

North South University, Department of Mathematics and Physics

Practice Exam- From MAT 120

Instructor: Mahboob Shaheen (MS1)

Time: 30 minutes

Marks: $\overline{20}$ **You must show all works to qualify for full credit.**

1. Find $\frac{dy}{dx}$ (5 + 5 = 10 points)

$$a) \sin(x^2 y^2) = xy$$

$$b) y = (2x^2 + 7)\sin^2(5x)\ln(5x)$$

2. Evaluate the integrals. (5 + 5 = 10 points)

$$a) \int e^{\sin\theta} \cos\theta d\theta$$

$$b) \int_1^3 \frac{x+2}{\sqrt{x^2+4x+7}} dx$$