SYMBIOSIS INTERNAITONAL (DEEMED UNIVERSITY)
Ph D ENTRANCE TEST

The Sample questions of Mathematics

Question No	Question Text	Option 1	Option 2	Option 3	Option 4	Correct Option
1	For any real numbers a and b,a≤b the probability distribution function of a continuous variable X is given by	$P(a \le X \le b) = \int_a^b f(x)dx$	$P(a \le X \le b) = 1 - \int_a^b f(x)dx$	$P(a \le X \le b) = \int_b^a f(x)dx$	$P(a \le X \le b) = \int_a^b f(x)dx - 1$	option 1
2	If $\lambda_1, \lambda_2, \lambda_3, \ldots, \lambda_n$ are characteristic roots of matrix A then A^{-1} have characteristic roots	$n_1 + n_2 = m$	$n_1 + n_2 \ge m$	zero	none of these	option 1
3	If V is a finite dimensional vector space $dimV = m$ and W_1 *and* W_2 are two subspaces of V such that $dimW_1 = n_1$ *and* $dimW_2 = n_2$ then	$\frac{1}{\lambda_1}, \frac{1}{\lambda_2}, \frac{1}{\lambda_3}, \ldots, \frac{1}{\lambda_n}$	$\lambda_1, \lambda_2, \lambda_3, \ldots, \lambda_n$	$n_1 + n_2 \le m$	none of these	Option 3
4	If a ring R with binary operation addition is an abelian group and with binary operation multiplication $a \cdot b = b \cdot a, \forall\, a, b \in R$ then R is	Null ring	Integral domain	Field	Commutative ring	Option 4
5	The solution of a partial differential equation $yzp + zxq = xy$ is given by	$x^2 - y^2 = c_1$ *and* $x^2 - z^2 = c_2$	$x^2 + y^2 = c_1$ *and* $x^2 + z^2 = c_2$	$x^2 + y^2 = c_1$ *and* $x^2 - z^2 = c_2$	$x^2 - y^2 = c_1$ *and* $x^2 + z^2 = c_2$	Option 2