6. (a) Determine the general solution of the differential equation

$$4\frac{d^2y}{dx^2} - 4\frac{dy}{dx} + 37y = 6e^{5x}$$

(6)

Given that $y = 0$ and $\frac{dy}{dx} = 0$ when $x = 0$

(b) determine the particular solution for this differential equation.

(5)

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(Total for Question 6 is 11 marks)

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