Encircle the answer.

ke a mistake, mark a cross through your wrong choice and circle your next al

1.	a	b	c	d	e
2.	a	b	c	d	e
3.	a	b	c	d	(e)
4.	a	(b)	(c)	d	e
5.	a	b	c	d	e
6.	a	b	c	d	e
7.	a	b	c	d	e
8.	a	b	c	d	e
9.	a	b	c	d	e
10.	a	b	c	d	(e)
11.	a	b	c	d	e
12.	a	b	c	d	e

NAME: _____

Please write your name in arabic

Question 1: A three-phase balanced voltage source feeds the load shown in the Fig.Q1$V_{AB} = 400\angle -30^0$ V_{rms}.

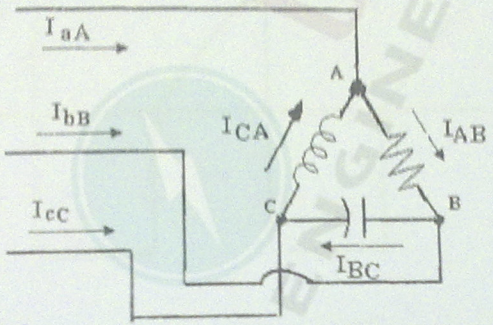


Figure: Q1

The phase current angle of I_{CA}:

- 60^o.
- -60^o.
- None of these.
- -30^o.
- 0^o.

Question 2: Fig.Q2, shows voltage $v(t)$ and current $i(t)$ when terminals ab in Fig.Q2(b) are opened an
ported respectively

NAME:

Please write your name in arabic

Question 1: A three-phase balanced voltage source feeds the load shown in the Fig.Q1 $V_{AB} = 400\angle -30^{o}$ V_{rms}.

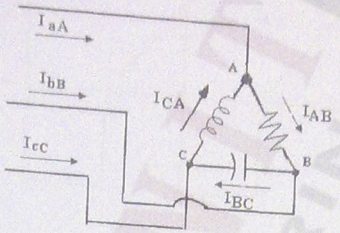
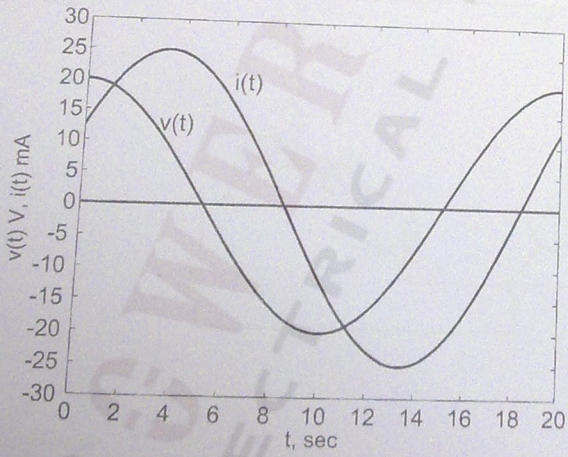


Figure: Q1

The phase current angle of I_{CA}:
a)60^{o}.
b)-60^{o}.
c)None of these.
d)-30^{o}.
e)0^{o}.

Question 2: Fig.Q2, shows voltage $v(t)$ and current $i(t)$ when terminals ab in Fig.Q2(b) are opened and shorted respectively.



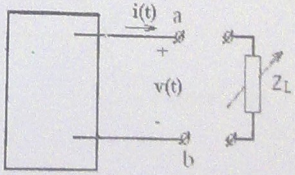
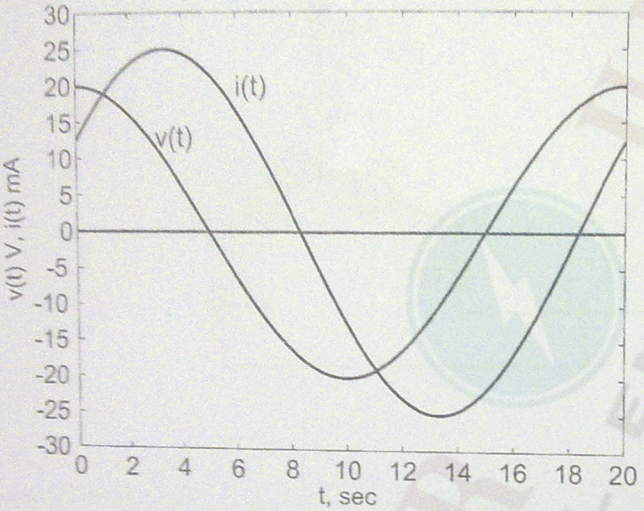
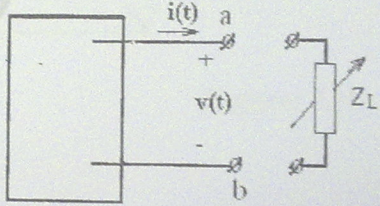


Figure: Q2

If the adjustable load resistance R_L is connected between terminals $a\&b$ to transfer the maximum average power to the load. The P_{max} is:
a)83.33 mW.
b)50 mW.
c)80.38 mW.
d)None of these.
e)53.6 mW.

Question 2: Fig.Q2, shows voltage $v(t)$ and current $i(t)$ when terminals ab in Fig.Q2(b) are opened and shorted respectively.





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Question 4: A three-phase balanced voltage source feeds the load shown in the Fig.Q4. The $400\angle 60^0$ V_{rms}. The $|Z_Y| = 5\angle 30°\Omega$.

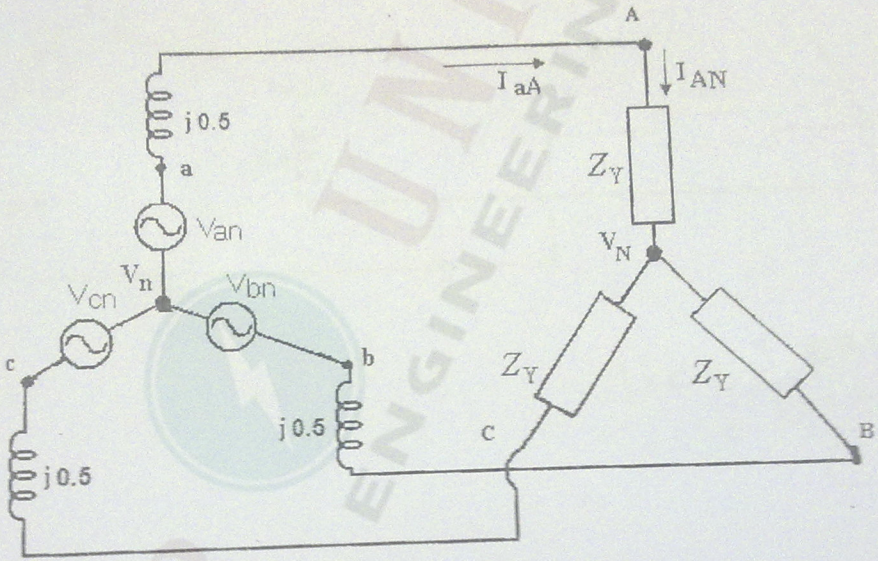


Figure: Q4

The $V_{bn} \simeq$:

a) $None of these.$

b) $252.0\angle -90° A.$

c) $250.32\angle -30° A.$

d) $2675.0\angle -132° A.$

e) $243.73\angle -186° A.$

voltage source feeds the load shown in the Fig.

Question 6: A three-phase balanced voltage source feeds the balanced load shown in the Fig.Q6. The $V_{AB} = 400\angle 30^0$ V_{rms}. The complex power of the load $S_{3\phi} = 9kVA\angle 30^o$.

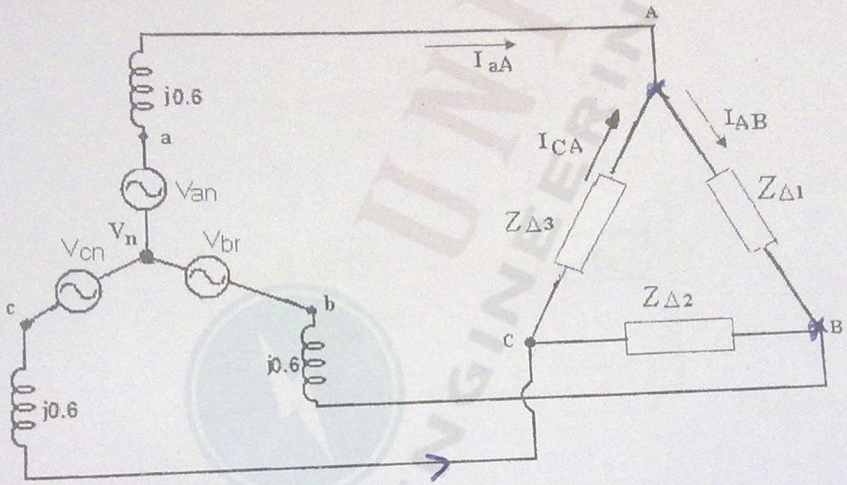


Figure: Q6

The line current $\bar{I}_{cC}$ is:

a)$12.99\angle 90^o A$.
b)$7.5\angle 90^o A$.
c)$7.5\sqrt{3}\angle -90^o A$.
d)$12.99\angle -120^o A$.
e)None of these.

Question 7: Fig.Q7, shows the instantaneous power $p(t)$ absorbed by the load and the voltage $v(t$ to it. The load composed of two elements in series.

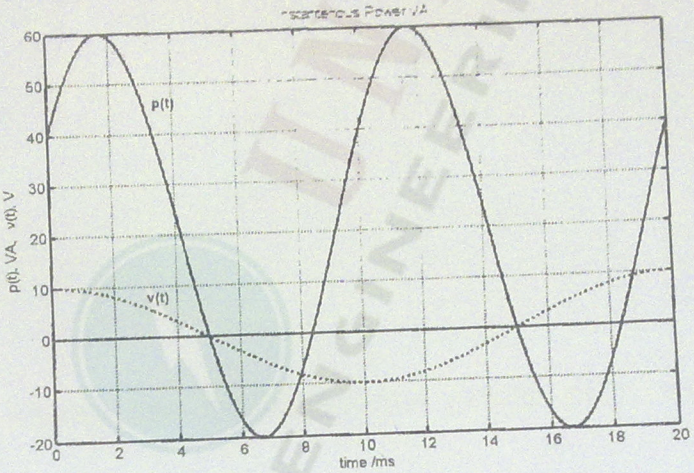


Figure: Q7

The current $i(t)$ is:

a) $15\cos(100\pi t + 30^o)$.

b) None of these.

c) $12\cos(100\pi t + 60^o)$.

d) $8\cos(100\pi t - 60^o)$.

e) $10\cos(100\pi t - 30^o)$.

Question 8: The line voltage is $_{AB} = 416\ V_{RMS}$ and positive sequence. The load impedanc

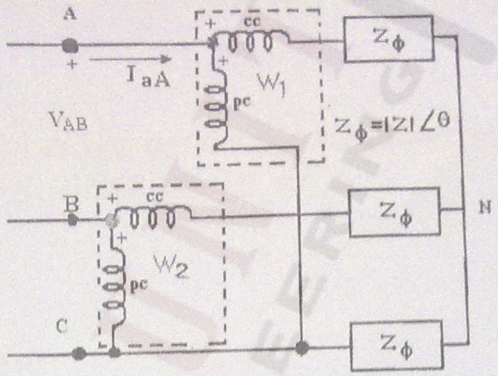
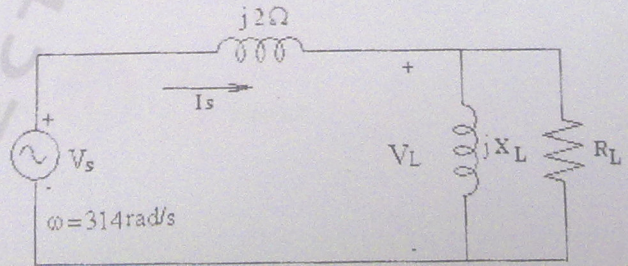


Figure: Q8

The two watt-meters read as:

a) $W_1 = 2781.6$ W, and $W_2 = 11172.5$ W.
b) $W_1 = 2981.6$ W, and $W_2 = 16519.17$ W.
c) $W_1 = 11127.5$ W, and $W_2 = 2981.6$ W.
d) None of these.
e) $W_1 = 2981.6$ W, and $W_2 = 11127.5$ W.

Question 9: In Fig.Q9, the source delivers 7500 VA at $V_s = 250\angle 30^0$ V_{rms} with power factor lagging.



gnal shown in Fig.Q3is:

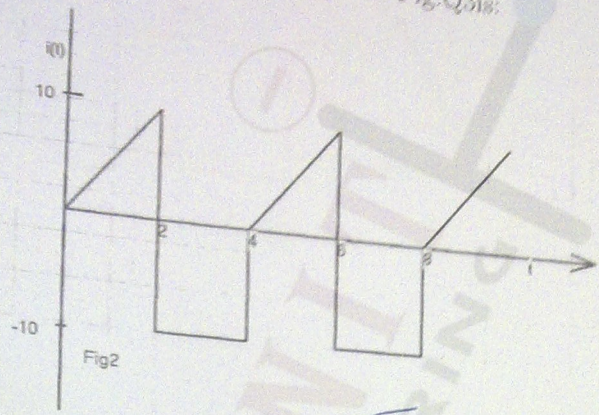


Figure: Q3

a)86.7 V.
b)6.867 V.
c)8.615 V.
d)None of these.
e)8.166 V.

Question 4: A three-phase balanced voltage source feeds the load shown in the Fig.Q4. The $400\angle 60^0$ V_{rms}. The $|Z_Y| = 5\angle 30°\Omega$.

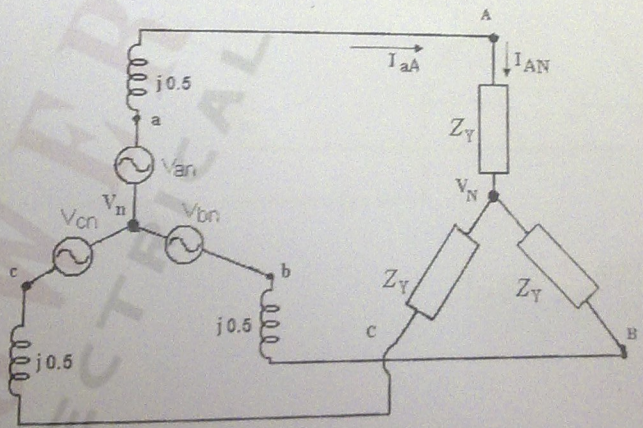


Figure: Q4

The $V_{bn} \simeq$:
a)*Noneofthese.*
b)$252.0\angle -90°A$.
c)$250.32\angle -30°A$.
d)$2675.0\angle -132°A$.
e)$243.73\angle -186°A$.

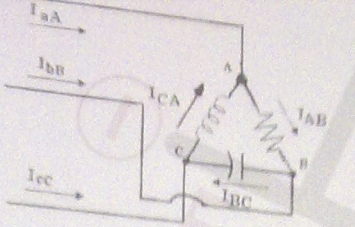
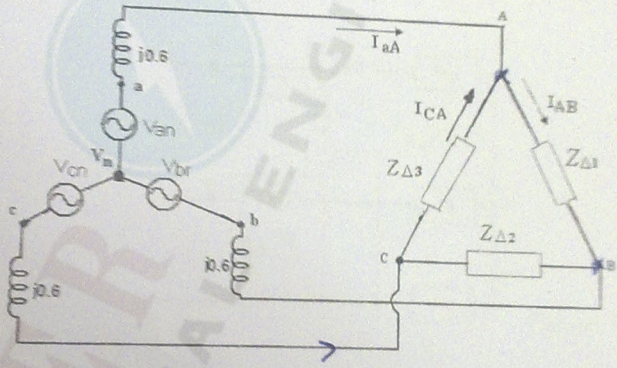


Figure: Q5

The line current $\bar{I}_{aA}$ is:
a)None of these.
b)$19.32\angle -45°A$.
c)$10.0\angle -30°A$.
d)$19.32\angle 45°A$.
e)$10.0\angle -45.0°A$.

Question 6: A three-phase balanced voltage source feeds the balanced load shown in the Fig Q6. The $V_{AB} = 400\angle 30^0$ V_{rms}. The complex power of the load $S_{3\phi} = 9kVA\angle 30°$.



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The line current $\bar{I}_{cC}$ is:
a)$12.99\angle 90°A$.
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c)$7.5\sqrt{3}\angle -90°A$.
d)$12.99\angle -120°A$.
e)None of these.

Question 7: Fig.Q7. shows the instantaneous power $p(t)$ absorbed by the load and the voltage $v(t)$ applied to it. The load composed of two elements in series.

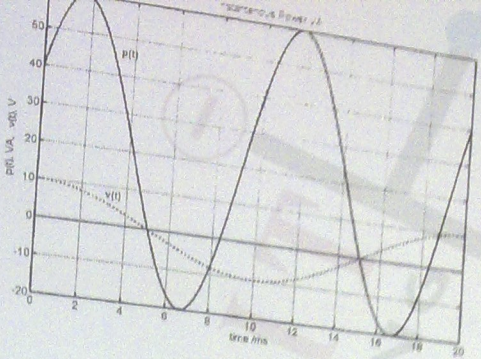
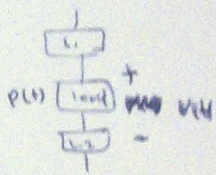


Figure: Q7

The current $i(t)$ is:
a) $15\cos(100\pi t + 30°)$.
b) None of these.
c) $12\cos(100\pi t + 60°)$.
d) $8\cos(100\pi t - 60°)$.
e) $10\cos(100\pi t - 30°)$.



