



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS**

**2013/2014 ACADEMIC YEAR**

**SECOND YEAR, SECOND SEMESTER EXAMINATION FOR DIPLOMA IN  
BUILDING AND CIVIL ENGINEERING**

**TBC-2226 BUILDING CONSTRUCTION TECHNOLOGY II**

**AUGUST: 2013**

**TIME: 1.5 HOURS**

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## **INSTRUCTIONS TO CANDIDATES**

**This paper consist of 5 questions**

**Answer Question ONE and any other TWO questions**

### **QUESTION ONE**

- a) (i) State briefly the essential requirements of a good roof.  
(ii) Discuss the merits and demerits of flat and pitched roofs. (8Mks)
- b) (i) Outline the main points that should be kept in view while locating doors and windows  
(ii) With the aid of a neat sketch of a timber door with shutter label the various parts (8Mks)
- c) (i) Classify with the aid of sketches, various types of windows based on their method of operation or opening  
(ii) Describe the two methods of fixing glass into panels (8Mks)
- d) (i) Describe with the help of sketch the method of taking a house connection for water supply.  
(ii) State the main function of a ball valve in a plumbing system. (8Mks)
- e) (i) Outline reasons for maintenance of buildings.  
(ii) Outline the essential features of a planned maintenance system (8Mks)

### **QUESTION TWO**

- (a) Using a line diagram show a suitable supply system for cold water and hot water for a domestic building (9Mks)
- (b) Outline THREE economic factors which should be considered in the installation of the water supply system to be used. (6Mks)

### **QUESTION THREE**

- (a) State four building code requirements with respect to the design of windows. (4Mks)
- (b) With the aid of sketches describe the following types of roof lights in pitched roofs.
  - (i) Sky light
  - (ii) Dormer windows (11Mks)

## QUESTION FOUR

- (a) With the help of neat sketches describe the following iron mongery used for fixing doors and windows.
- (i) Butt hinge
  - (ii) Parliament hinge
  - (iii) Rising butt hinge (6Mks)
- (b) (i) State the three sources of water (2Mks)
- (ii) Briefly explain the main purpose of a stop cock in a plumbing system (3Mks)
- (c) Calculate the gauge of tiling battens given the length of a tile as 265mm and the overlap for plain tiles is 65mm (1Mk)
- (d) Compare the merits and demerits of hardwoods and softwoods used in joinery work (3Mks)

## QUESTION FIVE

- (a) Describe the following composite boards used in joinery works.
- (i) Plywood
  - (ii) Block board
  - (iii) Wood cement board
  - (iv) Fibre boards
  - (v) Plastics (10Mks)
- (b) State two types of maintenance (2Mks)
- (c) Discuss the main causes of defects in buildings (3Mks)