Q.No.1:- Find all the values of $c$ in $(-2, 2)$ that satisfy the conclusion of the Mean Value Theorem for $f(x) = x^2 e^{-x^2}$ on $[-2, 2]$.

Final Answer (1 point): _______

Work Shown (5 points):
Q.No.2: Find \( \lim_{x \to 1} (2 - x)^{\tan(\pi x/2)} \)

Final Answer (1 point): 

Work Shown (6 points):
Q.No.3: For the function \( f(x) = \ln(1 - \log_{10} x) \),

(i) Find the domain of the function.

Final Answer (1 point): ______

Work Shown (2 points): 

(ii) Find the interval(s) where the function is decreasing.

Final Answer (1 point): ______

Work Shown (3 points): 
(iii) Find the possible point(s) of Inflection.

Final Answer (1 point): __________

Work Shown (4 points):


With Best Wishes