Question	Scheme	Marks	AOs
2(a)	$H_0 : p = 0.2 \qquad H_1 : p < 0.2$	B1	2.5
		(1)	
(b)(i)	$Y \sim \text{Bin}(25, 0.2)$	B1	3.3
	$\left(P(Y = 0) = 0.003777...\right)$ $P(Y \leqslant 1) = 0.027389...$ $\left(P(Y \leqslant 2) = 0.0982...\right)$	M1	3.4
	Critical region is $Y \leqslant 1$	A1	1.1b
(ii)	$Y = 1$ is in critical region Evidence to support Marco's claim/evidence that less than 20% of letters are by 1st class post/evidence that Bea is not correct	A1ft	2.2b
		(4)	
			(5 marks)

Notes:

(a)

B1: both correct, must be in terms of parameter p or π

(b)(i)

B1: setting up a binomial model

M1: attempt to use $\text{Bin}(25, 0.2)$ to find a relevant probability (to at least 1 sf)

A1: correct critical region with correct probability seen, awrt 0.03

(ii)

A1ft: correct conclusion **in context** (dependent on M1 only, ft their critical region, must be consistent with their (a))