

**UNIVERSITY OF SOUTH AUSTRALIA
SCHOOL OF GEOINFORMATICS PLANNING AND BUILDING**

(FIRE TECHNOLOGY 1 – (05467) EXTERNAL EXAMINATION - SEMESTER 2, 2000)

Date of examination: TUESDAY 14TH NOVEMBER 2000

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)

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. (20 marks)

Solid materials burn in several stages. Describe the combustion process for a piece of wood using suitable diagrams as appropriate.

Question 2. (20 marks)

Describe the various ways that could be used to prevent steel columns from collapsing in a fire. Illustrate your answer with suitable diagrams.

Question 3. (20 marks)

The speed at which people can escape from a building in the event of a fire is affected by several factors. Discuss these and describe the effects that each factor might have.

Question 4. (15 marks)

Discuss the difference between the terms backdraft and flashover in fire behaviour and describe when each will occur.

Question 5. (15 marks)

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.

Question 6. (10 marks)

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.