MURANG'A UNIVERSITY COLLEGE

(A constituent college of Jomo Kenyatta University of Agriculture and Technology)

SCHOOL OF ENGINEERING

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

UNIT CODE: SEB1230
UNIT TITLE: GBC MODULE 11
CLASS: BC/C 14 D SEPTEMBER

ACADEMIC YEAR: 2016

SPECIAL EXAM

DATE: /06/2016 TIME: 2HOURS

Instructions:-

- Question ONE is compulsory Attempt any other TWO questions.
- Marks for each question are allocated at the end of each.

Question One (compulsory)

(a) Using sketches differentiate the following types of reinforcement bars.

i. Square twisted bar
ii. Ribbed bar
iii. Twisted bar (3marks)

(b) Analyse the following bar coding in suspended slab.
16y2003-150 (5marks)

(c) State FIVE requirements of a formwork and FIVE for reinforcement bars.
(10marks)

(d) Define the following structural members.

i. Ground edge beam
ii. Beam
iii. Cantilever
iv. Column

(e) Using sketches illustrate two alternative methods showing how a beam is connected to a column. (8 marks)

Question Two

(a) Draw a sketch to show the following types of joists in a suspended timber floor with a chimney stack projecting above the roof.

i. Common joist
ii. Trimming joist
iii. Trimmer joist
iv. Trimmed joist (11marks)

(b) With an aid of a diagram show the construction details of the following types of internal solid ground floor.

i. Non load bearing internal wall
ii. Lightly loaded internal wall
iii. Loaded internal wall. (9 mark)

Question Three

(a) State three advantages and three disadvantages of timber as a building material. (6maks)

(b) state five properties of a DPC material. (5 marks)

(c) Distinguish between catering and formwork. (4mks)

(d) Outline **FIVE** functional requirements of a floor screed. (5marks)

Question Four

(a) State four building regulations as regards suspended timber floor. (4marks)

(b) Using sketches show the following types of joist support.

i. Wall bearing
ii. Joist hunger bearing
iii. Plate bearing
iv. Direct bearing (8marks)

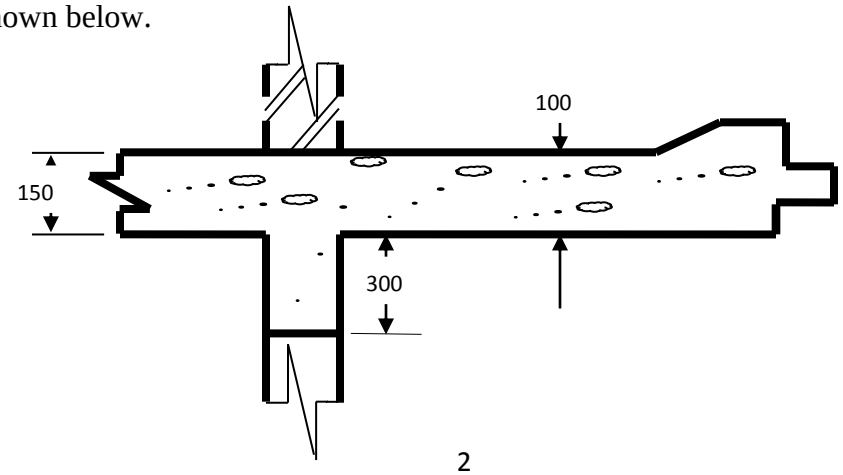
(d)Using sketches describe the reinforcement details of beam and slab for suspended floor indicating where tension and compression will occur. (8 marks)

Question Five

(a) Differentiate following types of forces.

i. Compression
ii. Tension
iii. Shear
iv. Torsion (4 marks)

(b)Sketch and label the form work required to cast the cantilevered upper floor slab and beam shown below.



(12marks)

(c) Outline the procedure of preparing the background surface of a wall before plastering (4 marks)

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