NATIONAL TESTING AGENCY

Excellence in Assessment

Sample Questions for Section on Numerical Value-Mathematics

Q.1: Let α and β be two roots of the equation $x^2+2x+2=0$, then $\alpha^{15}+\beta^{15}$ is equal to_____.

Answer: 256

Q.2: Consider a group of 5 females and 7 males. The number of different teams consisting of 2 females and 3 males, that can be formed from this group, if there are two specific males A and B, who refuse to be the member of the same team, is _____.

Answer: 300

Q.3: Let $a_1, a_2, a_3, \ldots$ be an A.P., $S = \sum_{i=1}^{30} a_i$ and $T=\sum_{i=1}^{15} a_{2i-1}$. If $a_7=37$, and $S-2T=75$, then a_{15} is equal to____.

Answer: 77

Q.4: If $y = y(x)$ is the solution of the differential equation $x\frac{dy}{dx} +2y = x^2$ satisfying $y(1) = 1$, then $16\, y(1/2)$ is equal to _____.

Answer: 49

Q.5: If $\vec{a} = \hat{i} - \hat{j}$, $\vec{b} = \hat{i}+\hat{j}+\hat{k}$ and $\vec{c}$ be a vector such that $\vec{a} \times \vec{c} + \vec{b} = \vec{0}$ and $\vec{a}\cdot\vec{c}= 4$, then $|\vec{c}|^2$ is equal to____.

Answer: 9.5