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Branch: ECE, E&C 2ndsem (Sessional-II)
Subject: Basic Electrical Engineering

Max time: 90 min

Max marks:15

Note: Attempt any three questions. Question 1 is compulsory

- Q1. Answer the following questions in short: (5)
- i) Differentiate between auto transformer and 1-phase transformer CO4
 - ii) Differentiate between core type and shell type transformer. CO4
 - iii) Write various advantages of 3 phase AC system CO3
 - iv) Define the term voltage regulation for a single phase transformer. CO4
 - v) What will be the wattmeters' reading in case of unity p.f in 2- wattmeter method CO3
- Q2.(a) Explain the phenomenon of Series Resonance using appropriate circuit diagrams and graphs. CO2 (2.5)
- Q2.(b) The equation of an alternating current is $i = 42.42 \sin 628 t$. Determine its maximum value, frequency, RMS value, peak factor and form factor CO2 (2.5)
- Q3(a) Describe the Two Wattmeter method of Power measurement in 3phase AC circuit CO3 (2.5)
- Q3.(b). A balanced star connected load of $(8+j6)$ ohm per phase is connected to a balanced 3 phase, 400 V supply. Find the current, power factor, power and total volt amperes CO3 (2.5)
- Q4(a). Discuss the working principle of 1-phase transformer CO4 (2.5)
- Q4(b) Draw the phasor diagram of transformer at no load condition CO4 (2.5)