UNIVERSITY OF SOUTH AUSTRALIA
SCHOOL OF NATURAL AND BUILT ENVIRONMENTS

FIRE TECHNOLOGY 1

External Examination 2005

Date of examination:
Examiner: Graham Brown

General instructions to candidates :

Write your name on the examination booklet.
You must answer all questions.
All questions have marks indicated in brackets e.g. (20 marks)
Maximum marks:100
Exam is "open book". Lecture notes and text books and Australian Standards are permitted references.
Reading time is 10 minutes before commencing the paper.
Time for examination is 2 hours.

Question 1.

When solid materials burn they do so in several stages.

Using appropriate diagrams describe the combustion process for a piece of wood. **(20 marks)**

Question 2.

Using diagrams describe the various ways that could be used to prevent steel columns from early collapse in a fire. **(25 marks)**

Question 3.

Discuss the factors which may affect the speed at which people can escape from a building in the event of a fire and describe the effects that each factor might have. **(25 marks)**

Question 4.

The early fire hazard indices of materials used in a building can affect the amount of smoke produced and the speed at which fire will spread .

Discuss the factors that you would consider when selecting materials to be installed in a path of travel to a fire isolated stair. **(15 marks)**

Question 5.

Barriers of ordinary building materials such as timber , glass and plasterboard can be used to slow down the spread of fire in a building.

Discuss how you might use such ordinary materials to good effect in a two storey backpackers hostel. **(15 marks)**