JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2025

B.Tech-VI Semester

COURSE CODE (CREDITS):18B11CE611 (3)　　　　　　MAX. MARKS: 35

COURSE NAME: Concrete Technology

COURSE INSTRUCTORS: Akash Bhardwaj　　　　　　MAX. TIME: 2 Hours

Note:(a)All questions are compulsory.

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

Q.No	Question	CO	Marks
Q1	What are the main factors that influence the durability of concrete? Explain any one in detail.	4	4
Q2	How many rebound index readings are taken per observation point, and how is the final value determined? Explain the principle of the UPV test. How do longitudinal waves help assess concrete quality?	4	5
Q3	Design a concrete mix for M25 grade with the following data: • Exposure: Moderate • Slump required: 75 mm • Max. aggregate size: 20 mm • Fine aggregate: Zone II • Standard deviation: 4.0 MPa • Specific gravity of cement: 3.15, CA: 2.68, FA: 2.65 Assume any missing values.	4	10
Q4	Define special concrete and explain how it differs from ordinary concrete.	5	3
Q5	What is no-fines concrete? Describe its composition and typical density range. Why reinforcement is generally avoided in no-fines concrete?	5	5
Q6	What are the three failure modes for concrete cylinders? Explain them with figure.	2	4
Q7	What are the factors Affecting Modulus of Elasticity of Concrete? Explain them.	2	4