Question Number	Scheme	Marks
1. (a)	Any one response in context from : Each person **turns up** independently/randomly of others oe Probability/proportion/percentage of not **turning up** remains constant (5%) oe	B1 (1)
(b)	$X \sim B(50, 0.05)$	
(i)	$[P(X = 0) =] 0.076944\ldots$ awrt **0.0769**	B1
(ii)	$P(X = 1) = 0.2794 - 0.0769 = 0.20248...$ awrt **0.202/0.203**	M1A1 (3)
(c)	Let T = total earnings for a journey	
	T | 880 | 940 | 1000 $P(T = t)$ | "0.0769" | "0.2025" | (1 – ("0.0769"+"0.2025"))=[0.7206]	M1
	$E(T) = 880 \times$ "0.0769" $+ 940 \times$ "0.2025" $+ 1000 \times (1 -$ ("0.0769+0.2025"))	dM1
	=£978.62 awrt (£) **979**	A1 (3)
	Alternative Let S = possible pay out	**Alternative**
	S | 60 | 120 $P(S = s)$ | "0.2025" | "0.0769"	M1
	$E(T) = 1000 - (120 \times$ "0.0769" $+ 60 \times$ "0.2025")	dM1
	=£978.62 awrt (£) **979**	A1 **[7 marks]**

	Notes
(a)	Must be in context containing the words in bold. Allow turning up rather than not turning up and vice versa.
(b)	
(ii)	M1 for correct use of tables or for correct use of formula $50(0.05)(0.95)^{49}$ Allow $P(X \leq 1) - P(X = 0)$ oe written of used
(c)	1st M1 for identifying the 3 possible total earnings 880, 940, 1000 oe 2nd dM1 for a correct ft expression for $E(T)$ eg 880 × 'their b(i)' + 940 × ' their b(ii)' + 1000 × (1 – ('their b(i) + their b(ii)) Alternative: 1st M1 for identifying the 2 possible pay outs 120 and 60 oe 2nd dM1 for a correct ft expression for $E(T)$ Eg 1000 – (120 × their b(i) + 60 × their b(ii)) Eg