22/01/2023

J.C.Bose University of Science and Technology,YMCA
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= 42.42sin 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)