



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2019/2020
FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
CONSTRUCTION MANAGEMENT

BRE 209: CONSTRUCTION TECHNOLOGY

DATE: Wednesday, 18th December 2019

TIME: 2.00 p.m. - 4.00 p.m.

INSTRUCTIONS:

1. Question 1 in question one is compulsory.
2. Answer any two other questions.

SECTION ONE : COMPULSORY (30 MARKS)

QUESTION ONE

- a) Using sketches show the two construction details at the twin column pad foundation. (6 Marks)
- b) Show the treatment detail of the joint at meeting point between the two leaves of a wall joint. (6 Marks)
- c) Sketch the detail of construction at the roof and show how water tightness is achieved at the flat asphalt roof. (6 Marks)
- d) In famed construction, frames are normally placed (laid) in a 'GRID LAY OUT'. State FIVE reasons why this is the case. (6 Marks)
- e) Using a label sketch, outline the suspended slab incorporating a beam. (6 Marks)

SECTION TWO: Answer any TWO questions from this section

QUESTION TWO

- a) Outline the five objectives of controlling water level on sites. (5 Marks)
- b) With aid of sketches show at least FIVE patterns of laying sub-soil pipes for controlling water levels in the ground. (5 Marks)
- c) Outline the fabrication procedure for castellated beams. (5 Marks)

d) Outline at least FIVE advantages of castellated beam construction.

(5 Marks)

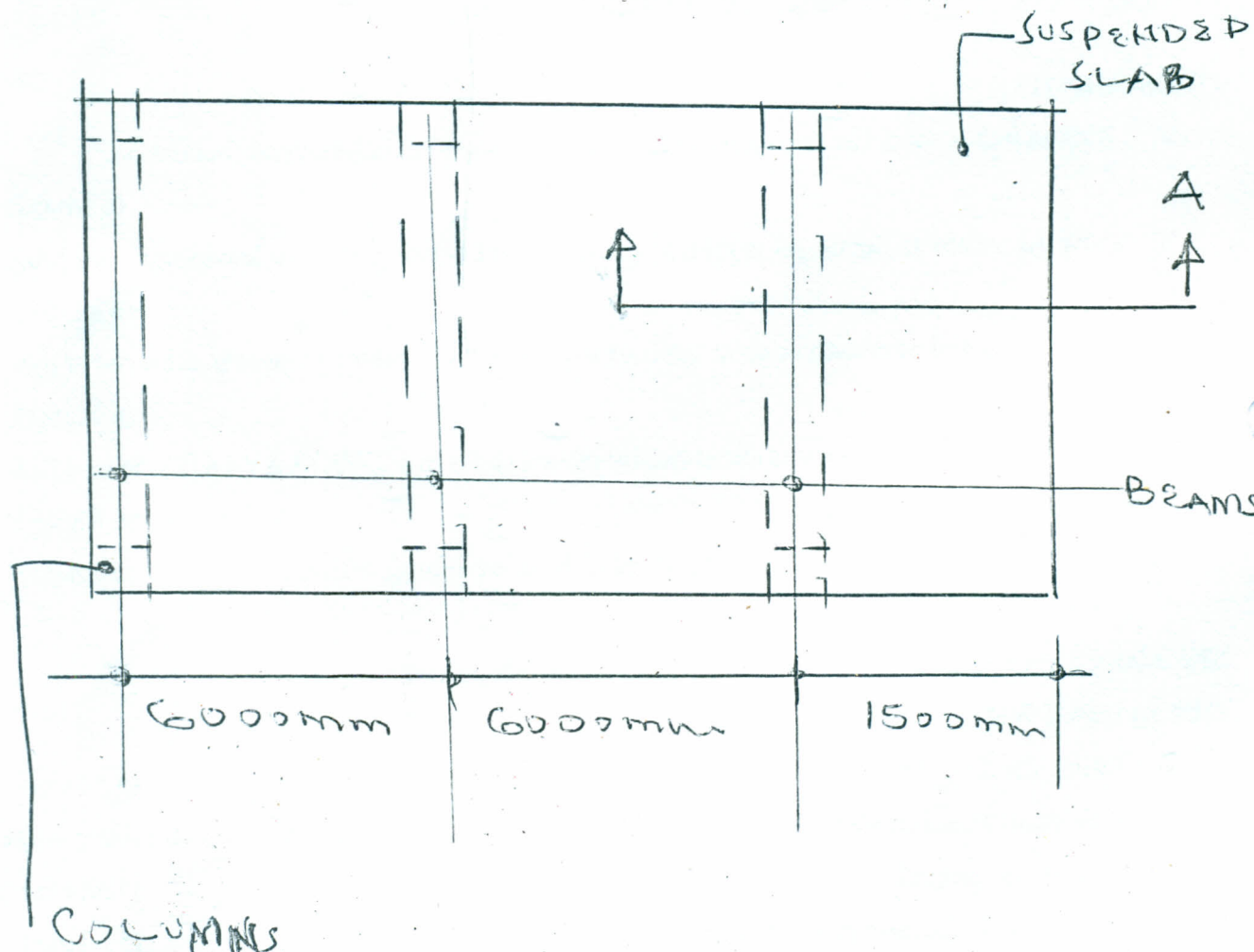
QUESTION THREE

- a) A foundation for a building is to be set out in such a way that the wall be $2\frac{1}{4} : 1$ if the thickness of the wall is 225mm, determine suitable width of foundation and thickness of the concrete foundation. (5 Marks)
- b) There are three methods of placing screeds to the solid concrete floors. Name and explain the methods using labelled sketches. (15 Marks)

QUESTION FOUR

- a) Figure 1 shows floor of a building sketch section A-A to show construction detail incorporating hollow pot floor construction. (5 Marks)

Q4 (a) Diagram 1.



b) Considering the building code requirements, design a staircase using the following data:

(7 Marks)

Floor to soffit of suspended ceiling	=	3000mm
Suspended ceiling	=	300mm
Structural floor	=	200mm
Screed average	=	22mm
Floor finish	=	8mm

c) Illustrate in a table form building code requirements for design of stairs in groups 1 & 2.

(8 Marks)

QUESTION FIVE

a) With aid of a sketch outline THREE situations where permanent formwork could be used.

(10 Marks)

b) Using a well labelled sketch outline the fixing of timber lagging to concrete framed construction.

(10 Marks)