



## CERTIFICATE

This is to certify that the project report entitled “ **Linear codes over the ring  $\mathbb{Z}_4 + \alpha\mathbb{Z}_4 + \beta\mathbb{Z}_4 + \gamma\mathbb{Z}_4 + \alpha\beta\mathbb{Z}_4 + \beta\gamma\mathbb{Z}_4 + \alpha\gamma\mathbb{Z}_4 + \alpha\beta\gamma\mathbb{Z}_4$** ”, being submitted by Sovit Kumar Samal (Roll no- MATH/31/20) in partial fulfilment is a bonafide work carried out by her under my supervision and guidance.

To the best of my knowledge, the result embodies in this project report has not been submitted to any other University or Institution.

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20/3/22