

**UE25EE141A – UNIT 3 – QUESTION BANK – ANSWER KEY**  
**(Unsolved Questions)**

**Lecture 41**

**1.**

$$R = 5.21 \Omega, C = 531.25 \mu F$$

**2.**

$$I_L = 23.09 A$$

**Power factor = 0.8 Lag**

$$P_{3-ph} = 12.79 kW$$

$$Q_{3-ph} = 9.59 kVAR$$

**Lecture 45**

**1.**

i)  $I_L = 39.84 A$

ii) **Power factor = 0.8 Lead**

iii)  $Q_{3-ph} = 9.52 kVAR$

**Lecture 48**

**1.**

$$I_{ph} = 10.1 A$$

$$I_L = 17.49 A$$

**Power factor = 0.707 Lead**

$$P_{3-ph} = 4.28 kW$$

$$Q_{3-ph} = 4.28 kVAR$$

**S<sub>3-ph</sub> = 6.06 kVA**

**Wattmeter readings are 3.38kW & 0.905kW**

### **Lecture 49**

**2.**

**R = 22.83Ω**

**C = 160.54μF**

### **Lecture 50**

**2.**

**2.24 kW & 1.15kW**

### **Lecture 54**

**2.**

**0.5 Units**

**3.**

**50 hours**

### **Lecture 55**

**1.**

**i) 202 Units**

**ii) Rs. 1810.87/-**