

Books, watches, notes or cell phones are **not** allowed. The **only** calculators allowed are the Sharp EL-531\*\*\*. You **must** show all your work, the correct answer is worth 1 mark the remaining marks are given for the work.

**Question 1.** (5 marks) Evaluate the integral

$$\int_{\pi/4}^{\pi/2} \cot^3 x \, dx$$

**Question 2.** (5 marks) Evaluate the integral

$$\int \frac{x^2}{(3+4x-4x^2)^{3/2}} dx$$