**MODUL PRAKTIKUM SISTEM KENDALI 2**



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**POLITEKNIK TAKUMI**

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Praktikum Sistem Kendali 2

Modul 1 POLINOMIAL DAN AKAR POLINOMIAL DI MATLAB

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Latihan 1.1

𝑝(𝑡) = 𝑡2 − 4𝑡 + 3

Solusi Latihan 1.1

|  |
| --- |
| >> p=[1-4 3];  >> r=roots(p)  r =  1  >> pvalue=polyval(p,1)  pvalue =  0 |

Latihan 1.2

𝑝(𝑡) = 𝑡3 + 4𝑡 + 6

Solusi Latihan 1.2

|  |
| --- |
| >> syms t  >> sym = t^3+4\*t+6;  >> poly = sym2poly(sym)  poly =  1 0 4 6  >> symagain = poly2sym(poly)    symagain =    x^3 + 4\*x + 6 |

Latihan 1.3

𝑝(𝑡) = 66 + 4𝑡5 − 2𝑡3 + 5𝑡 + 2

Solusi Latihan 1.3

|  |
| --- |
| >> syms t  >> p = 6\*t^6+4\*t^5-2\*t^3+5\*t+2;  >> coeff = coeffs(p)    coeff =    [2, 5, -2, 4, 6] |

Latihan 1.4

𝑝(𝑠) = (5𝑠2 + 6𝑠 + 7)(𝑠 + 8) → 𝑝(𝑠) = 5𝑠3 + 14𝑠2 + 9𝑠 + 4

Solusi Latihan 1.4

|  |
| --- |
| >> p = [5 6 7]  p =  5 6 7  >> q = [1 8]  q =  1 8  >> n = conv(p,q)  n =  5 46 55 56  >> p\_val = polyval(n,-5)  p\_val =  306 |