

## Section 4:

```
p = (2*pi*10*10^3)/s;  
num = simplifyFraction((1.1424 / (p^2 + 0.6265 * p + 1.1424)));  
den = simplifyFraction(0.6265/(p+0.6265));  
H = num*den;  
% Extract numerator and denominator polynomials  
[symNum, symDen] = numden(H);  
  
% Create bode plot options  
opts = bodeoptions;  
opts.Grid = 'on';           % Turn on the grid for better visualization  
opts.PhaseVisible = 'off';   % Disable phase plot if not needed  
  
opts.FreqUnits = 'Hz';  
  
% Set axis limits for magnitude and frequency (modify as per your requirements)  
opts.XLim = [10^3 10^5]; % Frequency range  
opts.YLim = [-60 10]; % Magnitude range in dB  
  
% Plot the Bode plot using the symbolic numerator and denominator  
bode(sym2poly(symNum), sym2poly(symDen), opts)
```

