Nomenclature

\( a \) Dimensionless accelerated parameter

\( a' \) Dimensional accelerated parameter

\( c_r \) Specific heat at constant pressure

\( d \) Distance between the walls

\( e_r \) Error function

\( e_r f_c \) Complementary error function

\( g \) Acceleration due to gravity

\( j \) Current density vector

\( k \) Permeability parameter

\( k \) Permeability of the porous medium

\( k \) Wave number

\( m \) Wall-thermal ratio parameter

\( n \) Wall-mass ratio parameter

\( q \) Dimensional radiative heat flux

\( q \) Dimensionless radiative heat flux

\( q \) Fluid velocity vector

\( t \) Dimensional time

\( t \) Dimensionless time

\( u \) Velocity components of the fluid (Velocity of the fluid in the \( x \)-direction)

\( u \) Dimensionless velocity

\( u_0 \) Velocity of the plate

\( v \) Velocity components of the fluid (Velocity of the fluid in the \( x \)-direction)

\( v \) Dimensionless velocity

\( y \) Co-ordinate axis normal to the plate
\( y \)  Dimensionless co-ordinate axis normal to the plate

\( A \)  Cross-sectional area of the fluid

\( \vec{B} \)  Magnetic field vector

\( B_o \)  Magnetic field strength

\( C \)  Dimensionless species concentration

\( \bar{C} \)  Species diffusion

\( \bar{C}' \)  Dimensional species concentration

\( C_o' \)  Concentration of the lower wall (chapter 3) / Concentration of the plate (chapter 4)

\( C_1' \)  Constant concentration at the flat wall

\( C_2' \)  Dimensionless concentration in static fluid condition

\( C_3' \)  Dimensional concentration in static fluid condition

\( C_4' \)  Constant concentration at the wavy wall (chapter 2) / Concentration of the upper wall (chapter 3) / Concentration of the plate (chapter 5, 6)

\( C_5' \)  Concentration of the fluid far away from the plate

\( D \)  Mass diffusivity

\( Da \)  Darcy number

\( E \)  Electric field

\( Fe \)  Eckert number

\( Gm \)  Grashof number for mass transfer

\( Gr \)  Grashof number for heat transfer

\( H \)  Magnetic field strength

\( K \)  Thermal conductivity

\( Kr' \)  Dimensional Chemical reaction rate constant

\( Kr \)  Chemical reaction rate constant

\( l \)  Dimensionless wavelength of the wavy wall

\( M \)  Magnetic field parameter
N     Radiation parameter
Nu    Nusselt number
P     Dimensionless pressure
P     Dimensional pressure
P_s  Pressure in static fluid condition
P_e  Peclet number
Pr    Prandtl number
Q     Dimensionless Heat source/sink parameter
Q     Total discharge of the fluid (chapter 1)
Q_0   Dimensional heat source/sink coefficient
Q_h  Dimensional heat source/sink coefficient
Q_l  Dimensionless radiation absorption coefficient
Q_i  Dimensional radiation absorption coefficient
Re    Reynolds number
Rm    Magnetic Reynolds number
Sc    Schmidt number
Sh    Sherwood number
T     Dimensional temperature of the fluid
T     Temperature of the fluid
T_a   Dimensional temperature of the lower wall (chapter 2) /
      Temperature of the plate (chapter 4)
T_h  Constant temperature at the flat wall
T_u  Constant temperature at the wavy wall (chapter 2) /
      Temperature of the upper wall (chapter 3) / Temperature of
      the plate (chapter 5,6)
T_r  Temperature in static fluid condition
T_e  Temperature of the fluid far away from the plate
U    Flow mean velocity