UNIVERSITY OF SCIENCE AND TECHNOLOGY, [illegible]
FACULTY OF SCIENCE

B. Sc. (Chemistry) First Semester Examination, 1999
First Year

C 169 CHEMISTRY PRACTICALS

JANUARY 1999 TWO AND A HALF HOURS

Answer all questions.

1. (a) State and describe the technique you would use to extract oil from orange peels.

   (b) Briefly describe the technique of thin layer chromatography (TLC).

   (c) State the chromatographic method you would use to separate or identify

   (i) a mixture of amino acids
   (ii) a mixture of dyes
   (iii) a mixture of acetylene and carbon (iv) oxide

   (d) A compound W migrates 7.5 cm from the point of application on a TLC plate when at the same time, the solvent front migrates 16.0 cm beyond the point of sample application.

   (i) Calculate the R_f for the compound

   (ii) On an identical plate, the solvent front moved 14.0 cm beyond the point of sample application. Where should the compound W be located on the plate?

2. (a) Give six safety guidelines that have to be followed at all times to minimize the chances of accidents in the laboratory.

   (b) Distinguish between TC and TD on laboratory glassware.

   (c) Explain why volume may not be conserved for solution mixtures.

   (d) Briefly explain the basis of the Hess's Law.

   (e) Distinguish between order and molecularity.

   ([illegible]) When a mixture of silver metal and sulphur is heated, silver sulphide is [illegible]ed.

$$16\,Ag_{(s)} + S_{8(s)} \xrightarrow{heat} 8\,Ag_2S_{(s)}$$