

The time shift between $v_1(t)$ and $v_2(t)$ is approximately:
A: 5 μs *B*: 10 μs *C*: 2 μs *D*: None of them *E*: 15 μs

Question 4: The figure shows the voltage waveform applied to a load.

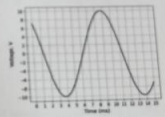


Figure 34: Q4

The current through the load is given by: $i(t) = 2\cos(\omega t + 45°)$ A.
Determine the type of load and its equivalent parameters. *A*: Purely inductive load, with $L = 7.96\,\text{mH}$ *B*: Purely capacitive load, with $C = 318.3\,\mu\text{F}$ *C*: R-C load, with $R = 4.33\,\Omega$ and $C = 636.6\,\mu\text{F}$ *D*: R-L load, with $R = 4.33\,\Omega$ and $L = 3.98\,\text{mH}$ *E*: Purely resistive load, with $R = 5\,\Omega$

Question 5: The sources in the circuit are:

$$v_1(t) = 5\sin(100t + 30°), \quad v_2(t) = 4\cos(100t - 20°)$$

Determine the current through the circuit.

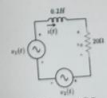
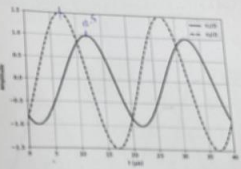


Figure: Q5

A: $0.114\angle -113°$ A *B*: None of them *C*: $0.114\angle -68°$ A *D*: $0.114\angle -158°$ A *E*: $0.161\angle -158°$ A

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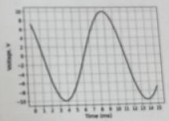


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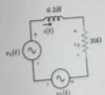


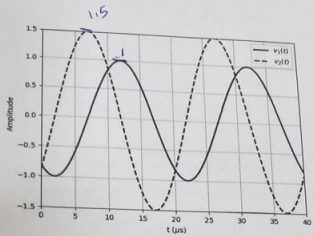
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Version: 43 Name: Seat/Section:

Question 1:



From Fig. Q1, the amplitudes of $v_1(t)$ and $v_2(t)$, respectively, are: *A*: 1, 2 *B*: 0.5, 1.5 *C*: None of them *D*: 1, 1.5 *E*: 1.5, 1

Question 2: The sources in the circuit are:

$$v_1(t) = 6\cos(300t - 45°), \quad v_2(t) = 10\sin(120t + 30°)$$

Determine the current through the resistor.

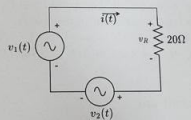


Figure: Q2

A: $i(t) = 0.3\cos(300t - 45°) - 0.5\sin(120t + 30°)$ A *B*: $i(t) = 0.5\sin(120t + 30°) - 0.3\cos(300t - 45°)$ A *C*: $i(t) = 0.3\cos(300t - 45°) + 0.5\sin(120t + 30°)$ A *D*: None of them *E*: $i(t) = 6\cos(300t - 45°) - 10\sin(120t + 30°)$ A

Question 3:

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