



MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

SECOND YEAR SECOND SEMESTER EXAMINATION FOR CERTIFICATE IN
BUILDING CONSTRUCTION TECHNOLOGY
BCE BT 210 GENERAL BUILDING CONSTRUCTION II

DATE:

TIME:

INSTRUCTIONS

Answer Question One and Any Other Two Questions

QUESTION ONE (30 MARKS)

- a) State four functional requirements of a chimney (8 marks)
- b) Outline five functional requirements of a good formwork. (10 marks)
- c) Briefly explain the importance of building maintenance. (6 marks)
- d) Outline three ways in which a noise problem can be solved (6 marks)

QUESTION TWO (20 MARKS)

- a) Define the following terms as applies to stairs
 - i. Flight
 - ii. Landing
 - iii. Rise
 - iv. Going
 - v. Baluster (10 marks)
- b) Make a neat sketch of a balustrade and name all the parts. (10 marks)

QUESTIONS THREE (20 MARKS)

- a) Make neat pictorial sketches of the following types of stairs
- i. Straight flight
 - ii. Quarter turn
 - iii. Bifurcated
 - iv. Winder turn (16 marks)
- b) State two advantages of thermal insulation (4 marks)

QUESTIONS FOUR (20MARKS)

- a) List any two types of maintenance (4 marks)
- b) Briefly explain the following modes of heat transfer
- i. Radiation
 - ii. Conduction
 - iii. Convection (6 marks)
- c) State two forms of sound giving relevant examples. (6 marks)
- d) Outline any four effect of sound on mankind. (4 marks)

ADD ONE MORE QUESTION



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SCHOOL OF ENGINEERING

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR CERTIFICATE IN
BUILDING CONSTRUCTION TECHNOLOGY
BCE BT 116: CONSTRUCTION TECHNOLOGY II**

DATE:

TIME:

INSTRUCTIONS

Answer Question One and Any Other Two Questions

QUESTIONS ONE (30 MARKS)

- a) Name and sketches of two types of walls (10 marks)
- b) Make a neat sketch of a door frame and name all the parts (7 marks)
- c) Outline the procedure to be followed when plastering (5 marks)
- d) Briefly differentiate between pointing and jointing (4 marks)
- e) Outline any two methods of curving (4 marks)

QUESTIONS TWO (20 MARKS)

- a) Differentiate between a door frame and a door lining by means of neat sketches (10 marks)
- b) Make a neat sketch a framed ledged braced and battened door and name all the parts (black elevation) (5 marks)
- c) Make a neat vertical section of the door named in (b) above (5 marks)

QUESTION THREE (20MARKS)

- a) State two main reasons why doors are necessary in buildings. (4 marks)
- b) State two reasons for inserting braces in doors. (4 marks)
- c) State three reasons why curing is necessary. (6 marks)

QUESTIONS FOUR (20MARKS)

- a) Make a neat sketch to show the following in a window
 - i) Transom
 - ii) Mullion (10 marks)
- b) Make a front elevation of a four paneled gunstock door. (10 marks)

ADD ONE MORE QUESTION



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**SECOND YEAR SECOND SEMESTER EXAMINATION FOR CERTIFICATE IN
BUILDING CONSTRUCTION TECHNOLOGY**

BCE BT 212: CONSTRUCTION MANAGEMENT IV

DATE:

TIME:

INSTRUCTIONS

Answer Question One and Any Other Two Questions

QUESTIONS ONE (30MARKS)

- a) Make a neat sketch of a medium sized organization structure of a construction firm (10 marks)
- b) Outline four ways in which a contract can be discharged (8 marks)
- c) Outline five requirements before entering into a contract (10 marks)
- d) State two reasons for holding site meetings. (2 marks)

QUESTIONS TWO (20 MARKS)

State five types of civil engineering contracts and outline what they entail (20 marks)

QUESTIONS THREE (20 MARKS)

- a) Outline five duties of a trade union (10 marks)
- b) Name five office documents and their functions (10 marks)

QUESTIONS FOUR

- a) State four types formal relationships within relationships outline what they entail (16 marks)
- b) Briefly explain the following terms
- i. Motivation
 - ii. Span of control (4 marks)

QUESTION FIVE



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**SECOND YEAR SECOND SEMESTER EXAMINATION FOR CERTIFICATE IN
BUILDING CONSTRUCTION TECHNOLOGY
BCE BT 214 ENGINEERING DRAWING IV**

