

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- September 2016

M.Tech 1st Semester

COURSE CODE: 14M31CE116

MAX. MARKS: 15

COURSE NAME: Wastewater Treatment

COURSE CREDITS: 3

MAX. TIME: 1Hr

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Assume all necessary data suitably.

1. Draw schematic process flow sheet of conventional sewage treatment plant. Why treatability studies are performed? What are the objectives and advantages of flotation? Why mixing is provided in equalization tank? (5)

2. Design bar screen and screen chamber for municipal sewage treatment plant using following data:
 - (a) Population= 5 lakhs
 - (b) Spacing for bars= 30 mm
 - (c) Peak factor= 2.25

Assume any other necessary data suitably. Provide following information: Details of bar screen, dimensions of screen chamber, head loss. (5)

3. Design an equalization basin using following data:

Time (h)	1	2	3	4	5	6	7	8	9	10	11	12
Flow (m ³ /min)	2.0	7.2	7.5	6.7	8.3	9.3	20	25	31	27	24	20
Time (h)	13	14	15	16	17	18	19	20	21	22	23	24
Flow (m ³ /min)	21	19	15	10	6.5	7.6	7.2	6.8	5.5	4.5	4.0	3.0

(5)