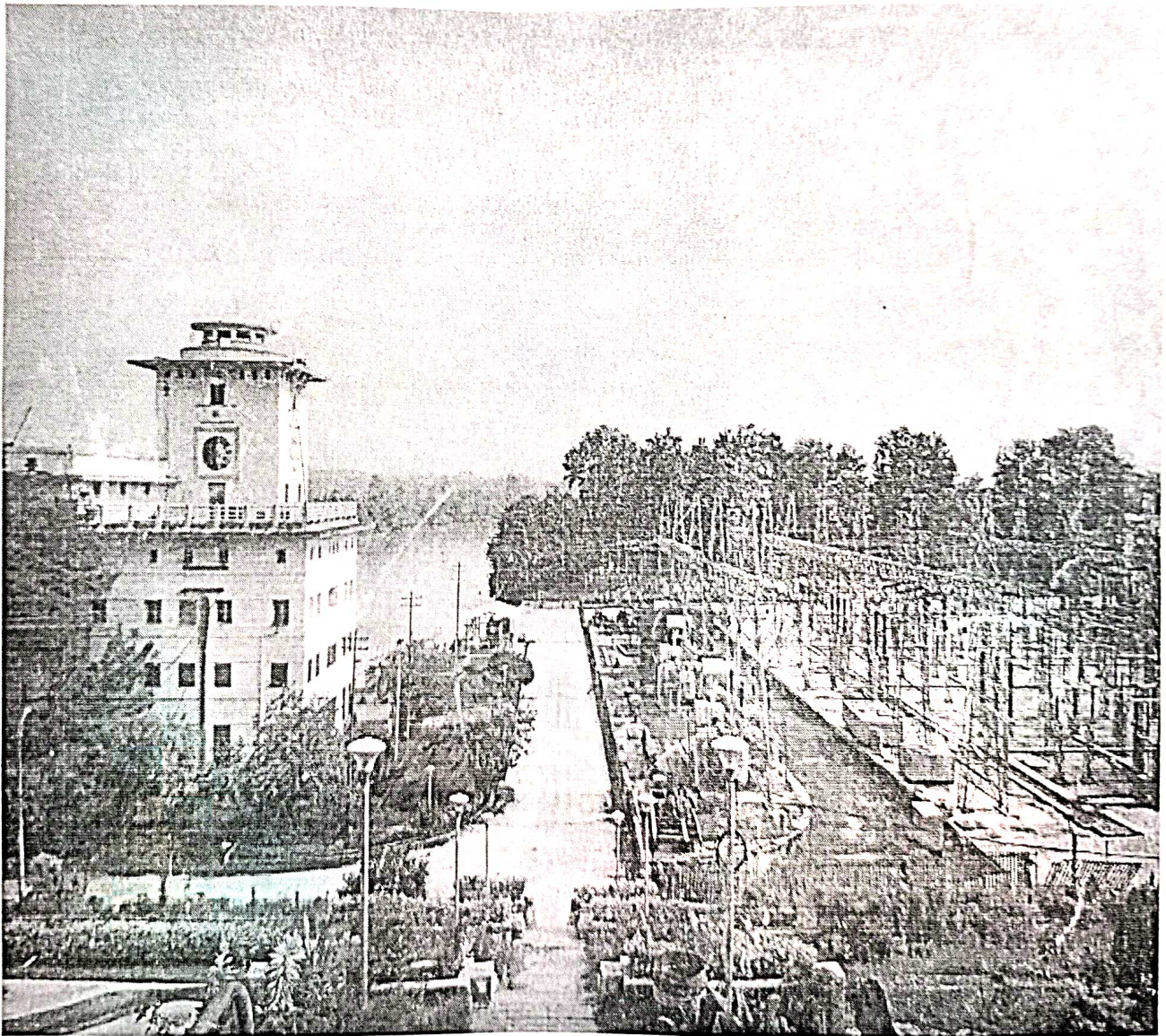


**Industrial Visit Report**  
**On**  
**Sharda Power House**  
**Lohiahead Khatima, Uttarakhand**  
**11<sup>th</sup> Novemeber,2021**



### **About the Visit:-**

Department of Civil Engineering organized an industrial visit to Sharda Power House Lohia head Khatima (Uttarakhand) for Diploma & B.Tech (Civil Engineering) with 64 students on 11-Nov-2021 (Thursday).

