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Courses » Fire Protection, Services and Maintenance Management of Building

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# Unit 6 - Week 5

## Course outline

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Week 1

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**Week 5**

- Introduction to System and Flow Systems
- Water Supply System: Constant Demand
- Water Supply System: Variable Demand & Diversity Factor
- Diversity factor (Continued)
- Control Systems
- PDF of lecture slides for week 5
- Quiz : Assianment 5

## Assignment 5

The due date for submitting this assignment has passed.

As per our records you have not submitted this **Due on 2018-09-12, 23:59 IST.** assignment.

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. Please mark the closest answer in case of making approximations while performing calculations.

Answer Q. No. (1-3) based on the following passage and table

In a small nursing home, in a semi intensive care unit, some patients need oxygen supply, rest may not require. The unit has 8 beds.

From experience of a similar unit having 10 beds, following data (in table) for a period of 1040 days has been collected. The data pertains to the frequency of oxygen supply to beds.

1)

3 points

Beds requiring oxygen	Frequency of use (days)
0	10
1	15
2	100
3	250
4	300
5	250
6	80
7	15
8	10

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 0.29 0.40 0.51 0.69

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.40

2) Probability of finding oxygen supply to no bed in the semi intensive care unit.[Remember that the semi intensive care unit has 8 beds only] **4 points**

 0.0165 0.056 0.112 0.224

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.0165

3) If the management has decided to restrict the capacity of supply system to 5 beds at present, what is the probability that the unit will not be able to admit a patient for lack of beds having oxygen supply? **5 points**

 0.125 0.176 0.225 0.320

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.176

Answer Q. No. (4-5) based on the following passage and table

Given in the following table is the hourly demand of water supply in an estate. It was decided by the local governing body to supply water for only 4 hours in the morning at a rate of  $1200 \times 10^3$  lit/h from 6 AM to 10 AM

4)

Time from (hrs)	Time to (hrs)	Hourly Demand rate (in $10^3$ lit/h)
0	1	40
1	2	
2	3	
3	4	
4	5	80
5	6	160
6	7	450
7	8	
8	9	
9	10	
10	11	200
11	12	120
12	13	450
13	14	140
14	15	
15	16	
16	17	450
17	18	180
18	19	
19	20	140
20	21	
21	22	
22	23	80
23	24	40

Calculate the minimum constant supply rate (in  $10^3$  lit/h) required to satisfy the demand (i.e. the supply is not intermittent and is provided throughout the day)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) 200

4 points

5) Determine the difference between cumulative supply and cumulative demand (in  $10^3$  lit) at 10 th hour (i.e. Time interval from 9 hrs to 10 hrs in above table) for the given intermittent supply rate.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Range) 2500,2700

4 points

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