Case II:

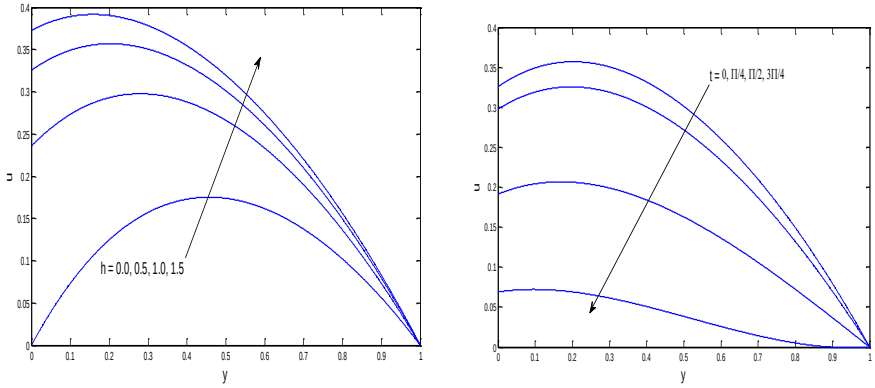

Figure.10. Effect of wall slip h and time t on velocity field when $S_c = 1, G_r = 1, R_e = 1, P_e = 0.7, k = 1, F = 1, \omega = 1, \lambda = 1, K_c = 1, M = 1$

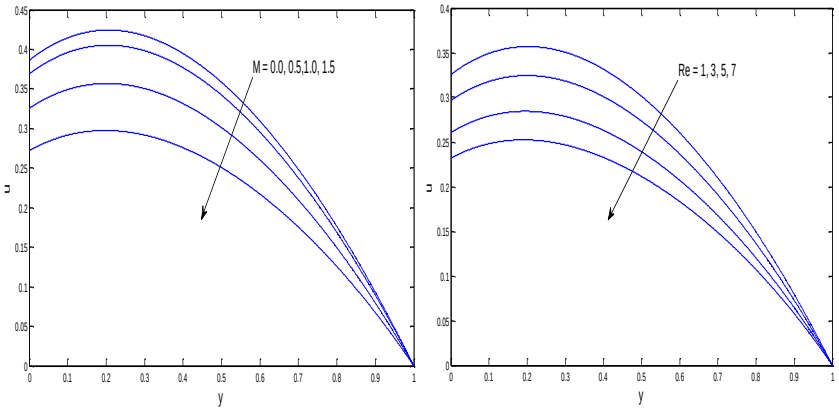

Figure.11. Effect of Magnetic parameter M and Reynolds Number S_c on velocity field when $S_c = 1, G_r = 1, P_e = 0.7, k = 1, F = 1, \omega = 1, \lambda = 1, K_c = 1, h = 1$,t=0

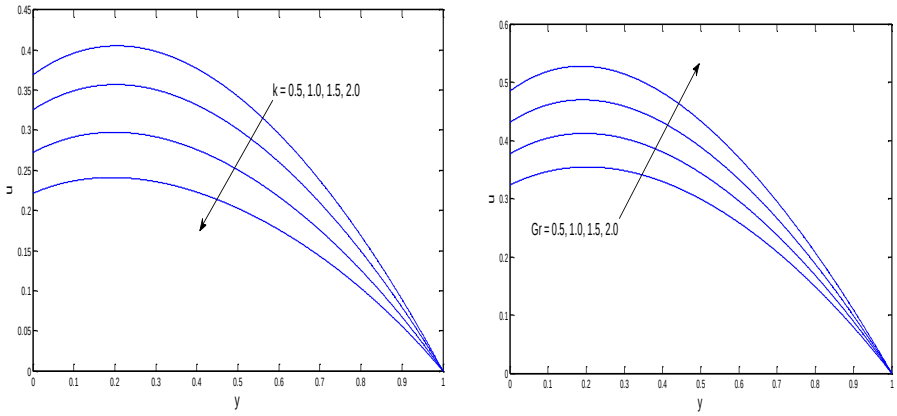

Figure.13. Effect of permeability parameter k and Grashof number G_r on velocity field when $S_c = 1, R_e = 1, P_e = 0.7, \ M = 1, F = 1, \omega = 1, \lambda = 1, K_c = 1, h = 1$

