

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT  
TEST -1 EXAMINATION- Oct 2017  
B.Tech VII Semester

COURSE CODE: 10B1W CE732

MAX. MARKS:15

COURSE NAME: Hydropower Engineering

COURSE CREDITS: 3

MAX. TIME: One Hr

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Assume suitable data if required*

- Q1. Explain the pumped storage scheme with neat sketch. Also explain the usage of reversible turbines in the scheme. [3]
- Q2. A common load is shared by two stations; one being a base load plant with 42MW installed capacity and other being a standby station with 22 MW capacity. The yearly output is-
- Standby Station –  $17 \times 10^6$  KWh  
Base load plant-  $180 \times 10^6$  KWh
- The maximum demand on base load station and standby stations are 36 MW and 18 MW. Find out following for both plants
- (a) Load factor [2]  
(b) Capacity factor [2]
- Q3. What is the usage of Intake structure in a hydel scheme? Explain Runoff river scheme with their salient features. [4]
- Q4. Explain the following briefly.
- (a) Firm power and secondary power [1]  
(b) Reaction turbine and Impulse turbine [2]  
(c) principle components of a hydropower scheme [1]