JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- FEB-2023

COURSE CODE (CREDITS): 18B1WCE831 (3)   MAX. MARKS: 15

COURSE NAME: ADVANCED REINFORCED CONCRETE DESIGN

COURSE INSTRUCTORS: Mr. CHANDRAPAL GAUTAM   MAX. TIME: 1 Hour

Note: *All questions are compulsory. Marks are indicated against each question in square brackets. IS 456:2000 is allowed.*

Q1. Explain Yield Line theory, its characteristics and its importance in analyzing Slabs.
CO-1, CO-2 [**3 Marks**]

Q2. Briefly explain the Upper Bound Theorem and Lower Bound Theorem.
CO-1, CO-2 [**2 Marks**]

Q3. Design a simply supported RCC slab for a roof of a hall 4m x10m (clear dimensions) with 230 mm thick wall all round. LL = 4kN/m^2, Floor finish = 1 kN/m^2. M20 and Fe 415.
CO-1, CO-2 [**4 Marks**]

Q4. Design a Reinforced concrete slab for a room of clear dimensions 4 m x 5 m. The slab is supported on wall of width 300 mm. The slab is carrying a Live Load of 4.5 kN/m^2 and Floor finish of 1 kN/m^2. Use M20 and Fe 415, The corners of the slab is free to lift. Design for bending as well as Shear with complete detailing.
CO-1, CO-2 [**6 Marks**]

---End---