J.C. Bose University of Science and technology, YMCA, Faridabad
B. Tech 1st semester Mechanical Engineering
Sessional 2nd (Electrical Technology (ESC-101))

Max. Time 90 minutes **Max. Marks 15**

Note. Attempt any three questions.

Q1. A resistance of 20 Ω and a coil of inductance 31.8 mH and negligible resistance are connected in parallel across 230 V, 50 Hz supply. Find (i) the line current (ii) power factor and power consumed by the circuit 5

Q2. What is series resonance? Derive the expression for resonant frequency in R-L-C series circuit. 5

Q3. Draw and explain the two wattmeter method of power measurement in a three phase circuit. 5

Q4. Derive emf equation for single phase transformer. Draw phasor diagram of single phase transformer for inductive and capacitive load. 5

Q5. Explain working of auto transformer. What are the advantages of auto transformer over two winding transformer? 5