



MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

SECOND YEAR FIRST SEMESTER EXAMINATION FOR CERTIFICATE IN
BUILDING

BCE:BT 202: CONSTRUCTION MANAGEMENT I

DATE: 28/7/2017

TIME: 11:00 – 1:00 PM

INSTRUCTIONS

- This paper consists of (5) five questions
- Answer questions one(compulsory)and any other two
- Maximum marks for each part of a question are as indicated

- State two differences between private and public stairs. (4 marks)
 - State the three main reasons for timbering. (6 marks)
 - State five preliminaries items that are included in a site before work starts. (5 marks)
 - Explain the meaning of the term timbering as refers to site works. (4 marks)
 - Explain why site investigations have to be done before construction commences. (5 marks)
 - Draw a front elevation of a window and name its parts. (10 marks)
- Draw a section view of a house constitution indicating the foundation and the roof construction and show member sizes. (20 marks)

3. (a) Explain the following terms as used in timbering
- (i) Struts
 - (ii) Poling Boards
 - (iii) Horizontal Sheeting (6 marks)
- (b) (i) State two functions of a stair case (4 marks)
- (ii) Explain the differences between a casement window and a bay window (4 marks)
- c) Explain the following components of a stair.
- (i) Handrail
 - (ii) Baluster
 - (iii) String (6 marks)
4. a) State and explain three types of roofs. (6 marks)
- b) Explain three loads that are carried by a roof structure. (6 marks)
- c) Draw a shallow trench open timbering and explain how it works. (8 marks)
5. a) Calculate the number of reserves and the width of the treads and height of reserves for a Staircase for a domestic building if the floor to floor height is 2700 mm (15 marks)
- (b) Explains the following terms as used in the construction of stairs.
- (i) Stair well
 - (ii) Treads
 - (iii) Riser
 - (iv) Going
 - (v) Step (5 marks)



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SECOND YEAR FIRST SEMESTER EXAMINATION FOR CERTIFICATE IN
CONSTRUCTION TECHNOLOGY

BCE BT 204: CONSTRUCTION MANAGEMENT III

DATE: 26/7/2017

TIME: 11:00 – 1:00 PM

INSTRUCTIONS

- This paper consists of (5) five questions
- Answer questions one(compulsory)and any other two
- Maximum marks for each part of a question are as indicated

1. (a) Briefly explain the following as applied to workshop plant and equipment
 - (i) Routine maintenance
 - (ii) Planned maintenance (6 marks)
 - (b) Briefly explain each of four contract documents in any project. (8 marks)
 - (c) Outline four roles of each of the following parties in construction
 - (i) Architect
 - (ii) Quantity Surveyors (8 marks)
 - (d) Outline four advantages of selective tendering (4 marks)
 - (e) State four qualities of a good leader (4 marks)
2. (a) Describe the following types of tendering giving two advantages and two Disadvantages of Each

- (i) open tendering
 - (ii) Negotiated tendering (12 marks)
- b) Explain four relationships that exist in an organization (8 marks)
- 3. a) Discuss the following the terms as used in contracts
 - (i) Tenders
 - (ii) Preliminaries
 - (iii) Site (6 marks)
- b) List four methods a leader can apply to motivate his/her workers. (4 marks)
- c) Draw an organization structure of a medium sized construction firm. (10 marks)
- 4. Discuss the following types of contract
 - (i) Measured contract
 - (ii) Lump sum contract
 - (iii) labor only contract
 - (iv) Negotiated contract (20 marks)
- 5. a) State three advantages of hiring a plant. (3 marks)
- b)
 - i) List five causes of indiscipline in site
 - ii) Outline the procedure a manager can use to discipline a worker. (12 marks)
- c) State five plants used on site and state their functions. (5 marks)



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SECOND YEAR FIRST SEMESTER EXAMINATION FOR CERTIFICATE IN
BUILDING CONSTRUCTION TECHNOLOGY

