

Student Name: Reg. No.:

Instruction: PRINT this CAT and answer the questions in the provided spaces (STRICTLY).

1 (a) Solve the polynomial equation $Z^6 - Z^5 + 4Z^4 - 6Z^3 + 2Z^2 - 8Z + 8 = 0$ expressing your answer in $re^{i\theta}$ form (Hint: Z is a complex number) *5 marks*

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(b) Find $\frac{dy}{dx}$ if $y = x^x$

3 marks