Question Number	Scheme	Marks
5(a)	[P(Both blue) $= 0.05 \times 0.05 =$]0.0025 oe	B1
		(1)
(b)	P(Exactly 1 red)$=2 \times 0.05 \times 0.95$	M1
	$=0.095$	A1
		(2)
(c)	P(2 yellow and 1 green)$=3 \times \frac{4}{9} \times \frac{5}{8} \times \frac{4}{7}$	B1M1
	$= \frac{10}{21}$	A1
		(3)
(d)	[P(All beads are yellow)] = $\frac{5}{9} \times \frac{4}{8} \times \frac{3}{7} \times \frac{2}{6}$	M1
	[P(At least 1 bead is green)$=1 - $P(all beads are yellow)=] $1 - \frac{5}{9} \times \frac{4}{8} \times \frac{3}{7} \times \frac{2}{6}$	M1
	$= \frac{121}{126}$	A1
		(3)
	Notes	**Total 9**

(a)	**B1**	oe e.g. $\frac{1}{400}$
(b)	**M1**	oe e.g. $\frac{1}{20} \times \frac{19}{20} + \frac{19}{20} \times \frac{1}{20}$
	A1	oe e.g. $\frac{19}{200}$
(c)	**B1**	For 3 × … or the sum of exactly 3 identical products. Allow equivalent expressions for 3 × … e.g. ${}^3C_2$
	M1	For $\frac{4}{9} \times \frac{5}{8} \times \frac{4}{7}$ oe e.g. $\frac{5 \times 4 \times 4}{9 \times 8 \times 7}$ May be implied by $\frac{10}{63}$
	A1	For $\frac{10}{21}$ oe (allow awrt 0.476 from correct working)
(d)	**M1**	For $\frac{5}{9} \times \frac{4}{8} \times \frac{3}{7} \times \frac{2}{6}$ oe e.g. $\frac{5 \times 4 \times 3 \times 2}{9 \times 8 \times 7 \times 6}$ It must be on its own or clear that they are finding P(All beads are yellow) and not embedded in a list of possible outcomes or a list of all 15 outcomes May be implied by 2nd M1 (YYYG)×4 [(YYGY), (YGYY), (GYYY)] May be implied by $4 \times \frac{5 \times 4 \times 3 \times 4}{9 \times 8 \times 7 \times 6}$ oe (YYGG)×6 [(YGYG), (YGGY), (GYYG), (GYGY), (GGYY)] May be implied by $6 \times \frac{5 \times 4 \times 4 \times 3}{9 \times 8 \times 7 \times 6}$ oe (YGGG) ×4 [(GGGY), (GGYG), (GYGG)] May be implied by $4 \times \frac{5 \times 4 \times 3 \times 2}{9 \times 8 \times 7 \times 6}$ oe (GGGG) May be implied by $\frac{4 \times 3 \times 2 \times 1}{9 \times 8 \times 7 \times 6}$ oe
	M1	Use of $1 - p$ (where p is a product of 4 probabilities) or the sum of all 15 correct probabilities
	A1	$\frac{121}{126}$ oe (allow awrt 0.96 – must be from correct working)
		SC If M0M0A0 then award M1M0A0 for 15 probabilities with no extras listed with at least 3 correct products