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NIPTEL

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Courses » Fire Protection, Services and Maintenance Management of Building

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Unit 6 - Week 5

Course outline

How to access the portal

Week 1

Week 2

Week 3

Week 4

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 week5
- Quiz : Assignment 5

Assignment 5

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

Due on 2018-09-12, 23:59 IST.

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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
Q	10

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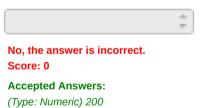


Funded by

Week 8	0.29
Week 9	0.40
Week 10	0.51
WEEK 10	0.69
Week 11	No, the answer is incorrect.
Week 12	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]
	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 5 points 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?
	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 1200×10^3 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		
7	8	450	
8	9		
9	10		
10	11	200	
11	12		
12	13	120	
13	14	450	
14	15	140	
15	16		
16	17		
17	18	450	
18	19	180	
19	20		
20	21	140	
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)



4 points

5) Determine the difference between cumulative supply and cumulative demand (in 10³ lit) at 10 th hour (i.e. Time interval from 9 hrs to 10 hrs in above table) for the given intermittent supply rate.

