VITEEE 2021 Memory Based Questions and Answers for 31 May Slot 4

Q: For $\dfrac{1}{x} \le x \le 1,$ the value of $\cos^{-1}\left(\dfrac{x}{2} + \dfrac{1}{2}\sqrt{3 - 3x^2}\right) - \pi\pi^{-1}x$ is equal to

1. π/3
2. π/6
3. -π/3
4. -π/6

Q: The particular solution of the differential equation $(x - y + 2)\dfrac{dy}{dx} = 1$ for $x = e,\ y = 1$ is

1. x = y - 1 - e^y
2. x = y - 1 + e^{-y}
3. x = y - 1 + e^y
4. x = y + 1 + e^{-y}

Q: If $\displaystyle\int_{0}^{3} x\sqrt{2 - x}\, dx = k\sqrt{2},$ then the value of k is

1. 15/16
2. -16/15
3. 16/15
4. 64/15