From Fig. Q3, the period of the waveforms is: *A*: 20 μs *B*: None of them *C*: 40 μs *D*: 50 μs *E*: 10 μs

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

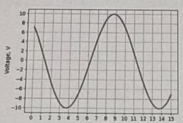


Figure 43: Q4

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*: R-C load, with $R = 4.33\,\Omega$ and $C = 636.6\,\mu$F *B*: Purely capacitive load, with $C = 318.3\,\mu$F *C*: R-L load, with $R = 4.33\,\Omega$ and $L = 3.98$ mH *D*: Purely inductive load, with $L = 7.96$ mH *E*: Purely resistive load, with $R = 5\,\Omega$

Question 5: 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.

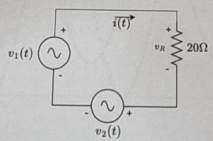


Figure: Q5

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

MADAR

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Question 1: The sources in the circuit are:

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

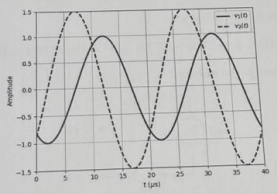
Determine the voltage across the inductor $v_L(t)$.



Figure: Q1

A: $2.28\angle -158°$ V *B*: $0.114\angle -68°$ V *C*: None of them *D*: $3.22\angle -68°$ V *E*: $2.28\angle -68°$ V

Question 2:



The phasor representation of $v_2(t)$ is:

A: $1\angle 210°$ *B*: None of them *C*: $1.5\angle 210°$ *D*: $1.5\angle 30°$ *E*: $1.5\angle 120°$

Question 3:

