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**17/ENG05/018**

**MECHATRONICS ENGINEERING**

**NO. 1**

1. commandwindow
2. clear
3. clc
4. close all
5. syms t
6. v(t) = 110 \* cos (120 \* pi \* t)
7. i = diff (v)
8. p = diff (i)
9. t = 0 : 0 . 01 : 0.35
10. vn = subs (v)
11. vnn = double (vn)
12. in = subs (i)
13. inn = double (in)
14. pn = subs (p)
15. pnn = double (pn)
16. plot ( t, vnn)
17. hold on
18. plot (t, inn)
19. hold on
20. plot (t, pnn)
21. legend ( ‘ voltage (v) ‘ , ‘ current (i) ‘ , ‘ power (w) ‘)
22. grid on
23. grid minor

**NO. 2**

1. commandwindow
2. clear
3. clc
4. a = [1 , -2 , -1 , 3 ; 2 , 3 , 0 , 1 ; 1 , 0 , -4 , -2 ; 0 , -1 , 3 , 1
5. eig (a)