

KKR & KSR Institute of Technology and Sciences

Vinjanampadu, Guntur, Andhra Pradesh-522017

Approved by AICTE, New Delhi and Permanent Affiliation from JNTUK, Kakinada

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Industrial visit to water treatment plant at Takkellapadu on 01/10/2022

Comprehensive Water Supply Improvement Scheme (Guntur)

Objective of the Industrial visit: The project involves implementation of comprehensive water supply improvement scheme in Guntur district. It includes implementation of water treatment plants at Takkellapadu (42 MLD) and at Sangam Jagarlamudi (25.02 MLD), clear water pumping mains, laying of DI pipe-33.683 km and HDPE pipe-295.435 km. The objective of the trip was to get to know the how the water treated by various methods before supplying.

About field visit: We were guided by a Supervisor who explained in details about the treatment of water. During the visit, we jotted down some notes & questioning the guide about the treatment. We learned the process i.e., They collecting the water from Krishna river. The capacity of that plant is 45MLD. It is a continuation process. They are adding the Alum for to treat the water. The percentage adding of alum is based on the turbidity of water. They will conduct the tests for every hour. They will divert the water to the reservoirs in the Guntur city. It is very interested to learn about the treatment plant.

Venue of the visit: Water Treatment plant Guntur municipal corporation

Takkellapadu,
Guntur district.
Andhra Pradesh – 52200
INDIA.

Guided by: D.Sundara rami reddy –Executive Engineer –Panchayitiraj
Sk.Babar – Assistant Engineer -Panchayitiraj

Faculty: A.Trisulapani – Assistant professor
A.Suri babu – Assistant professor
T.Neelima – Assistant professor
K.Sireesha – Assistant professor

Date & Time of visit: 01/10/2022 – 11.00 AM to 4.00 PM

Expenditure: By college buses and total expenditure 5,000/-

No of students participated: 70 no's

Benefits of the visit to students: The objective of municipal and industrial waste water treatment is to extract pollutants, remove toxicants, neutralise coarse particles, kill pathogens so that quality of discharged water is improved to reach the permissible level of water to be discharged into water bodies or for agricultural land.

By following seven steps often used in the large-scale treatment of water ,1 Screening.
...2 Aeration. ...

3 Coagulation and flocculation. ...4 Sedimentation. ...5 Filtration. ...6 Chlorination. ...7 Supplementary treatment.

A water treatment plant is a destination becomes where wastewater (water which is no longer fit for its current purpose) moves to once it leaves homes and businesses through sewage pipes. The sewage system contains miles of pipes below ground where wastewater flows to the treatment plant for processing.

Event photographs:

**GLNTUR MUNICIPAL CORPORATION
TAKKEELAPADU HEAD WATER WORKS**

DATE 01-10-2022

Indian Standard - Drinking Water - Specification (IS 10500:2012)

S.NO	Characteristic	Requirement	Acceptable Limit	Permissible Limit in the Absence of Alternate Source	Takkeelapadu HWW Water WASTEST 1. RESULT (Clear water)
1.	Turbidity		1 NTU	5 NTU	0.9
2.	PH		6.5 to 8.5	NO Relaxation	7.4
3.	EC Micro/Mhos/cm				670ms
4.	TDS mg/ltr		500 mg/ltr	2000 mg/ltr	320 mg/ltr
5.	Total Hardness as CaCO ₃ mg/ltr		200 mg/ltr	600 mg/ltr	120 mg/ltr
6.	Total Alkalinity as CaCO ₃ mg/ltr		200 mg/ltr	600 mg/ltr	130 mg/ltr
7.	Nitrites		NO Relaxation	NO Relaxation	Nil
8.	Ammonical Nitrogen <small>Prechlorination: 2PPM Post chlorination: 0.2 PPM</small>		NO Relaxation	NO Relaxation	Nil
9.	Chlorination		0.2 PPM	1.0 PPM	2 PPM
10.	H2S Paper Strip Test Vial 24 hr to 36 hr				Negative

If Water Colour is changes to Black, it indicates Water is contaminated. Other wise water is safe for Drinking

RAW WATER TURBIDITY: 7-6

→ 8 hours → 25.0 kgs → ALUM Balance 23.674 gms

→ 24 hours → 22.0 kgs → CYLINDERS BALANCE 5.14 gms

→ At per jar test 5 mg/lit

→ Alum usage per hour 9.33 kg/hour

→ OLD PLANT CYLINDER #100K 23.22

→ NEW PLANT CYLINDER #100K 23.22

→ NEW PLANT CYLINDER #100K 23.22

→ ALUM Balance 23.674 gms

→ CYLINDERS BALANCE 5.14 gms

→ Body cylinder - MS