Question 8: The line voltage is $_{AB} = 416\ V_{RMS}$ and positive sequence. The load impedance $Z_\phi = 5\angle 4$

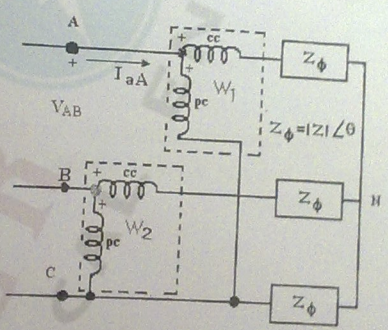
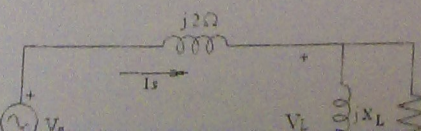


Figure: Q8

The two watt-meters read as:
a) $W_1 = 2781.6$ W, and $W_2 = 11172.5$ W.
b) $W_1 = 2981.6$ W, and $W_2 = 16519.17$ W.
c) $W_1 = 11127.5$ W, and $W_2 = 2981.6$ W.
d) None of these.
e) $W_1 = 2981.6$ W, and $W_2 = 11127.5$ W.

Question 9: In Fig.Q9, the source delivers 7500 VA at $V_s = 250\angle 30^0$ V_{rms} with power factor of 0.866020 agging.



value of X_L is:
a)32.38Ω.
b)18.70Ω.
c)None of these.
d)11.0Ω.
e)12.47Ω.

Question 10: Fig.Q10, shows the instantaneous power $p(t)$, where the voltage is given in the form $v(t) = 100\cos(wt + 0°)\ V$

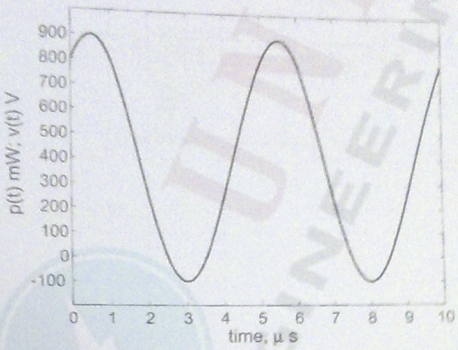


Figure: Q10

One of the numerical expression of the instantaneous power $p(t)$ is wrong:
a)$400 - 500\cos 143.13°\cos 2\omega t + 500\sin 143.13°\sin 2\omega t$.
b)None of these.
c)$400 - 500\cos(2\omega t + 143.13°)$.
d)$400 + 500\cos(2\omega t - 36.87°)$.
e)$400 + 400\cos 2\omega t + 300\sin 2\omega t$.

Question 11: In fig.Q11, the reactive power delivered by the source to the network is:

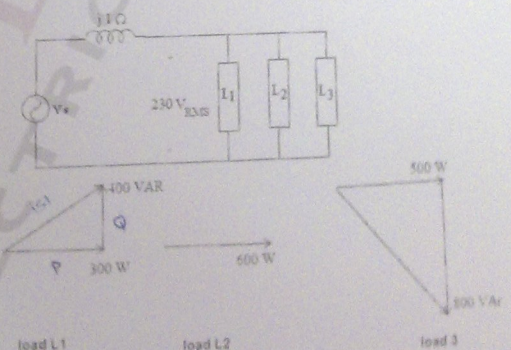


Figure: Q11

a)j440 VAr.
b)j359.9 VAr.

...ne of these.
...j35.59 vAr.
e)-j359.9 VAr.

Question 12: The two watt-meters in Fig.Q12, read as: $W_1 = 16519.17$ W, and $W_2 = 2119.170$ W. The magnitude of the line voltage is 415 V_{RMS}. The phase sequence is positive.

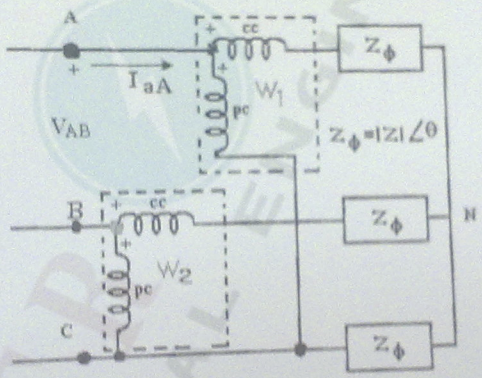


Figure: Q12

The power factor of the load PF is:

a)None of these.
b)0.9823*Lag*..
c)0.866*Lag*..
d)0.8923*Lag*..
e)0.5986*Lag*..

