SCHOOL OF GEOINFORMATICS PLANNING AND BUILDING

CONSTRUCTION AND FIRE ENGINEERING 1N—FIRE COMPONENT
(FIRE TECHNOLOGY 1 – Internal Examination)

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)
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)**

When solid materials burn they do so in several stages. Using appropriate diagrams describe the combustion process for a piece of wood.

Question 2. **(20 marks)**

Using diagrams describe the various ways that could be used to prevent steel columns from collapsing in a fire.

Question 3. **(30 marks)**

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.

Question 4. **(10 marks)**

" Flashover" and " backdraft" are two terms used in describing fire behaviour.
Discuss the difference between the two and describe when each will occur.

Question 5. **(10 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 toa 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.