# Binomial Probability (understand components of formula) 

| $1^{\text {st }}$ <br> Question | $2^{\text {nd }}$ <br> Question | $3^{\mathrm{rd}}$ <br> Question | Possible Outcome | Probability | Number of correct answers |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | -1 | III | $\frac{3}{4} \cdot \frac{3}{4} \cdot \frac{3}{4}$ | 0 |
|  |  | C | IIC | $\frac{3}{4} \cdot \frac{3}{4} \cdot \frac{1}{4}$ | 1 |
| I |  | -1 | ICI | $\frac{3}{4} \cdot \frac{1}{4} \cdot \frac{3}{4}$ | 1 |
|  |  | C | ICC | $\frac{3}{4} \cdot \frac{1}{4} \cdot \frac{1}{4}$ | 2 |
|  |  | -1 | CII | $\frac{1}{4} \cdot \frac{3}{4} \cdot \frac{3}{4}$ | 1 |
|  |  | C | CIC | $\frac{1}{4} \cdot \frac{3}{4} \cdot \frac{1}{4}$ | 2 |
|  |  |  | CCl | $\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{3}{4}$ | 2 |
|  |  | C | CCC | $\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4}$ | 3 |
| Number of correct answers | Possible Outcomes | Proba | bility | Proba with binom form |  |
| 0 | III | $\frac{3}{4} \cdot \frac{3}{4} \cdot \frac{3}{4}$ |  | $\text { (1) } \cdot\left(\frac{1}{4}\right)^{0}(3$ |  |
| 1 | IIC, ICI, CII | $\frac{3}{4} \cdot \frac{3}{4} \cdot \frac{1}{4}+$ | $\frac{3}{4} \cdot \frac{1}{4} \cdot \frac{3}{4}+\frac{1}{4} \cdot \frac{3}{4} \cdot \frac{3}{4}$ | (3). $\left(\frac{1}{4}\right)^{1}\left(\frac{3}{4}\right.$ |  |
| 2 | $\mathrm{CCI}, \mathrm{CIC}, \mathrm{I}$ | C $\quad \frac{1}{4} \cdot \frac{1}{4} \cdot \frac{3}{4}+$ | $\frac{1}{4} \cdot \frac{3}{4} \cdot \frac{1}{4}+\frac{3}{4} \cdot \frac{1}{4} \cdot \frac{1}{4}$ | (3). $\left(\frac{1}{4}\right)^{2}\left(\frac{3}{4}\right.$ |  |
| 3 | CCC | $\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4}$ |  | $\text { (1) } \cdot\left(\frac{1}{4}\right)^{3}$ |  |