DATE:

TIME:

INSTRUCTIONS

Answer Question One and Any Other Two Questions

QUESTION ONE

- a) Fig 1 shows a block in 1st angle orthographic projection. Draw the block in one-point perspective drawing (10 marks)
- b) Make neat diagrammatic sketches to show the sign convention symbols for the following building materials.
- i. National stone
 - ii. Wrot timber
 - iii. Unwrot timber
 - iv. Concrete
 - v. Brick (10 marks)

QUESTION TWO

Figure 2 shows a block in 1st angle orthographic projection. Draw the block in two-point perspective drawing (20 marks)

QUESTION THREE

Fig 3 shows two views of a wooden block and its perspective layout. Copy the layout and draw the block in two-point perspective drawing (20 marks)

QUESTION FOUR

Make neat sketches to show the following types of foundation.

- a) Traditional strip foundation
- b) Raft foundation (20 marks)

QUESTION FIVE

Make neat sketches to show the following types of single roofs following their maximum spans:

- a) Couple roof
- b) Closed couple roof
- c) Collar tie roof
- d) Killing post roof (20 marks)



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DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

DIPLOMA IN CONSTRUCTION TECHNOLOGY

DIPLOMA IN CIVIL ENGINEERING

BCE BT 214 GENERAL BUILDING CONSTRUCTION I

DATE:

TIME:

INSTRUCTIONS

Answer Question One and Any Other Two Questions

QUESTION ONE

- a) State and briefly describe four types of levels (8 marks)
- b) Define the term leveling (2 marks)
- c) Explain the three main obstacles in chain surveying (6 marks)
- d) Outline two branches of surveying (4 marks)
- e) State four purposes of surveying (8 marks)
- f) Define the term surveying (2 marks)

QUESTION TWO

- a) Briefly explain a procedure of measuring a line across a tall building without setting out right angles (10 marks)
- b) Make a neat diagrammatic sketch to show the basic optical principle of telescope (10 marks)

QUESTION THREE

- a) Name five types of surveyors outlining their duties. (10 marks)
- b) Show a method of measuring a line over a small hill (10 marks)

QUESTION FOUR

- a) State five types of errors which may be encountered in ordinary leveling (10 marks)
- b) Briefly Outline A Suitable Method Of Measuring A Line A Cross A Wide River Without Setting Out Right Angles. (10 marks)

QUESTION FIVE

Briefly explain the following terms as applied in leveling:

- a) Level time
- b) Reference plane
- c) Reduced level
- d) Bench mark
- e) Temporary bench mark
- f) Line of collimation
- g) Spot height
- h) Back sight
- i) Fere sight
- j) Intermediate sight (20 marks)



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DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

**THIRD YEAR SECOND SEMESTER EXAMINATION FOR CERTIFICATE IN
BUILDING CONSTRUCTION TECHNOLOGY**

BCE BT 314 GENERAL BUILDING CONSTRUCTION IV

DATE:

TIME:

INSTRUCTIONS

Answer Question One and Any Other Two Questions

QUESTIONS ONE

- a) State three factors to consider when positioning plant on a given site. (3 marks)
- b) Differentiate between hoarding and fencing (4 marks)
- c) Define the term discipline (2 marks)
- d) Outline any five qualities of a good leader (5 marks)
- e) Outline any four functions of management principles (8 marks)
- f) Explain the meaning of management principles (4 marks)
- g) Name two types of contracts outlining their terms (4 marks)

QUESTION TWO

Make a neat sketch to show a site layout plan of a masonry workshop. (20 marks)

QUESTIONS THREE

- a) Outline two duties of each of the following members in the building team

- i. Client
 - ii. Quantity surveyor
 - iii. Architect
 - iv. Draughtsman
 - v. Contractor (10 marks)
- b) Briefly explain how the following materials can be stored in a site.
- i. Timber
 - ii. Cement (10 marks)

QUESTION FOUR

- a) Outline any two methods of programming contracts (10 marks)
- b) Make a neat sketch of a good organization structure of the building team. (10 marks)

QUESTION FIVE

- a) Explain the importance of sign boards in a site (5 marks)
- b) Outline two types of tendering (10 marks)
- c) Briefly explain the term span of control (5 marks)