



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. Answer sheet 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. Answer **any two** parts of each question.
5. Figures to right indicate full marks.
6. Neat diagrams must be drawn wherever necessary.
7. Use of non - programmable calculator is allowed.
8. Assume suitable data wherever necessary.

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| 1. a) | What are conventional & non - conventional energy sources. Describe briefly. | 10 |
| b) | Write a note on.
i) Firm Power.
ii) Secondary power | 10 |
| c) | Explain power duration curve & give limitations of it. | 10 |
| 2. a) | Write a note of storage & Poundage of reservoir. | 10 |
| b) | Explain necessity for pumped storage plant & also give advantages of the plant. | 10 |
| c) i) | Give classification of hydro power plants. | 5 |
| ii) | Describe briefly run - of - river plant. | 5 |
| 3. a) | Explain under - ground power - house. Give advantages & disadvantages of it. | 10 |
| b) | What is surge tank & explain types of surge tank. | 10 |
| c) | Describe surface power stations. | 10 |

4. a) Explain Bio - mass energy. What are biomass conversion processes. 10
- b) Describe flat plate solar collector. 10
- c) Write a note on. 10
 - i) Solar water heater.
 - ii) Solar Pond.
5. a) i) Give classification of wind energy conservation system. 5
- ii) What factors are considered for selection of site for wind energy conservation system. 5
- b) Explain horizontal axis wind turbine generator & vertical axis wind turbine generator. 10
- c) Explain merits & demerits of wind power generation. 10