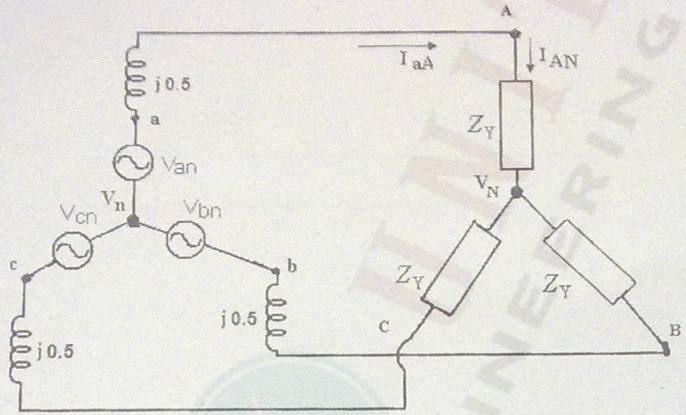


Figure: Q4

The $V_{bn} \simeq$:
a) *None of these.*
b) $252.0\angle -90^{o} A.$
c) $250.32\angle -30^{o} A.$
d) $2675.0\angle -132^{o} A.$
e) $243.73\angle -186^{o} A.$

Question 5: A three-phase balanced voltage source feeds the load shown in the Fig.Q5. The $V_{AB} = 400\angle 30^{0}$ V_{rms}. The $|Z_{AB}| = |Z_{BC}| = |Z_{CA}|$ and the three phase load absorbs 4000W.

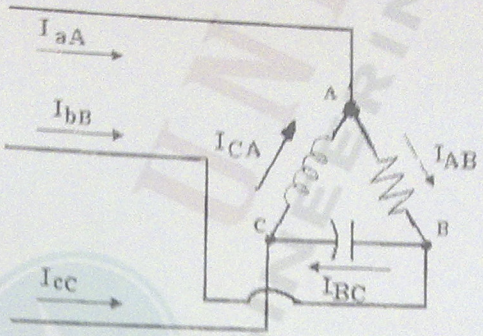


Figure: Q5

The line current $\bar{I}_{aA}$ is:

a) None of these.

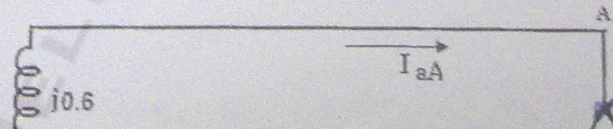
b) $19.32\angle -45°A$.

c) $10.0\angle -30°A$.

d) $19.32\angle 45°A$.

e) $10.0\angle -45.0°A$.

Question 6: A three-phase balanced voltage source feeds the balanced load shown in the Fig.Q $V_{AB} = 400\angle 30^0\ V_{rms}$. The complex power of the load $S_{3\phi} = 9kVA\angle 30°$.



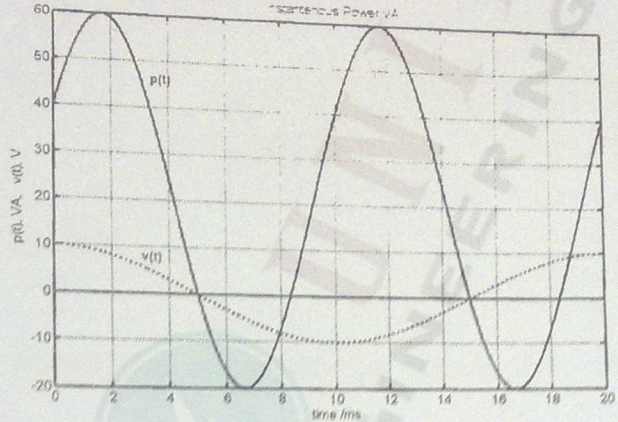


Figure: Q7

The current $i(t)$ is:
a) $15\cos(100\pi t + 30^o)$.
b) None of these.
c) $12\cos(100\pi t + 60^o)$.
d) $8\cos(100\pi t - 60^o)$.
e) $10\cos(100\pi t - 30^o)$.

Question 8: The line voltage is $_{AB} = 416\ V_{RMS}$ and positive sequence. The load impedance $Z_\phi = 5\angle 45$