Nomenclature

B_0	Uniform magnetic field
x'	Co-ordinate along the walls
x	Dimensionless Co-ordinate along the walls
y'	Co-ordinate perpendicular of the walls
y	Dimensionless co-ordinate perpendicular to the walls
t'	Time
t	Dimensionless Time
U_0	Uniform velocity of the plate
u'	Velocity of fluid
u, v, w	Velocity components
T'	Temperature
θ	Dimensionless Temperature
C'	Concentration
C	Dimensionless Concentration
T'_w	Temperature at the wall
T'_∞	Free stream temperature
C'_w	Concentration at the wall
C'_∞	Free stream Concentration
τ	Shear stress
C_p	Specific heat at constant pressure
μ	Dynamic viscosity
v	Kinematic viscosity of the fluid
ρ	Fluid density
σ	Electrical conductivity
g	Acceleration due to gravity
β'_T	Volumetric coefficient of thermal expansion
β'_c	Volumetric coefficient of concentration expansion
$\emptyset$	Porosity of the porous medium

k_1	Permeability parameter
k_1'	Permeability of porous medium
M	Magnetic field parameter
k	Thermal conductivity
Pr	Prandtl number
D_M	Mass diffusion coefficient
Gr	Thermal Grashof number
Gm	Mass Grashof number
Sc	Schmidt number
α_1	One of the material modules of second grade fluids
α	Second grade parameter
ω'	Phase Angle
H	Heat generation Parameter
$q_r{}'$	Radiative heat flux
σ^*	Stefan Boltzmann constant
a^*	Absorption coefficient
k^*	Mean absorption coefficient
Q_0	Heat source /Sink per unit mass
R	Thermal Radiation Parameter
k_T	Thermal diffusion ratio
C_s	Concentration susceptibility
T_m	Initial temperature of the fluid
η	Similarity variable
$f(\eta)$	Dimensionless stream function
q_r	Radiative heat flux
γ	Casson fluid parameter
Df	Dufour number
μB	Plastic dynamic viscosity
Py	Yield stress of fluid
e_{ij}	$(i, j)^{th}$ component of the deformation rate

π	Product of the component of deformation rate with itself
π_c	Critical value of this product based on the non- Newtonian model
D	Diffusion coefficient
D_T	Thermal diffusion coefficient
Sr	Soret Number
a	Straining constant
b	Constant
Bi	Biot Number
C_∞	Ambient Concentration
D_B	Brownian diffusion coefficient
h	Convective heat transfer coefficient
k_0	Relaxation time of viscoelastic fluid
Le	Lewis number
Nb	Brownian motion parameter
Nt	Thermophoresis parameter
Nu_x	Local Nusselt number
q_m	Mass flux (m/s)
q_w	Heat flux W/m^2
s	Stagnation parameter
Sh_x	Local Sherwood number
T	Temperature of the fluid (K)"
T_w	Temperature at the wall (K)
T_∞	Ambient fluid temperature (K)
U_w	Stretching sheet velocity (m/s)
K	Viscoelastic fluid parameter
τ_w	Wall shearing stress
C_f	Skin friction coefficient
B	Uniform magnetic field
Ω	Angular Velocity

L	Distance between the plates
R_k	Rotation parameter
φ	Nanoparticle volume fraction

Subscripts

f	Fluid phase
nf	Nano-fluid
hnf	composite Nano-fluid
s	Solid phase