JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATIONS-2022

B.Tech-2nd Semester ECE (Backlog)

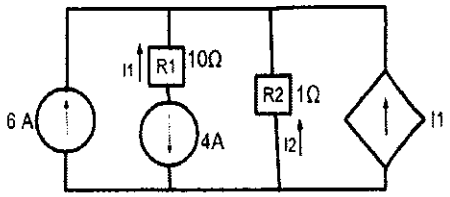
COURSE CODE (CREDITS): 18B11EC211(4) MAX. MARKS: 25

COURSE NAME: Electrical Science

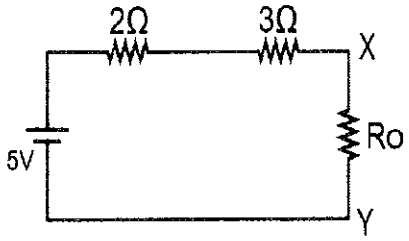
COURSE INSTRUCTORS: Lt. Pragya Gupta MAX. TIME: 1 Hour 30 Min

Note: *All questions are compulsory. Marks are indicated against each question in square brackets.*

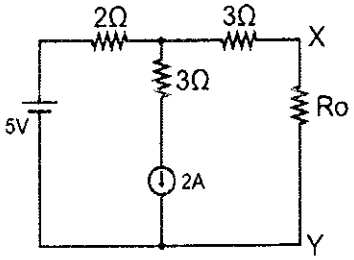
Q1. Write down the statement of Kirchoff's Current Law. For the circuit in the given Figure, compute the current through resistor R3 if it is known that the voltage source supplies a current of 3 A. **[5]**



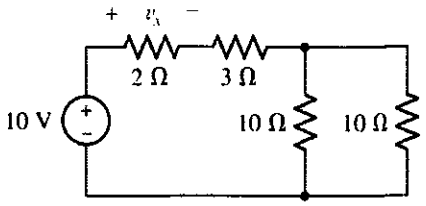
Q2. Determine the value of Ro to deliver Maximum power to the resistor, Ro: **[5]**



Q3. Considering Ro as load resistance, determine the Norton Resistance across terminals X-Y terminals: **[5]**



Q4. Use voltage division to determine V_x in the given circuit. **[5]**



Q5. Write down the statement of the following network theorems- **[5]**

(a). Thevenin's Theorem

(b). Superposition Theorem.

(c). Maximum Power Transfer Theorem

(d). Current Division and Voltage Division

(e). Reciprocity Theorem