On Viscosity Factor in Blood Flow of Controlled and Uncontrolled Hypertension Patients

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The present thesis entitled, "On Viscosity Factor in Blood Flow of Controlled and Uncontrolled Hypertension Patients," has been spread over in five chapters. Chapter-1 gives the introduction and overall development of Bio-fluid mechanics. This chapter further deals with basic definitions, governing equations of various models and a detailed literature of magneto- therapy. Apart from the introductory chapter-1, we have discussed the following problems in the remaining Four Chapters:

Chapter-2 : Viscosity Factor in Hypertension Patients and its Effect on Blood Flow in Artery

The main aim of chapter-2 of this thesis is to explore the possible pattern in case of hypertension patients on the bases of collected data. We have used Poiseuile's Model to find velocity field and volume flow rate, we calculated hydrodynamic resistance of blood. On the basis of various graphs, we summarize the result of this chapter.

Chapter-3 : Magnetic Effect on Blood Flow in Artery in Case of Hypertensive Patients

The chapter -3 deals with magnetic effect on blood flow in artery in case of hypertension patients. The reliability of influence of magnetic effect has been tested by t- test and we found the influence of magnetic parameter on blood flow. Further we carried forward the work to obtained velocity field, volume flow rate and the HDRF.

Chapter-4 : Magnetic Effect on Casson's Fluid Flow.

In the chapter-4, we consider the flow of incompressible fluid through a tube under the influence of magnetic field to find shear stress using the iterative method .Due to independent nature of shear stress on fluid, we use this shear stress to analyze the flow of Casson's fluid. Using trapezoidal method, we compute velocity field and volume flow rate

Chapter-5 : Magnetic Effect on Casson's Fluid Flow in Slip Regime.

The chapter-5, contributes the last chapter of this thesis. We modifies the model considered in the chapter-4 of this thesis by introducing slip parameter k on the boundary of flow channel (tube). The results have been analyzed with respect to this parameter for fixed yield stress. All the results have been discussed graphically.

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