Students learn the various concepts, planning, design and construction aspects of hydro electric power generation and the distribution of power in different areas. Students also learned about Kaplan Turbine's working and how it works.

Sri Johar Singh AE (Test) (Switchyard Structure's) , Sri Naval Joshi JE(Test) (Control room and Protection), Sri Tanuj Kumar AE(Mech) (Turbine Floor) and Sri Neeraj Joshi JE(Electrical) (Intake) are present the site to explain the concepts of planning and design of Sharda power house. Everyone has been explained very well about all the components of the power plant. And how what is the function and how it worked.

Assistant Professor Mr.Kuldeep Kumar Soni and Mr. Ankit Kumar accompanied the visit and presented token of thanks to Site officials and engineers for their valuable assistance.

### **About the Sharda Power House:-**

Khatima Hydroelectric Project is erected in the Sharda River of Khatima village in the Udham Singh Nagar district of Uttarakhand in India. The power project is commissioned in 1956 with a total installed capacity of 41.4 MW. The hydroelectric basin, where the power plant is situated is Ganga Basin. The Type of Plant is like a Dam on a Canal and is having a Power Channel from Banbasa Barrage on Sharda River. The structure type of the power house in the plant is Barrage. The type of power house is Surface and the status of power house is Operational. The source of water for the generation of power in the plant is Sharda River. The Hydroelectric Region, where the power project is erected is in the Northern Hydroelectric Region of country.

The power project is owned by State Government and the operator of the power plant is Uttarakhand Jal Vidyut Nigam Limited (UJVNL). The beneficiary state of the power project is Uttarakhand. The power project is completed and started its generation of

power in 1956. There are three turbines and each turbine has a capacity of 13.8 MW. The type of turbine used in the plant is Kaplan. The maker of both Turbine and Generator of Plant is by the English Electric UK Uttarakhand and ERM by BHEL. The Unit Sizes of the plant is 41.4 MW having three units of 13.8 MW each. There are three units in operation and all the three units are commissioned.