BCE.BT 205: ENTREPRENEURSHIP III

DATE: 2/8/2017

TIME: 11:00 – 1:00 PM

INSTRUCTIONS

- This paper consists of (5) five questions
 - Answer questions one(compulsory)and any other two
 - Maximum marks for each part of a question are as indicated
1. (a) i) State five traits of creativity and innovation that an entrepreneur should have (5 marks)
 ii) State five characteristics of a successful entrepreneur. (5 marks)
 b) i) Name and explain two factors that influence decision making. (4 marks)
 ii) State and explain three incentives that the government has introduced for aspiring entrepreneur so that they can have interest in starting a business. (6 marks)
 c) i) Name and explain five basic financial business records. (5 marks)
 ii) Explain five types of documents used in a site as a means of communication. (5 marks)
 2. (a) Explain three ways of self assessment that an entrepreneur can use to test hi strength and Weakness. (6 marks)

- (b) Explain the following characteristics of an entrepreneur.
 - (i) Risk Taker
 - (ii) Future Oriented
 - (iii) Action Oriented (6 marks)
- c) Explain how a contractor gets sub-contractors in a building site. (5 marks)
- 3. a) Draw a site plan showing all the amenities constructions and pit latrines in the Compound. (10 marks)
- b) (i) Define the term trade unions. (2 marks)
- (ii) Name two courses of industrial action in a building site. (4 marks)
- c) Explain how construction programmes are prepared. (4 marks)
- 4. a) (i) Name the principal concerning incentive schemes. (4 marks)
- (ii) Name and explain three advantages and three disadvantages of incentive schemes. (6 marks)
- b) Name four financial incentives that can be used to motivate workers. (4 marks)
- c) Explain the following incentive schemes.
 - (i) Hourly-plus-rates
 - (ii) Piece-work. (6 marks)
- 5. a) Draw a sub-contractor work schedule for two roomed house for a period of 30 days in installation of water systems. (10 marks)
- b) Draw a Crane and explain how it works. (6 marks)
- c) State two functions of trade unions. (4 marks)



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SECOND YEAR FIRST SEMESTER EXAMINATIONS FOR CERTIFICATE IN
BUILDING CONSTRUCTION TECHNOLOGY

BCEBT 207 :BUILDING CONSTRUCTION TECHNOLOGY III

DATE: 4/8/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

- This paper consists of (5) five questions
- Answer questions one(compulsory)and any other two
- Maximum marks for each part of a question are as indicated

1. a) (i) State five requirements of a wall (5 marks)
 - (ii) Define the term walls (2 marks)
 - b) State and explain the main functions of the floor (3 marks)
 - c) i) Draw a ground floor plan of a house from strip foundation indicating all the Construction areas (15 marks)
 - (ii) State five functional requirements of a roof. (5 marks)
2. Draw a flat roof construction and label all the parts. (20 marks)
3. a) State and explain five requirements of a floor when being designed and Constructed. (5 marks)

- b) i) Explain the following terms as refers to primary functions of a wall
- i. Strength
 - ii. Durability
 - iii. Stability (6 marks)
- ii) Explain two classifications of walls (4 marks)
- c) i) Explain the following requirements of a floors.
- i) Thermal insulation
 - ii) Sound insulation (4 marks)
- ii. Define a roof (1 mark)
- 4 a) Draw a roof truss and label all the member part the rise span and the run (10 marks)
- b) Explain how a floor to be furnished in terrazzo material is prepared (5 marks)
- c) (i) State and explain two types of floor (4 marks)
- (ii) Explain the components of a damp roof membrane (1 mark)
- 5 a) Draw and label a cavity wall (10 marks)
- b) (i) Explain the following terms as refers to roof construction
- (i) Span
 - (ii) Run
 - (iii) Rise (3 marks)
- c) State two factors considered when choosing a floor finish. (2 marks)
- d) (i) Explain the life load carried by a roof construction (1 mark)
- (ii) Explain the purpose of the following material in ground floor constructions.
- (i) Hard core
 - (ii) Blinding (4 marks)