GENERAL REMARKS

The structures appearing in each chapter have their own numbers which apply to that chapter. All figures pertinent to a chapter are placed after the relevant discussion in the following sequence: IR spectra, NMR spectra and elemental analysis (if any). Each chapter contains a separate experimental section. The following abbreviations are used in the text.

- aq - aqueous
- alc - alcoholic
- dil - dilute
- conc. - concentrated
- anhyd - anhydrous
- gl - glacial

The solvents and reagents used for the synthesis were of reagent grade (unless otherwise mentioned) and were purified by standard methods. Petroleum ether (Pet. ether) used was of boiling range 60-80°C. Anhydrous sodium sulphate was used to dry the solutions of organic extracts.

Thin layer chromatography (TLC) was performed using glass plates coated with silica gel-G containing 13% calcium sulfate as binder. Petroleum ether, benzene, ethyl acetate and methanol were used as developing solvents. A chamber containing iodine vapour was used to locate the spots.

Separation or purification of the crude products was carried out using chromatographic columns packed with activated silica gel (60-120 mesh).

Melting points (mp) were determined either on Boetius microheating table or on Mettler FP5 apparatus and are uncorrected. They are expressed in degree centigrade (°C).

IR spectra were recorded on Perkin Elmer 537 spectrophotometer, Perkin Elmer Grating Spectrophotometer 237-B or Nicolet 5 D x B FT - IR spectrophotometer.
using KBr disc, Nujol mull or dry chloroform, CCl₄ and the absorption frequencies are expressed in reciprocal centimeters (cm⁻¹).

¹H-NMR spectra were recorded on Varian EM 390 (90 MHz), General electric QE-300 (330 MHz), Varian 60MHz, WH 270MHz NMR spectrometer, using tetramethysilane (TMS) as internal reference. The chemical shifts are quoted in parts per million (ppm). The following abbreviations are used:

s - singlet; d - doublet; dd - doublet of doublet; t - triplet;
q - quartet; m - multiplet and br s - broad singlet and
J - spin-spin splitting constant in Hertz (Hz)

Mass spectra were recorded on Jeol JMS 300 mass spectrometer

Micro analyses were performed on Carlo Erba-1106 or Perkin Elmer - 240 B CHN analyser.