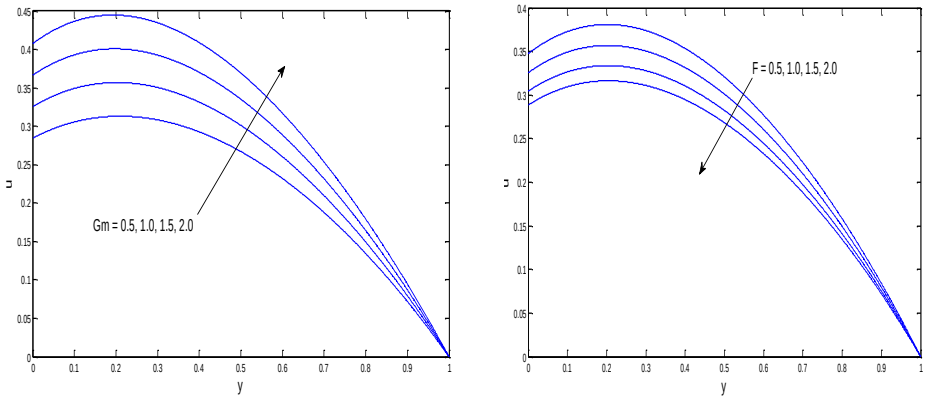

Figure.14. Effect of Modified Grashof Number G_m^* and Radiation parameter F on velocity field when $S_c = 1, G_r = 1, P_e = 0.7, k = 1, M = 1, \omega = 1, \lambda = 1, K_c = 1, h = 1$,t=0

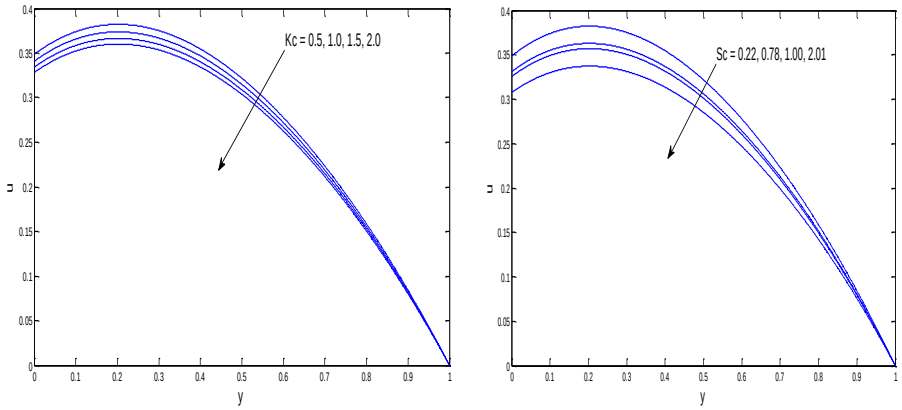

Figure.15. Effect of Schmidt Number S_c and chemical reaction parameter K_c on velocity field when $G_m = 1, G_r = 1, P_e = 0.7, k = 1, F = 1, \omega = 1, \lambda = 1, h = 1$, t=0, M=1

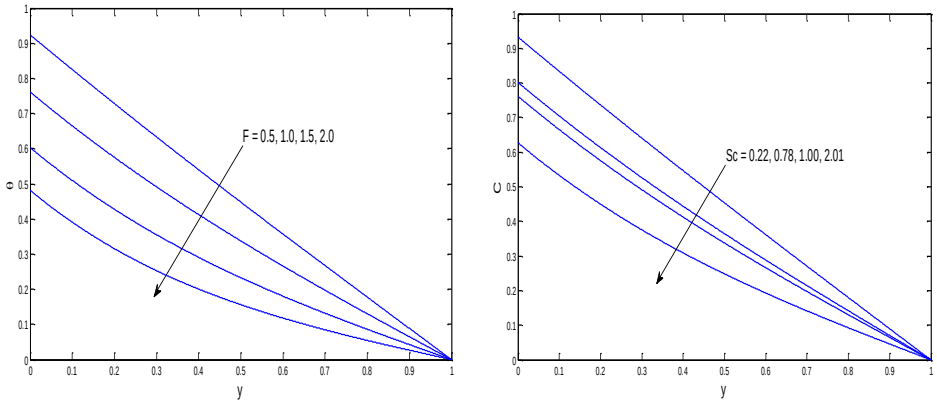

Figure.16. Effect of Radiation parameter F on Temperature field and Schmidt number S_c on concentration field

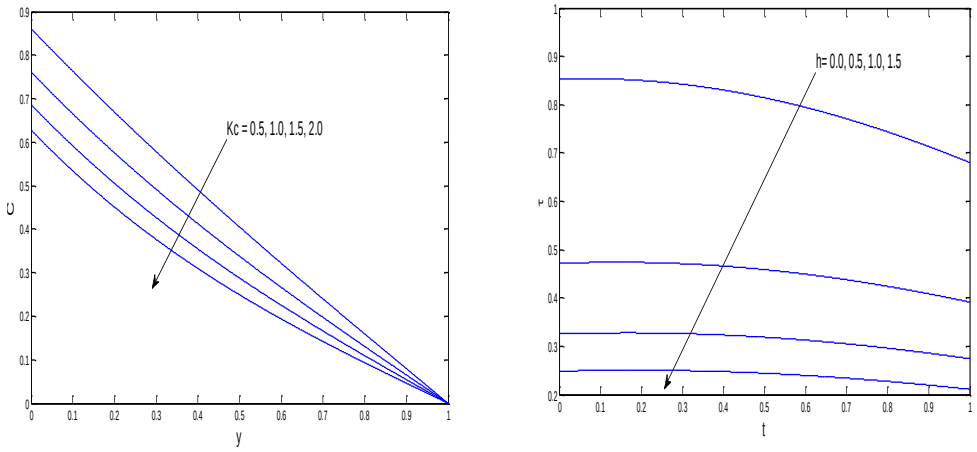

Figure.17. Effect of the chemical reaction parameter $\cdot_{l}$ on concentration field and h on Skin-friction

