D Y PATIL
RAMRAO ADIK INSTITUTE OF TECHNOLOGY
NAVI MUMBAI

Ramrao Adik institute of Technology

Department of Engineering Sciences

Term Test II Set- A 2015-16

Subject : BEEE **Marks : 30**

Class / Sem : F.E/ I **Time: 1 Hr.**

Note: All Questions are compulsory

Q. No.	1	2	3
COs	CO4	CO5	CO6

Q1. A balanced three phase star connected load of 100 kW takes a leading current of 80A , when connected across 3 phase, 1100V, 50Hz, AC supply. Find the value of resistance/phase , capacitance/phase of load and power factor of load. Find the total kVA and kVAR of the circuit. [12]

OR

Q1. A three phase 10kVA load has a power factor of 0.342. The power is measured by two wattmeter method. Find the reading of each wattmeter when i. Power factor is leading ii. Power factor is lagging. [12]

Q2. The maximum efficiency at full load, upf, of a single phase 25kVA, 500/1000 V, 50Hz transformer is 98%. Determine the efficiency at 75% load, 0.9pf. [12]

OR

Q2. A 20 kVA, 2000/200 V single phase transformer has the following parameters. HV Winding: R_1=3 Ω, X_1= 5.3Ω, LV winding: R_2=0.05Ω, X_2=0.1Ω. Find voltage regulation at i. Power factor 0.8 lagging ii. Unity power factor iii. 0.707 power factor leading. [12]

Q3. Explain full wave rectifier circuit using center tap transformer. Find the expression for rms and average load current, TUF and rectifier efficiency. [06]

OR

Q3. Draw the experimental setup to plot input-output characteristics of BJT in CE configuration. [06]