

CE 412 A: Water Supply & Wastewater Disposal Systems

Tutorial 1 – 2019-20 II

TUTORIAL 3

Problem: A city with a population of 2 lakhs has to be supplied with water at 180 Ltrs/day per person. The probable hourly variation in the rate of demand is given in the table below:

Period of Day (In Hours)	Percentage of Average Hourly Flow Expected
0-1	15
1-2	15
2-3	15
3-4	20
4-5	25
5-6	40
6-7	80
7-8	120
8-9	180
9-10	220
10-11	220
11-12	150
12-13	100
13-14	80
14-15	60
15-16	110
16-17	150
17-18	180
18-19	180
19-20	16
20-21	14
21-22	80
22-23	45
23-24	15

Determine the capacity of the balancing reservoir to be provided for balancing the variable demand against a constant rate of pumping if the pumping is to be done only from 5 A.M. to 11 A.M. and 2 P.M. to 8 P.M. Also mention the rate of pumping required. Solve the problem using analytical method.