Problem # 5 / 6 **Marks = 15, Time = 20 min.**

The amount of time in hours that a computer functions before breaking down is a continuous randam variable with probability density function given by

$$f(x) = \begin{cases} \dfrac{20{,}000}{(x+100)^3} & \text{if } x > 0 \\ 0 & \text{elsewhere} \end{cases}$$

Find the probability :

(a) that a computer will function for at least 200 hours.

(b) between 50 and 150 hours.