

L. D. COLLEGE OF ENGINEERING, AHMEDABAD (GTU)

6th Semester Civil Engineering - PDDC 2013 Batch

Subject Code & Name : X60602 - Civil Engineering Project-I

Sewage Treatment Plant

Date : 04-03-2016

Basic design data for Batch - 3, 4 & 5 :

a) A town having following population :

Year	Population
1976	1,25,000
1986	2,10,000
1996	3,25,000
2006	4,30,000

b) Design period : 20 Years

c) Peak Factor : 1.5

d) Wastewater Characteristic (BOD_5^{20}) : 270 mg/l

e) Total Suspended Solids in raw wastewater : 600 mg/l

f) Source of Disposal is River, which having High Flood Level is 105 M & Bed Level is 95 M at the site of disposal

g) Average Ground Level in the town : 106.5 M

h) The rate of water supply : 135 l/c/d at present

i) The source of water is River

j) The town has already built up Water Treatment Plant considering of design period 30 years

Design the treatment plant in two stage of 10 years. Workout the land requirement for plant and draw the sectional elevation and layout plant. Also prepare the design drawing of all units with dimensions. Calculate the BOD_5^{20} and SS of the final effluent and check whether it is complying the GPCB norms laid down for effluent disposal in river. In case it doesn't satisfy, modify the design properly.

----- ***** -----