

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

**CONSTRUCTION AND FIRE ENGINEERING (FIRE COMPONENT)
FIRE TECHNOLOGY 1 (DISTANCE LEARNING MODE)**

EXAMINER: MESSRS. GRAHAM BROWN/GEORGE ZILLANTE

GENERAL INSTRUCTIONS TO CANDIDATES:

Write your name on the examination answer booklet
You must answer all questions

Lectures notes and text books are permitted references

All questions are of equal value (20 marks)

Maximum Marks: 100

Time allowed: 2 hours plus ten minutes reading time

OPEN BOOK EXAMINATION

Question 1: **(20 marks)**

- a) In your own words and by the use of diagrams, explain what happens when a piece of timber is ignited and burns.

- b) Indicate the method of fire extinguishment which would be most suitable and why this is so.

Question 2: **(20 marks)**

Discuss the factors which determine the severity of a fire in a building.
How can the severity of a fire be compared with the Standard fire test? Illustrate your answer with diagrams.

Question 3: **(20 marks)**

Discuss the factors which must be considered when trying to prevent fire spread within a building and also to adjacent buildings.

Question 4: **(20 marks)**

A window is required for an opening 3m long x 1m high. The window must be able to restrict radiated heat as well as maintaining integrity for a period of at least 30 minutes. Discuss the factors you would consider in the design, the materials that you would recommend, and how you would install them.

Question 5: **(20 marks)**

Discuss the characteristics of the occupants of a building which need to be known to design exit systems for buildings effectively and what influence each one may have.

Good Luck