(3)

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

Accelerated Semester

MID TERM EXAMINATION- 2026

B.Tech-VII Semester (CSE/IT/ECE/BT/BI)

COURSE CODE (CREDITS): 22B1WCE733 (3) MAX. MARKS: 50

COURSE NAME: PERENNIAL POWER STRUCTURES

COURSE INSTRUCTORS: DR. NIRAJ SINGH PARIHAR MAX. TIME: 2 Hours

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Note: *(a)All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Calculator is allowed.

Q.No	Question	CO	Marks
Q1	Classify the energy sources giving suitable examples. Also discuss the working mechanism of bio-gas plant with a suitable figure.	CO1	**10**
Q2	Illustrate the concept of mass defect through nuclear fission reactions. Also deduce the energy released in the fission reaction from a unit mass of uranium isotope and compare it with the derived energy from coal having calorific value of 5500 kcal/kg.	CO3	**10**
Q3	Discuss the essential properties of canning and moderator materials used in nuclear reactor. Give a brief description of at least two canning materials and two moderators with their applications in nuclear power plants.	CO 2,4	**10**
Q4	Describe the functional working of any one nuclear reactor type with the help of a well described schematic diagram.	CO2	**10**
Q5	Explain the storage zones in a reservoir with the help of a representative figure. Discuss the effect of bank storage and valley storage on reservoir capacity.	CO4	**10**

JUIT ACCEPTED ON 5 MARCH-2026