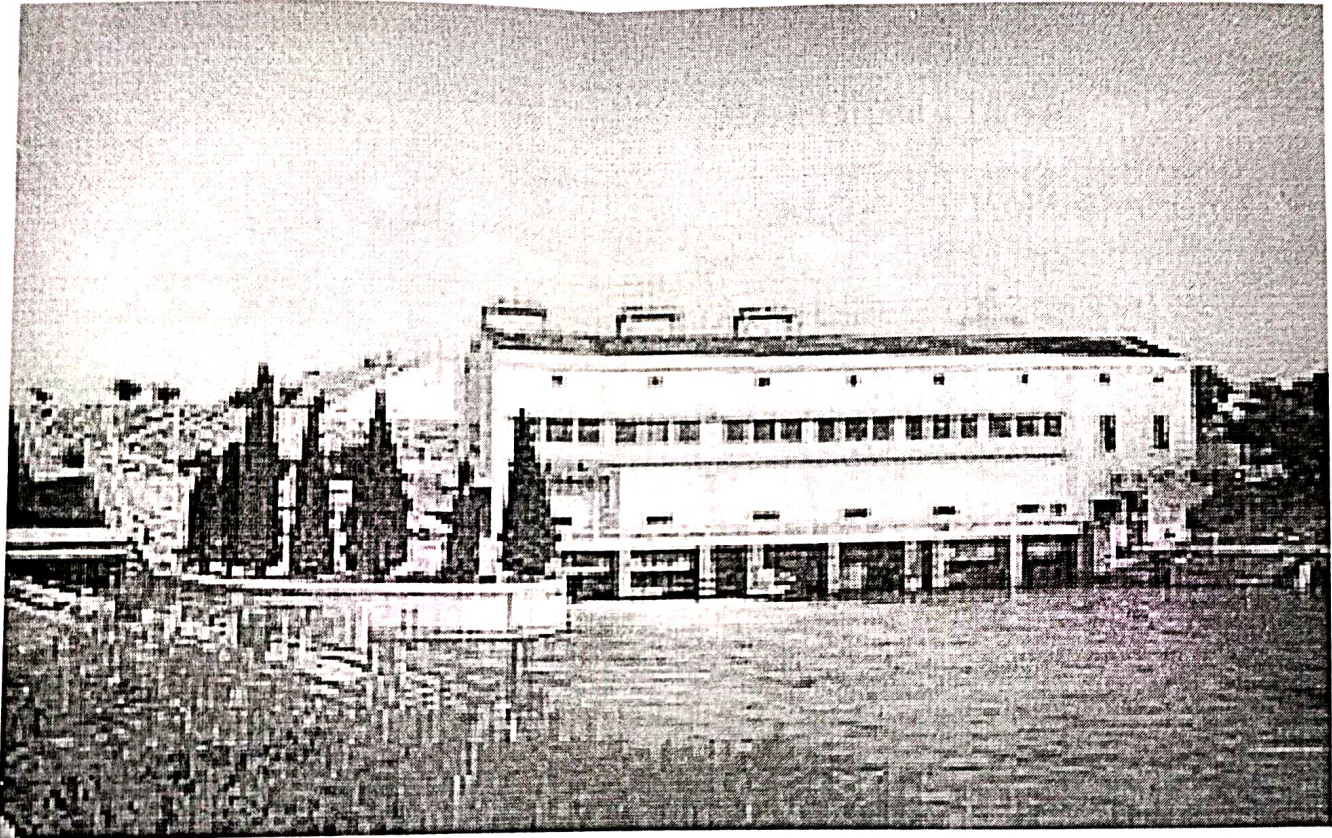


Fig:- Sharda Power Plant, Lohia Head, Uttarakhand

## SALIENT FEATRES

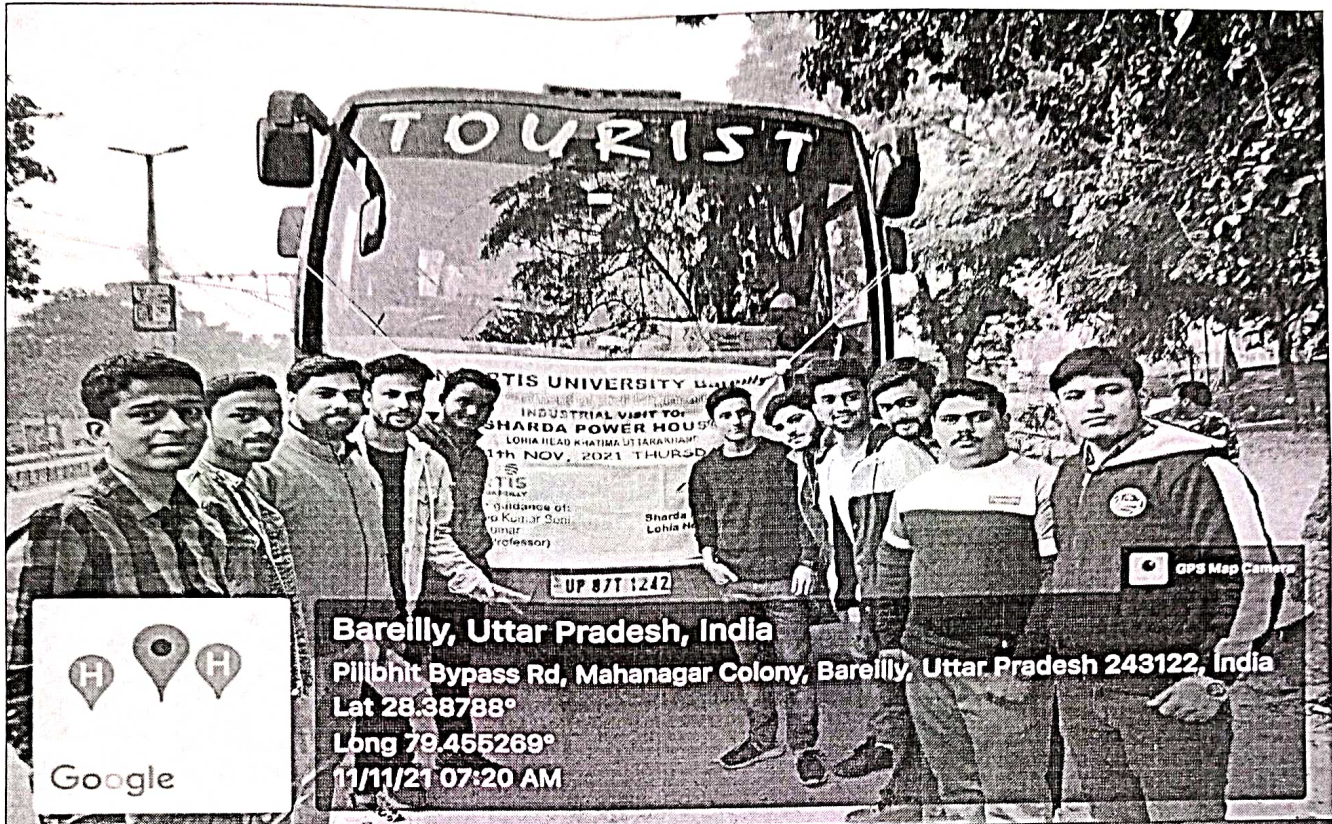
Installed Capacity	2x2 MW
Location	Near village Jaltala, Tehsil-Ukhimath, Dist-Rudraprayg
Commissioning Year	July 2020
Size of Power house	27m x 15.10m x 11.50m
Water Conducting System	Tunnel (399.5m) Power duct(93.5m) and Power channel(240.5m)
Power Channel Size	Rectangular Width 2.1m, Total Depth 3.05 m
Design Discharge	3.45 cumecs
Design Head	165.46 m
Turbine Type	Francis horizontal shaft
Turbine Output	2000 KW
Generator Type	Synchronous salient pole type
Generator Output	2000 KW, 3.3 KV, 1000 rpm, 0.8 pf
Main Transformer	3MVA, 3.3 KV/ 33 KV
Switchyard	33 KV
Design Energy	26.18 MU

## **PROJECT DETAILS**

- Hydroelectric Project Name – Khatima Hydroelectric Project
- Commission Date – 1956
- Approved Capacity in MW – 41.4 MW
- Installed Capacity in MW – 41.4 MW
- Hydroelectric Basin - Ganga Basin
- Type of Project – Major (greater than 25 MW)
- Type of Plant – Dam on a Canal, Power Channel from Banbasa Barrage on Sharda River
- Hydroelectric Development Type - Canal Drop
- Structure Type - Barrage
- Type of Powerhouse – Surface
- Status – Running
- Water Source – Sharda River
- Hydroelectric Region – Northern Hydroelectric Region.
- Owner – State Government
- Operating Company – Uttarakhand Jal Vidyut Nigam Limited (UJVNL)
- Address – Khatima, Udham Singh Nagar, Uttarakhand, India
- District - Udham Singh Nagar
- State – Uttarakhand
- Beneficiary States/ Union Territories – Uttarakhand and nearby States
- Completion of Power Project – 1956
- Number of Turbines – 3
- Capacity per Turbine – 13.8 MW

- **Type of Turbine – Kaplan**
- **Turbine Manufacturer – English electric UK Uttarakhand, ERM by BHEL**
- **Generator Manufacturer – English Electric Company Limited UK**
- **Unit Sizes – 41.4 MW (3 units x 13.8 MW)**
- **Total Units – 3**
- **Units Commissioned – All the three units are commissioned in 1956.**

