HOME ASSIGNMENT (2024 Batch)
MATHEMATICS
(SECOND SEMESTER)
CENTRE FOR DISTANCE AND ONLINE EDUCAITON
DIBRUGARH UNIVERSITY
(Full Marks 20 for each course)

(ALL THE QUESTIONS GIVEN BELOW ARE COMPULSORY)

Course : MATH – 201 (Complex Analysis)

Assignment – 1 *Marks – 10*

1. State and prove Cauchy integral formula, explain with an example.

Assignment – 2 *Marks – 10*

1. Define different types of singularities. Find the residue at poles of the function $f(z) = \frac{z^2+2}{z-1}$

Course : MATH – 202 (Tensor)

Assignment – 1 *Marks – 10*

1. Prove that the equations of transformation of components of a contravariant vector possess the group property (or transitive property).

Assignment – 2 *Marks – 10*

1. Find the physical components of velocity of a particle in spherical coordinates

Course : MATH – 203 (Differential Equations and Integral Equations)

Assignment – 1 *Marks –10*

1. Solve by Monge's method

   (r-s)x= (t-s)y

Assignment – 2 *Marks –10*

1. Solve the two dimensional wave equation.

Course : MATH – 204 (Inviscid Fluid Mechanics)

Assignment – 1 *Marks – 10*

1. State and prove Kelvin's circulation theorem.

Assignment – 2 *Marks – 10*

1. What do you mean by a two dimensional doublet. Find the complex potential of a doublet.

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