

UNIVERSITY OF SOUTH AUSTRALIA
SCHOOL OF GEOINFORMATICS PLANNING AND BUILDING

FIRE TECHNOLOGY 2 – EXTERNAL EXAMINATION

Date of examination: June, 2002
Examiner: Graham Brown

General instructions to candidates :

Write your name on the examination booklet.

You must answer all questions.

All questions and parts of 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.

Maximum marks are 100.

Question 1.

Discuss the fire fighting equipment which would need to be installed in an office tower 12 storeys high and how it would be used to fight a fire on the tenth storey.

(20 marks)

Question 2.

Your client wants to install a sprinkler system into an existing building which has cold rooms in a kitchen area, a storage area for rare books, and a reading room area with a vaulted roof , exposed air conditioning duct work, and open web trusses.

Discuss the recommendations that you would make for such an installation and the things that you would check to ensure that the system would be effective.

(20 marks)

Question 3.

What type of smoke or heat detection devices or system of devices would you recommend for the following buildings and why would you make such a recommendation ?

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|-----|--|---------------------|
| (1) | a large warehouse | |
| (2) | the accommodation section of a hotel | |
| (3) | the atrium space of a building | |
| (4) | a factory where smoke and flames and heat are normally present | |
| (5) | a hospital ward | (20 marks) |

Question 4.

What are the differences between a “purge system” and a “zone system” used for smoke control in the event of a fire in a building.

Which system is more effective and why?

(20 marks)

Question 5.

- (a) Describe what would happen if a fire was to start in a shop opening into a single storey unventilated shopping mall. **(10 marks)**
- b) What recommendations would you make to limit the hazard from smoke to the occupants of the shopping mall in (a) above? **(10 marks)**