18MAT41 - Module 2

Super Imp

D Afreen Marquee..

0° - afree.

Q1. State and Prove Cauchy's theorems. - (19)

Q2. Discuss the transformation $w = f(z) = e^z$ wrt the lines parallel to the coordinate axis in z-plane. - (7)

(Other transformations could be asked as well) check notes/video

Q3. Find the Bilinear transformation which maps $z = \infty, i, 0$ into $w = -1, -i, 1$. Also find the fixed points of the transformation. - (14)

Q4. Evaluate $\int_0^{1+i} (x^2 - iy)\,dz$ along the line

i) $y = x$ - (17)

ii) $y = x^2$

Q5. Evaluate $\int_C \frac{\sin \pi z^2 + \cos \pi z^2}{(z-1)^2 (z-2)}\,dz$, where C is the circle $|z| = 3$. - (25)

(Note: Rectangle, Triangle or Square could be asked as well, Practice!)