**ABSTRACT**

Small heterocycles bearing nitrogen and sulphur atoms, like thiazolidinone and pyrazolone constitute the core structure of a number of pharmacologically and biologically active interesting compounds.A microwave assisted three-component regioselective one-pot cyclocondensation method has been developed for the synthesis of a series of thiazolidinones incorporated with pyrazolones. Pyrazolyl acetyl hydrazide and thioglycolic acid were treated with differently substituted aromatic and heteroaldehydes to get different thiazolidinone derivatives. The compounds were characterized by physical and spectral data. The synthesized compounds were subjected to antibacterial screening at 20, 40 and 80 μg against Gram positive and Gram negative bacteria and to antifungal screening at 100, 200 and 400 μg concentrations. All the samples were screened for antibacterial and antifungal effects by cup-plate method using Ampicillin and Fluconazole respectively as standards, among which 4-nitrophenyl, 4-chloro, 4- N, Ndimethylaminophenyl, 3-methoxy-2-hydroxyphenyl substituted compounds (RA-4d, RA-4e, RA-4f, RA-4i & RA-4o) exhibited good antibacterial activity. RA-4d & RA-4f exhibited good antifungal activities. All samples were also screened for antitubercular effect and RA-4c, RA-4d &RA-4h exhibited good activity.

**Key words**: 4-thiazolidinone derivatives, Pyrazolone derivatives, antimicrobial activity, antitubercular activity, cup plate method, B. subtilis, E. coli, P. notatum, A. niger, M. tuberculosis.