system, the main as well as branch pipes with heights as shown below are to be designed. The available head at the 2 points inlet (at bottom) is 30 m. Discharges required in branches A and B are shown in the figure. Roughness coefficient of pipe = 100. Answer the following 3 questions based on given information.



Effective length of pipe for branch A (in m)

- 40.25
- 32.5
- 28.46
- 25.32

No, the answer is incorrect.
Score: 0

Accepted Answers:
32.5

9) Available hydraulic head (in m) in branch B 2 points

- 30
- 28
- 22
- 18

No, the answer is incorrect.
Score: 0

Accepted Answers:
22

10) Slope of head line for branch A 3 points

- 0.523
- 0.415

- 0.308
- 0.222

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.523

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