BLOOD FLOW WITH NANO PARTICLES THROUGH STENOSED ARTERIES UNDER THE EFFECT OF MAGNETIC FIELD

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The present investigation is devoted to suppositional study of blood flow with nano particles through a stenosed artery with permeable walls. The initiation of nanoparticles in blood will produce unharmonious consequences for stenosed tube. This study is carried out to reveal the effects of magnetic field on the harsh consequences of nanoparticles in case of stenosed artery. The governing equations of visualized model of blood flow are solved using the blend of laplace and Hankel transform method. The closed forms of expressions are accomplished for velocity and temperature distributions. The flow rate and shear stress are also compassed in the constricted region of tube. The results are manifested by using MATLAB and are demonstrated as plots for the distinctive parameters. It is depicted that the combined effect of time and magnetic field, is advantageous for the flow of blood in the stenosis region and with the rise in volume fraction of nanoparticles, the velocity of blood takes the edge off.

Keywords: permeability, magnetic field, couple stress blood flow, stenosed artery,nanoparticles.