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An
Educational virtual visit report
To
Hydroelectric power plant of-
Bhandardara, Ahmed-nagar

Under the gaidance of
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In partial fulfilment of
T.E mech. Sem-5

Savitribai phule pune university
2020-21

Mechanical Engineering of Department
R. H. Sapat college of engineering, Nashik.

About power plant

Name: Bhandardara hydroelectric project
location: village - Bhandardara, tahsil-
akola, dist: Ahmednagar
River: Pravara

nagpur.

The department of mechanical Engineering, R. H. Sapat college of engineering organized a one day's virtual educational visit to bhandardara power plant, In akola tahsil, maharashtra. on 5th Feb 2021 For T.E mechanical engineering student.

General Information

Purpose of visit

our main purpose For this visit is familiear with hydroelectric power plant and to get practical knowledge and how we apply our theoretical knowledge in real application. In virtual visit total 144 students of 5th semester, and we got clear idea about hydroelectric power plant and it component, and how it's working.

we studied following points in virtual visit.

about plant :

Bhandardare Hydroelectric power system in maharashtra.

This infrastructure is type ~~of~~ Hydro power plant with design capacity of 46 mwe.

it has 2 unit(s). The first unit was commissioned in 1986 & last in 1996

. it builded on pravara river.

Unit Information

Unit-01

Capacity - 12 mwe (1986)

Turbine type : Francis

Speed : 375 rpm

Hydraulic head : 69.18 m

Unit-02

Capacity : 34 Mwe (1996)

turbine type : kaplan

Speed : 187.5 rpm

Hydraulic head : 50 m

For both unit, turbine & generator made : by BHEL, Bhopal, India

~~total~~

Component of Hydroelectric power plant

- The water flowing in the river comprises of kinetic energy & potential energy. In hydroelectric power plant and the potential energy of water is utilized to produce electricity.

1) Impeller
2) Shaft
3) Runner
4) casing
5) The penstock
6) water turbine
7) Generator
8) Draft tube.

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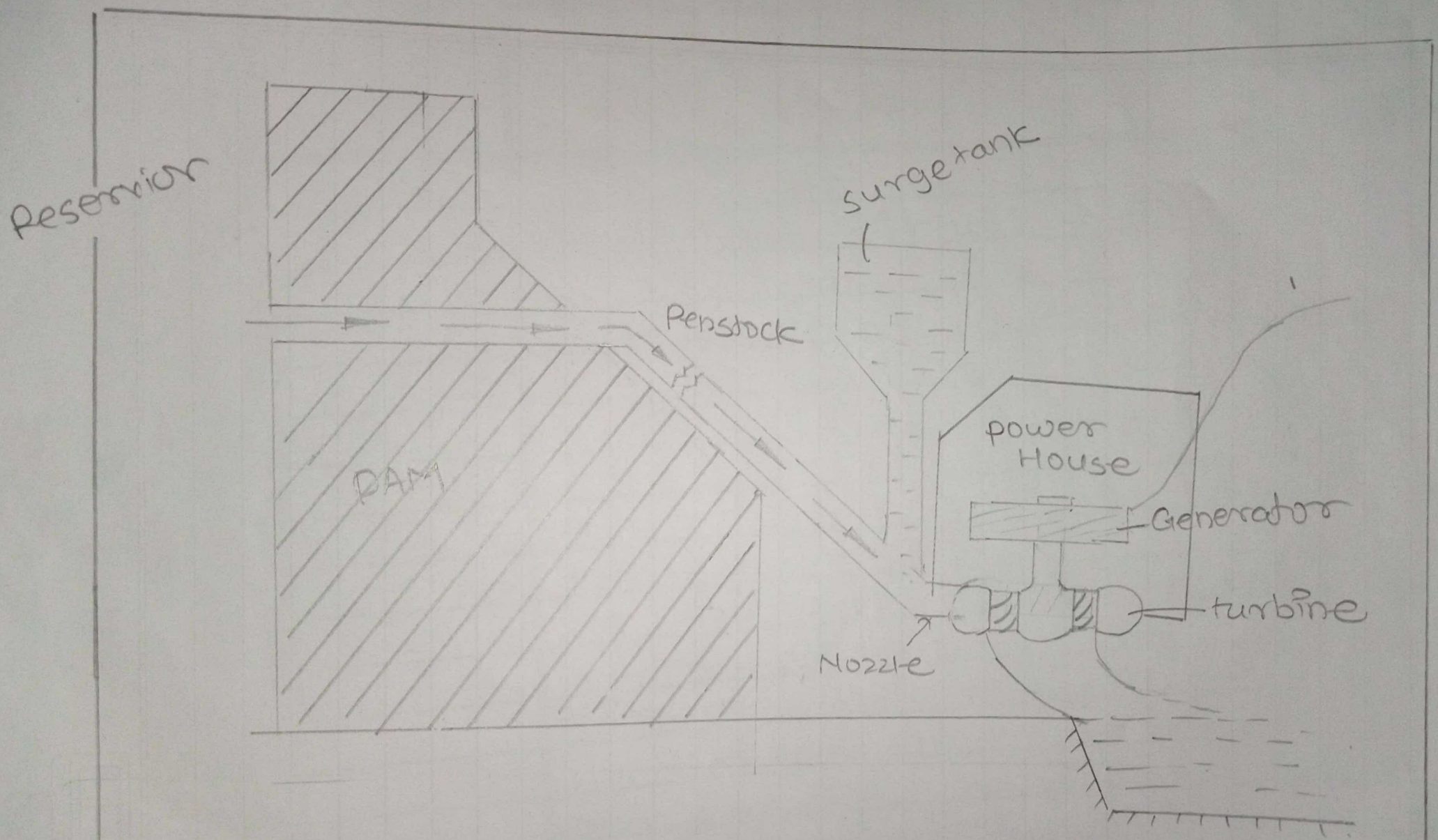
Selection of site for hydro electric power plant on basis of following points

- Availability of water
- Storage of water
- cost and type of land
- Transportation facilities

Advantages
1) Renewable source energy
2) Economical source of power
3) Non-polluting and hence environment friendly
4) low generation cost
5) plant equipment is simple

Disadvantages
1) susceptible to vagaries of nature such a draught
2) longer construction period and high initial cost
3) high cost of transmission system for remote site



General Layout of Hydro electric power plant

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Conclusion

From this virtual visit, 144 students of 5th got the information about the Hydro electric power plant, its component and its working, we also studied the various type of turbine.