

## **UE25EE141A – UNIT 3 – QUESTION BANK – ANSWER KEY**

### **(Unsolved Questions)**

#### **Lecture 41**

**1.**

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

**2.**

$$I_L = 23.09 A$$

$$\text{Power factor} = 0.8 \text{ Lag}$$

$$P_{3-ph} = 12.79 \text{ KW}$$

$$Q_{3-ph} = 9.59 \text{ KVAR}$$

#### **Lecture 45**

**1.**

$$\text{i) } I_L = 39.84 A$$

$$\text{ii) Power factor} = 0.8 \text{ Lead}$$

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

#### **Lecture 48**

**1.**

$$I_{ph} = 10.1 A$$

$$I_L = 17.49 A$$

$$\text{Power factor} = 0.707 \text{ Lead}$$

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

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

$$S_{3-ph} = 6.06 \text{ kVA}$$

Wattmeter readings are 3.38kW & 0.905kW

## Lecture 49

2.

$$R = 22.83\Omega$$

$$C = 160.54\mu\text{F}$$

## 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/-