

Seat  
No.

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मजल - 056

**ELECTIVE - II**  
**Water Power Engineering**  
**(Old) (1104)**

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Use of non programmable calculator is allowed.
5. Attempt **two** questions from each unit.

**UNIT - I**

1. a) Elaborate significance of hydro electricity over other conventional sources. 10  
b) Describe potential & scope of hydro-power generation in India. 10  
c) What is demand factor & load factor ? 10

**UNIT - II**

2. a) Describe diversion canal plant for hydro electricity generation. 10  
b) What are the relative merits of different arrangements of PSP development ? 10  
c) Draw schematic layout of a tidal power plant showing its components. 10

**UNIT - III**

3. a) Describe lighting and ventilation in underground power plants. 10  
b) Describe water Hammer & Surges in penstocks. 10  
c) What is resonance phenomenon ? 10

**UNIT - IV**

4. a) Describe the principle of pyrolysis process & factors affecting it. 10
- b) Describe the ethanol production mechanism using biomass. What are the uses of ethanol ? 10
- c) Draw a neat sketch of solar flat plate collector & write expression for its efficiency. 10

**UNIT - V**

5. a) Write a note on scope and future of wind energy in India. 10
- b) Explain HAWT - blade element theory. 10
- c) Describe Yawed operation and tower shadow. 10

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