ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)

ORGANISATION OF ISLAMIC COOPERATION (OIC)

DEPARTMENT OF MECHANICAL AND PRODUCTION ENGINEERING

CT-02

COURSE NO. Math-4311 TIME: 20 mins

COURSE TITLE: Complex Analysis FULL MARKS: 15

Name: Id# ……

1.	State Cauchy's theorem for the complex integration. Verify Cauchy's theorem for the function $f(z) = z^3 - iz^2 - 5z + 2i$ if C is the circle $\|z\| = 1$.
2.	Expand $f(z) = \frac{z}{(z-1)(2-z)}$ in a Laurant series valid for $1 < \|z\| < 2$.

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Name: Id# ……

1.	State Cauchy's theorem for the complex integration. Verify Cauchy's theorem for the function $f(z) = z^3 - iz^2 - 5z + 2i$ if C is the circle $\|z - 1\| = 2$.
2.	Expand $f(z) = \frac{z}{(z-1)(2-z)}$ in a Laurant series valid for $\|z\| > 2$.

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Name: Id# ……

1.	State Cauchy's theorem for the complex integration. Verify Cauchy's theorem for the function $f(z) = z^3 - iz^2 - 5z + 2i$ if C is the circle $\|z - 3i\| + \|z + 3i\| = 20$.
2.	Expand $f(z) = \frac{z}{(z-1)(2-z)}$ in a Laurant series valid for $\|z - 1\| > 1$.