INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

SHORT ABSTRACT OF THESIS

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Programme of Study	:	**Ph.D**.
Thesis Title	:	**Hydrological Modelling of the Transboundary Brahmaputra River for Strategic Water Management under Climate Change**
Name of Thesis Supervisor(s)	:	**PROF. ARUP KR SARMA**
Thesis Submitted to the Department/ Center	:	**CIVIL ENGINEERING**
Date of completion of Thesis Viva-Voce Exam	:	**11TH JANUARY'2021**
Key words for description of Thesis Work	:	**Brahmaputra, Hydrological modelling, Climate change**

SHORT ABSTRACT

The present study forwards development of hydrological model to derive science-based elements required for water resources managements at desired locations across the Brahmaputra basin. The Brahmaputra river basin characterized by glaciers at its source and ocean at its mouth is susceptible to global climate change. The present study projects the climatic variables for future periods and evaluates the probable impacts on the basin hydrology based on the GCMs. The uncertainties associated with the GCMs were handled by applications of interpolation followed by bias correction methods. Man-Kendall and Sen's slope trend analyses depict the Brahmaputra basin would undergo significant changes in the climatic pattern that will consequently impact on the streamflow till the end of the current century. As such, implications of these impacts that need to be strategically managed for the greater interest of obtaining the utmost benefits of water resources of this mighty basin are also forwarded to help the stakeholders.
