

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

**FIRE TECHNOLOGY 2  
EXTERNAL EXAMINATION, JUNE 2000**

Time: 2 hours plus 10 minutes reading time  
Subject Code: 05468  
Examiner: Graham Brown

**General Instructions to Candidates:**

Write your name on the examination booklet.

You must answer ALL questions

All questions are of equal value (20 marks each)

Maximum marks: 100

Permitted references: Text books, lecture notes, reference books, Australian Standards and the Building Code of Australia

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**Question 1:**

Discuss the factors which make water such a good general purpose extinguishing agent and how it can also be used in specialised systems to extinguish fires in flammable oils and how that extinguishment is achieved.

**Question 2:**

Describe how fire service crews attending a fire in a high rise building will use the installed fire hydrant system for an attack on a fire at a high level of the building.

- Discuss the importance of having a fire pump and water supply tank in a high rise building and how these should be set up to provide the required flows and pressures needed by the fire crew.

**Question 3:**

You have been asked to recommend a suitable fire detection system for a large warehouse containing palletised goods in stacks 4 metres high. The goods are contained in cardboard cartons.

- Discuss the type of system and components you would install and why you would recommend them.

**Question 4:**

The owner of a restaurant and bar complex which includes cold rooms for vegetables, and freezer rooms for meats and poultry in the food preparation area wants to install a sprinkler system to protect the premises.

The restaurant has a vaulted roof above the main dining room area with a mezzanine area for private functions. The floor to roof height is 8 metres. The roof is constructed from sheet steel on exposed timber purlins and trusses. Cooling and heating is provided by exposed steel ductwork which in places is 1200mm in diameter.

- Describe the features you would incorporate into the sprinkler system and discuss any problems that could be encountered in such an installation.

**Question 5:**

You have been asked to provide a fire extinguishing system to protect a collection of rare books in a library. The books are stored on steel shelving in stacks of four shelves up to a height of 2 metres. The room is approximately 10 metres long and 5 metres wide.

- Discuss the type of system you would recommend and any precautions you would incorporate to ensure the safety of the occupants of the room should there be a fire in the room.

**End of Questions**