# GLIPSMS OF VISIT



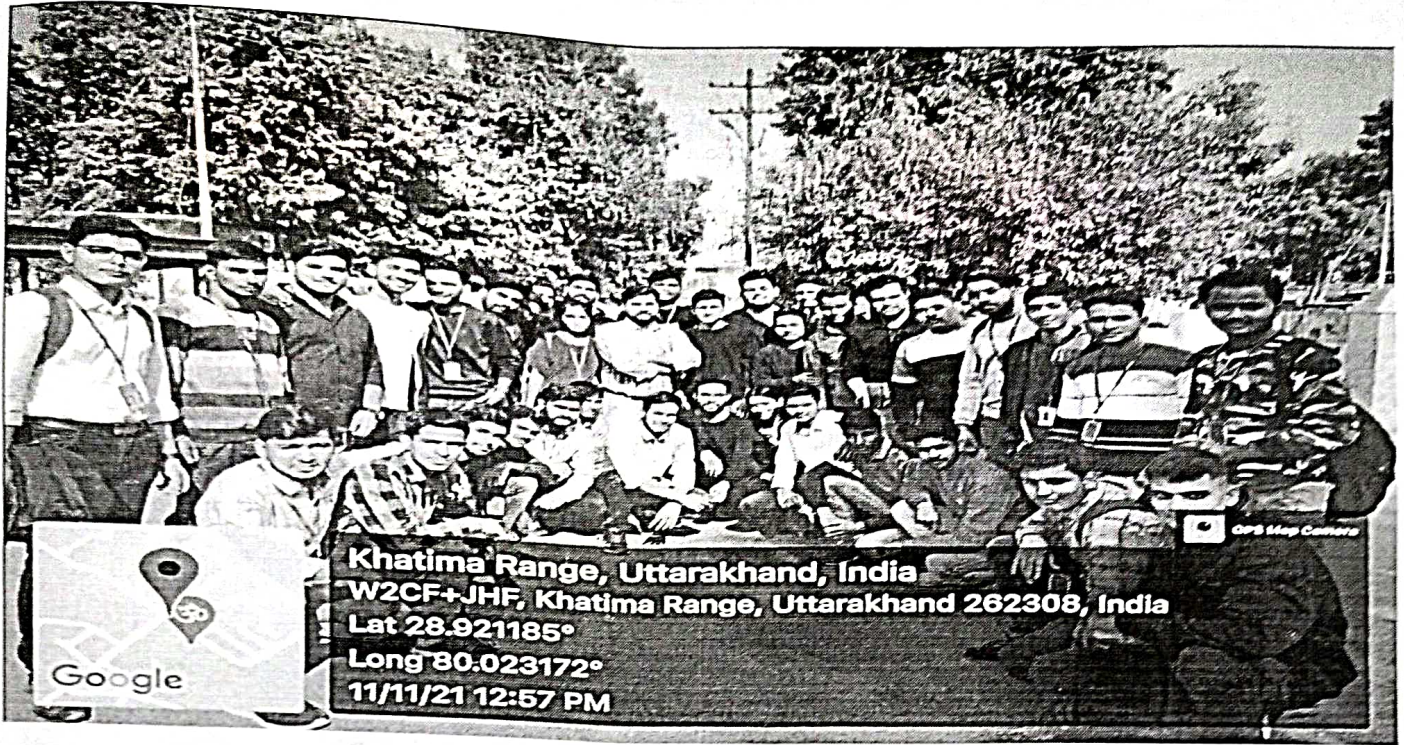
Google

**Bareilly, Uttar Pradesh, India**  
Pilibhit Bypass Rd, Mahanagar Colony, Bareilly, Uttar Pradesh 243122, India  
Lat 28.38788°  
Long 79.45269°  
11/11/21 07:20 AM



Genius I School P  
Google

**Rithora, Uttar Pradesh, India**  
16km, Pilibhit Rd, Near, Rithora, Uttar Pradesh 243407, India  
Lat 28.464211°  
Long 79.520004°  
11/11/21 07:47 AM



