



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

Faculty of Engineering & Technology

DEPARTMENT OF CIVIL AND BUILDING ENGINEERING

**CERTIFICATE IN CONSTRUCTION TECHNICIAN II
(09A)**

FINAL EXAMINATION

APRIL/MAY 2010 SERIES

EB 1119 :

BUILDING TECHNOLOGY 4

TIME: 2 HOURS

Instructions to Candidates

You should have the following for this examinations:

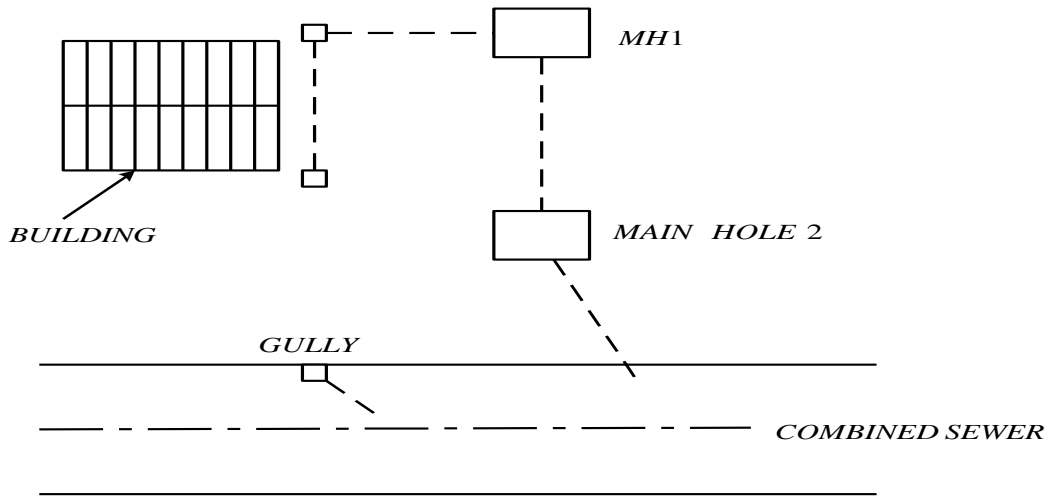
- Answer booklet
- Writing materials

This paper consists of **FIVE Questions**.

Questions **ONE** is **COMPULSORY**.

Maximum marks for each part of a question is as shown.

Question ONE



The figure above is a plan of a roof, constructed near a 6meter tarmacked road. The roof is drained in a 75mm pipe that discharge into a ground gully that empties in manhole 1. This then drains into manhole 2 then to a combined sewer at the centre of the road. There is provided a road gully that takes surface run off to the main sewer. With the aid of a sketch:

- (a). Describe the construction of the road gully. **(10 Marks)**
- (b). Describe how the drain between A and B will be tested if the smoke test has been specified. **(10 Marks)**

Question TWO

- (a). Outline **THREE** functional requirements of every cold water installation. **(3 Marks)**
- (b). With the aid of a sketch, describe the indirect hot water installation. **(10 Marks)**
- (c). Describe the construction of a fire resisting door. **(7 Marks)**

Question THREE

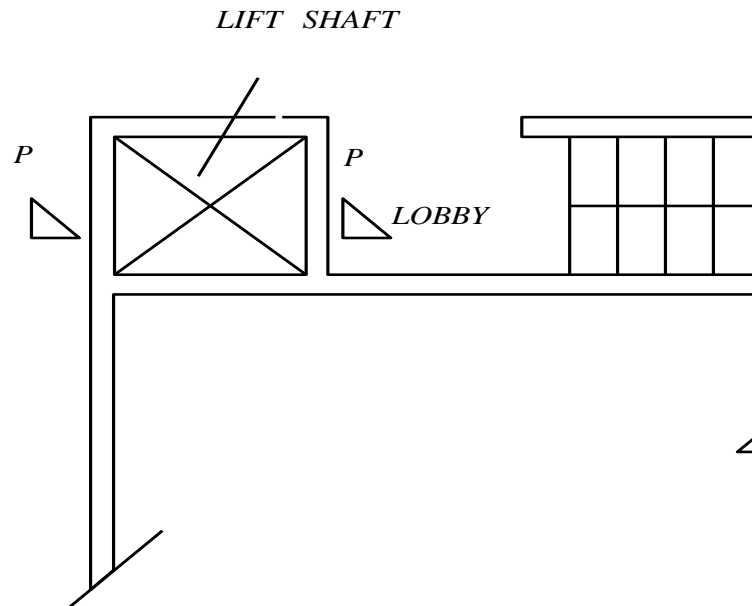
- (a). Outline **THREE** disadvantages of mechanical ventilation. **(3 Marks)**
- (b). Briefly explain the following terms as used in construction:
 - (i). Fire load
 - (ii). Fire triangle

- (iii). Dry riser
- (iv). Wet riser
- (v). Sprinkler

(10 Marks)

- (c). With the aid of a sketch, describe the operation of the carbon dioxide type of a portable fire extinguisher. **(7 Marks)**

Question FOUR



- (a). The figure above shows a plan of a the sixth floor storey building. Draw section P-P through a lift shaft to show the construction detail of:

- ❖ The machine room
- ❖ The pit

(10 Marks)

- (b). Outline **FIVE** design requirements of a good lift system in a busy building. **(5 Marks)**

- (c). Outline **FIVE** factors that govern the rate of ventilation in a building. **(5 Marks)**

Question FIVE

Briefly describe the procedure of joining new works to old, indicating one situation where permanent formwork is used. **(20 Marks)**