Question Number	Scheme	Marks
5(a)	All the possible combinations: *SSW*, *SSP*, *SWW(x2)*, *SWP(x2)*, *WWW*, *WWP*	M1A1
		(2)
(b)	{10,11,12,13}	M1A1
		(2)
(c)	$\left(\mathrm{P}(SSW)=\right)\frac{3}{5}\times\frac{3}{5}\times\frac{1}{2}$ o.e. or $\left(\mathrm{P}(WWP)=\right)\frac{2}{5}\times\frac{2}{5}\times\frac{1}{2}$ o.e.	B1
	$\left(\mathrm{P}(T=11)\right)=2\times\frac{3}{5}\times\frac{2}{5}\times\frac{1}{2}+\frac{3}{5}\times\frac{3}{5}\times\frac{1}{2}$ or $\left(\mathrm{P}(T=12)\right)=2\times\frac{3}{5}\times\frac{2}{5}\times\frac{1}{2}+\frac{2}{5}\times\frac{2}{5}\times\frac{1}{2}$	M1
	t | 10 | 11 | 12 | 13 $\mathrm{P}(T=t)$ | $\frac{9}{50}=0.18$ | $\frac{21}{50}=0.42$ | $\frac{8}{25}=0.32$ | $\frac{2}{25}=0.08$	A1
		(3)
(d)	{0, 1, 2}	B1
	r | 0 | 1 | 2 $\mathrm{P}(R=r)$ | $\frac{2}{25}=0.08$ | $\frac{1}{2}=0.5$ | $\frac{21}{50}=0.42$	M1A1
		(3)

		Notes	Total 10
(a)	**M1**	lists at least 3 valid combinations (do not be concerned if there are any extras). Ignore any reference to *A* and *B* in their combinations, e.g. the use of subscripts. Allow in words.	
	A1	lists all 6 possible combinations (condone permutations) with no additional incorrect ones.	
(b)	**M1**	for at least 2 correct values (ignore any incorrect extra values)	
	A1	for all four values and no others (condone if not ordered). Must be seen in b.	
(c)	**B1**	for finding the probability of the event *SWW* or the event *WWP*. Implied by $\frac{9}{50}$ o.e. or $\frac{2}{25}$ o.e. May be seen in the table.	
	M1	for an attempt at $\mathrm{P}(T=11)$ or $\mathrm{P}(T=12)$. Implied by $\frac{21}{50}$ o.e. or $\frac{8}{25}$ o.e. May be seen in the table	
	A1	for a fully correct table, or all values of *T* correctly paired with their probabilities	
(d)	**B1**	for all three values and no others (may be seen in a table) (If listed condone if not ordered)	
	M1	for at least one correct value for *r* with a correct probability or calculation. Correctly paired in table is fine if not explicitly written down.	
	A1	for a fully correct table, or all values of *R* correctly paired with their probabilities	