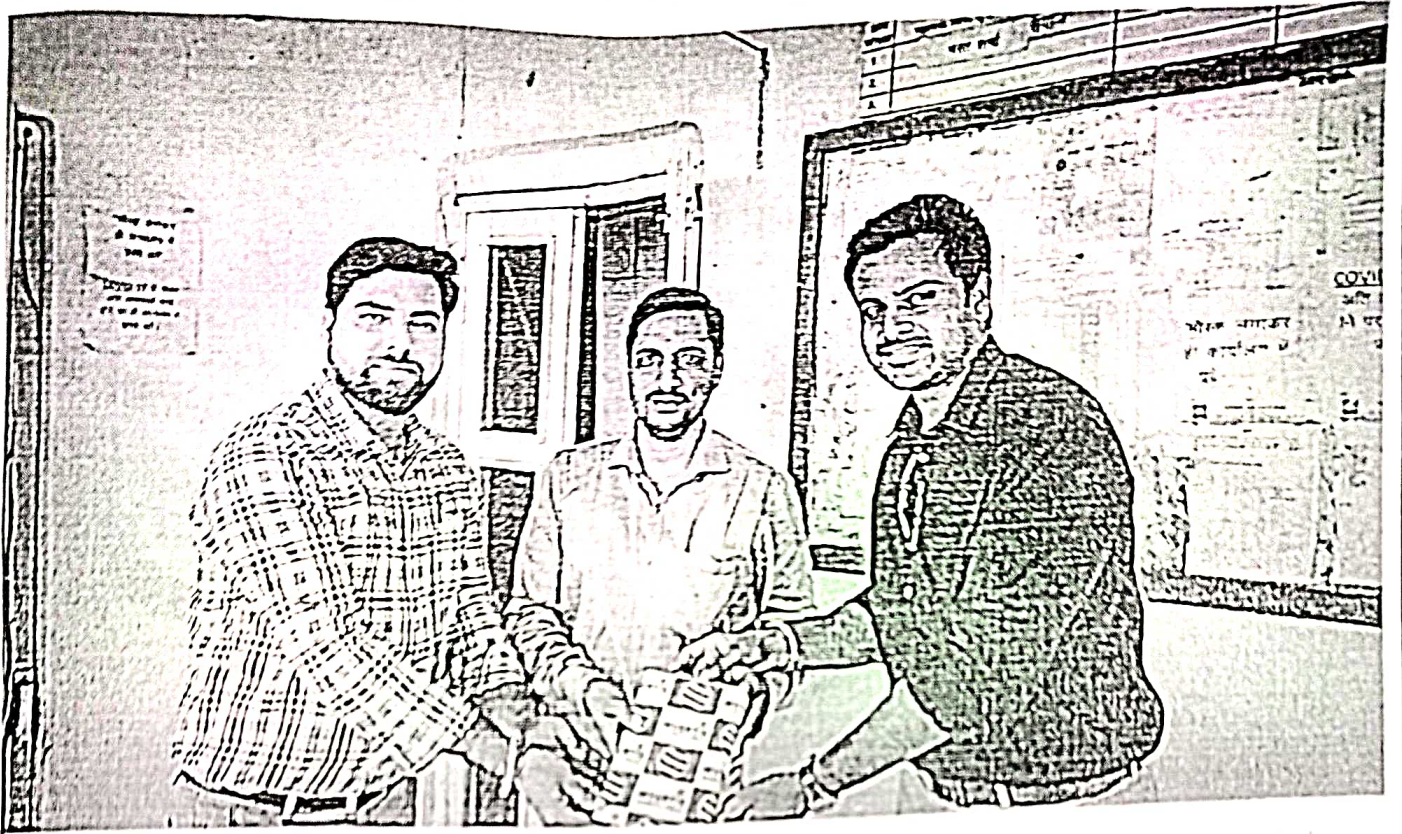




**Lohia Head, Uttarakhand, India**  
**Lohia Head Road, Lohia Head, Uttarakhand 262308, India**  
**Lat 28.922376°**  
**Long 80.021713°**  
**11/11/21 01:14 PM**



**Lohia Head, Uttarakhand, India**  
**Lohia Head Road, Lohia Head, Uttarakhand 262308, India**  
**Lat 28.92233°**  
**Long 80.021681°**  
**11/11/21 01:15 PM**



Dean  
Faculty of Engineering & Technology  
Invertis University  
Bareilly-243123, UP

Head  
Department of Civil Engineering  
Invertis University  
Bareilly-243123, UP

Registrar  
Invertis University  
Bareilly