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| **S NO** | **QUESTION** | **KNOWLEDGE**  **LEVEL** | **CO** |
| **UNIT I** | | | |
| **1** | Three impedances each of (3+j4)Ω ­ is connected in delta connection across a 3-*Ø*, 230V balanced supply. Calculate the line and phase currents in the ∆ connected load and the power delivered to the load? | **K2** | **CO1** |
| **2** | a)Three identical resistances are connected in a star fashion against a balanced three phase voltage supply. If one of the resistance is removed, how much power is to be reduced?  b) A 3-phase load has a resistance of 10­ Ω in each phase and is connected in  i.star and ii. delta against a 400V, 3-phase supply. Compare the power consumed in both the cases. | **K3** | **CO1** |
| **3** | An unbalanced star connected load is connected across a 3-Ø, 400V balanced supply of phase sequence RYB as shown in figure. Two wattmeters are connected to measure the total power supplied as shown in fig. Find the readings of the wattmeters. | **K2** | **CO1** |
| **UNIT 2** | | | |
| 1 | DC voltage of 100V is applied in the adjoining circuit as shown in the figure and the switch K is open. The switch K is closed at t=0. Find the complete expression for the current. | **K1** | **CO2** |
| 2 | In the figure , the switch is close at position 1 at t = 0. At t = 0 sec. The switch is moved to position 2. Find the expression for the current in both the conditions and sketch the transient | **K2** | **CO2** |
| 3 | For the circuit given in Figure Q, determine the current in the resister 10Ω when the switch is closed at t=o, using the Laplace transforms. Assume initial current through inductor is zero. | **K2** | **CO2** |
| **UNIT 3** | | | |
| **1** | a) A series RL circuit with R = 30 \_ and L = 0.1 H has a sinusoidal voltage source v = 100 sin (314 t + \_) volts. Find the expression for current.  (b) Derive the expression for voltage of parallel R-C circuit when excited by a sinusoidal current source. | **K3** | **CO2** |
| **2** | For an RL series circuit, a sinusoidal voltage of *v*(*t* ) = *Vm sin(ωt+Ø)* is applied at t=0. Find the expression for transient current. | **K3** | **CO2** |
| **3** | Obtain the expression for current in an R-L series circuit when it is excited with step voltage. |  |  |
| **UNIT 4** | | | |
| **1** | Derive relationship between hybrid and ABCD Parameters of two port network | **K2** | **CO2** |
| **2** | Determine the transmission parameter of the network shown in below Figure | **K2** | **CO3** |
| **3** | Obtain the Z parameters for following network. | **K3** | **CO3** |
| **UNIT 5** | | | |
| **1** |  | **K3** | **CO4** |
| **2** |  | **K3** | **CO4** |
| **3** |  | **K3** | **CO4** |
| **UNIT 6** | | | |
| **1** | In the circuit shown in Figure 2, the input voltage is a periodic signal with period 2 as shown.  Determine: i) the exponential Fourier series representation of input signal ii) the trigonometric  Fourier series representation of input signal iii) the exponential Fourier series representation of  output signal | **K2** | **CO4** |
| **2** | Derive the expression for Fourier transform of unit step function. | **K2** | **CO4** |
| **3** | Find the Fourier transform of rectangular function with unity amplitude and unity width | **K3** | **CO4** |