MATH 1352: CALCULUS II – Section 030

MID SEMESTER EXAM II

1 hour 20 minutes

- All calculations have to be from ground up. Show all work for full credit.
- The use of calculators, textbooks, class notes or mutual consultation is not allowed.
- Answers on the question paper will not be accepted.
- Clearly write your name on the answer sheet.
- All questions are of equal weightage but may not be of equal difficulty.

1. Calculate the following integral using the method of substitution

$$\int \frac{9x^2+5}{\left(3x^3+5x+14\right)^2}dx$$

2. Calculate the following integral using partial fraction expansion

$$\int \frac{2x+1}{(x-3)(x+2)}dx$$

3. Calculate the following integrals using any method you know

$$\int e^{3x}\sin(4x)dx$$

$$\int e^{3x}\cos(4x)dx$$

4. Calculate the following integral

$$\int \frac{1}{\sqrt{2-5x^2}}dx$$