[5] 1.) 
$$\mathcal{L}(1) = \underline{\hspace{1cm}}$$

[5] 2.) 
$$\mathcal{L}(0) =$$
\_\_\_\_

[10] 3.) Find a suitable form for  $\psi$  if the methods of undetermined coefficients is used for the following differential equations:

$$y'' + 4y' - 5y = 2e^t + 4e^{-t} + 3\cos(3t) + t^2$$