DIFFERENTIAL EQUATIONS – FINAL EXAM

1) Evaluate $\int \cos(\pi t)\cos(\sin(\pi t))dt$ (20 pn)

2) Evaluate $\int \csc^2(x)\sec^2(x)dx$ (25 pn)

3) Evaluate $\int x\sin(x)\cos(x)dx$ (25 pn)

4) Calculate the partial derivative $\partial f/\partial x$ by using the limit definition for the following function :

$$f(x,y) = \frac{xy}{(x^2+y^2)}$$ (30 pn)