**ABSTRACT**

The effect of transverse periodic variation of permeability on the heat and mass transfer and the free convective flow of viscous electrically conducting incompressible fluid through a highly porous medium bounded by an infinite vertical porous plate is investigated. Approximate analytical solutions are found to determine velocity, temperature and concentration distributions. The effects of various non-dimensional parameters Permeability Parameter (K0), Buoyancy ratio (N), Reynolds number (Re) and Schmidt number (Sc) on velocity, temperature and concentration profiles, the skin friction, the Nusselt number and the Sherwood number are studied numerically.