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

$$\frac{d^2y}{dx^2} - 6\frac{dy}{dx} + 8y = 2x^2 + x$$

(8)

(b) Find the particular solution of this differential equation for which $y = 1$ and $\frac{dy}{dx} = 0$ when $x = 0$

(5)

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(Total 13 marks)

Q6