

## STUDY OF AN SEIRS EPIDEMIC MODEL WITH VERTICAL TRANSMISSION

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### Abstract

In the present paper, we Proposed and analyzed an SEIRS compartment model with Vertical transmission. Determine the steady state of the model and Stability analysis is carried out. Equilibrium analysis is presented and it is found that in each case the nontrivial equilibrium is locally asymptotically stable under certain conditions The stability of the equilibria are studied by using the theory of differential equations, Routh-Hurwitz criteria.

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Key Words : *Epidemic model, Infectious diseases, Compartment model, Vertical transmission, Stability.*