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The rate that oil is extracted from a field is given by

$$P'(t) = 0.2 e^{0.1t} \text{ in millions of barrels per year.}$$

So, $P(t)$ is the millions of barrels extracted in t years.

The number of barrels extracted during the second 10-year period will be

$$\int_{10}^{20} 0.2 e^{0.1t} dt = 2 e^{0.1t} \Big|_{10}^{20}$$

$$= 2e^2 - 2e^1$$

$$\approx 9.3415485$$

So, approximately 9,341,544 barrels of oil will be extracted during the second 10 year period.