Math 102 Class Test 2 (A)

Name:.....Sec#:.....Serial#:.....ID#:.....

Q.1: Use method of cylindrical shells to find volume of the solid generated by rotating the region bounded by the curves $y = x^2,\ y = 1,\ x = 2,\ x = 3$, about $x = 1$.

Q.2: Find average value of the function $f(x) = \cos^3 x \sin 2x dx$ on the interval $[0, \pi]$.

Q.3: Use a substitution and integration by parts to evaluate the integral $\int x^3 e^{x^2} dx$.

Q.4: Evaluate the integral $\int \frac{\sin x + \cos x}{\sin 2x} dx$

Q.5: Evaluate the integral $\int \sec^2 x \ \sin^3(\tan x) \ dx$

Q.6: Find volume of the solid generated by rotating the region bounded by the curves $y = \sin x, \ x = 0, \ x = \dfrac{\pi}{2}, \ y = 0$, about $x = \pi$.