5. The number of particles per millilitre in a solution is modelled by a Poisson distribution with mean 0.15

A randomly selected 50 millilitre sample of the solution is taken.

(a) Find the probability that

(i) exactly 10 particles are found,

(ii) between 6 and 11 particles (inclusive) are found.

(4)

Petra takes 12 independent samples of m millilitres of the solution.

The probability that at least 2 of these samples contain no particles is 0.1184

(b) Using the Statistical Tables provided, find the value of m

(6)

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(Total for Question 5 is 10 marks)

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