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AMTL 100 (CALCULUS)  
Quiz 1

Date: 07/10/2024 Total Marks: 15 Time: 30 mins

1. Prove that the equation  $3x - 2\sin x + 8 = 0$  has exactly one real solution. [5]

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2. Find the values of  $x$  where the function  $f(x)$  has a local minimum, a local maximum or a point of inflection. [5]

$$f(x) = x^4 - 6x^2 + 4$$

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3. Find the Taylor's polynomial of order 3 of the function  $f(x) = x^3 + 3x^2 - 2x + 1$  about  $a = 1$ . Also, find the error (remainder term). [5]