

Unit I: Assessment: Assignments

Assignment – Lecture 35

1. The load connected across a 200V, 50 Hz AC supply is as follows:

Load 1 : 2kW Heating Load

Load 2 : A 4kW motor operating at 0.8 Lag powerfactor

Load 3 : A capacitive load drawing 5kVA at 0.9 Lead powerfactor

Determine

- i) Total Active, Reactive and Apparent Powers drawn from the supply.
- ii) Overall powerfactor of the system.
- iii) What must be the kVAR rating of a Capacitor that must be connected in parallel to raise the overall powerfactor to unity.