CHAPTER - II

OBJECTIVES
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- Synthesis of some new organophosphorus five, six and eight-membered heterocycles containing carbon, nitrogen, oxygen and phosphorus in the ring system with bioactive moieties, such as aryloxy, chloroethyl, allyl, benzyl, carbamate, urea, amino acid ester groups and nitrogen mustard as substituents at phosphorus atom.

- Develop elegant methods for the synthesis of designed target molecules.

- Study the influence of the substituents in reactants (phosphorodichloridates and phosphorothioic dichlorides) on the ease of ring formation and reactivity.

- Establish the molecular structure of the synthesized compounds by elemental analysis, IR, $^1$H, $^{13}$C and $^{31}$P NMR and mass spectral studies.

- Study antimicrobial activity of these compounds and explore the possibility of their application as environmental friendly pesticides and bactericides.