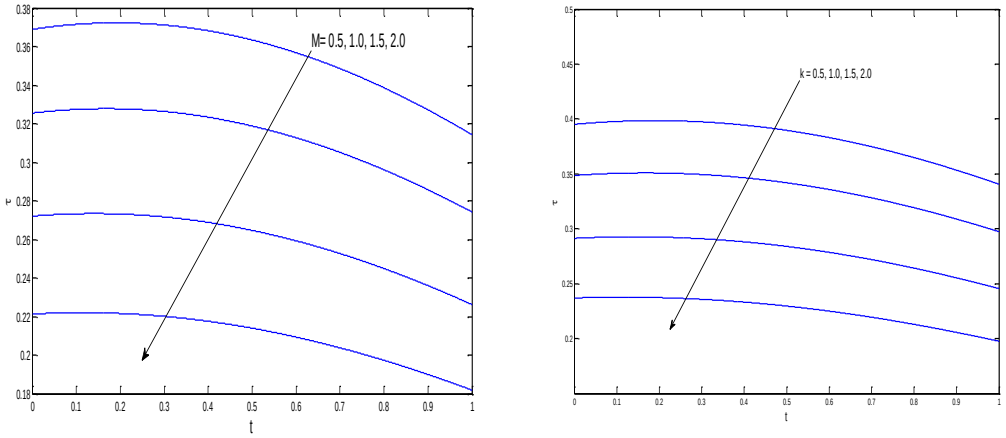

Figure.33. Skin-friction for different values of magnetic parameter M and permeability parameter k

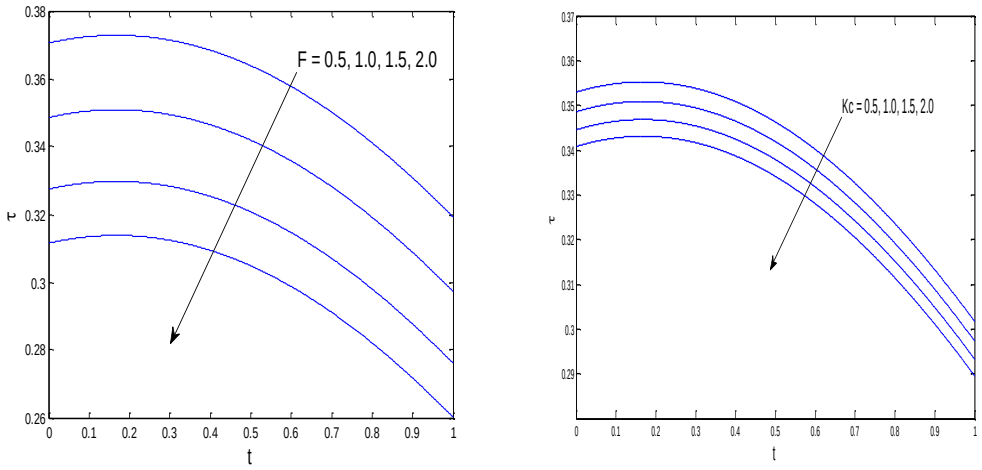

Figure.35. Skin-friction for different values of radiation parameter F and K_c

9. CONCLUSIONS:

In this paper we have studied the effects of slip condition, chemical reaction and radiation on MHD free convection periodic flow through a saturated porous medium bounded by a vertical surface in a planer channel in two cases viz. Case–I: Uniform plate Temperature and Concentration and Case–II: Constant heat and mass flux. In the analysis of the flow the following conclusions are made.

1. In case (I) and (II) of the study, the velocity increases with an increase in slip parameter h, Grashof number G_r, modified Grashof number G_m, Schmidt number Sc, and Radiation parameter F, and it shows a reverse effect in the case of magnetic parameter M, time t, permeability parameter k or Reynolds number R_e.
2. Temperature decreases with the increase in radiation parameter F for Case (I) and (II).
3. Concentration decreases with an increase in chemical reaction parameter k_c or Schmidt number Sc in Case (I) as well as in Case (II) of the problem.
4. Shear stress increases with the increase in magnetic parameter M or permeability parameter k and it shows a reverse effect in the case of slip parameter h or Schmidt number S_c in both cases of the study.

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