

Prince Sultan university
Department of Mathematics
Major III Exam
Semester 2 ,2008-2009 Fall(082)

Math 113-Calculus II

Time Allowed: 90 minutes

Name:

ID Number:

Question.1

Evaluate the following integrals:

(i) $\int x \ln x dx$,

(ii) $\int x e^x dx$.

Question.2

Evaluate the following integrals:

(i) $\int \sin^4 x \cos^5 x dx$,

(ii) $\int \tan^4 x \sec^4 x dx$.

Question.3

(i) Evaluate $\int \frac{x}{x^2 - 4x + 8} dx$.

(ii) Evaluate $\int \frac{\sqrt{x^2 - 36}}{x} dx$, assuming that $x \geq 0$.

Question.4

Evaluate $\int \frac{2x + 4}{x^3 - 2x^2} dx$ and $\int_{-\infty}^{+\infty} \frac{dx}{1 + x^2}$.