

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST-2 EXAMINATION- 2025
B.Tech VII Semester (CS/IT/ECE/BT/BI)

COURSE CODE (CREDITS): 22B1WCE733 (3)

MAX. MARKS: 25

COURSE NAME: PERENNIAL POWER STRUCTURES

COURSE INSTRUCTOR: DR. NIRAJ SINGH PARIHAR

MAX. TIME: 1 Hour 30 Min

Note: (a) All questions are compulsory.

(b) Use of calculator is permitted.

(c) The candidate is allowed to make suitable numeric assumptions wherever required for solving the problem.

Q.No	Question	CO	Marks
Q1	Discuss in brief the various methods of harnessing the energy from oceans using representative figures.	CO2	7
Q2	Explain the functional working of a liquid metal cooled reactor showing circuit diagram and its constituent assemblies.	CO2	6
Q3	(a) The motors of an nuclear powered ship deliver a power of 15000 kW. Calculate the fuel consumption of its reactor per day with an efficiency of 40% assuming an average energy release per nucleus fission as 200 MeV. (b) If the same engine was to run on coal with a calorific value of 27000 kJ per kg and efficiency of 80%, estimate the daily amount of fuel consumed.	CO3,5	8
Q4	Give a brief structural classification of dams with their suitability as per the site conditions.	CO4	4