



RCT – Construction Materials

Testing

T126

08:30 – 11:30 AM

Names.

Index number

QUESTIONS and ANSWERS BOOKLET

ACADEMIC YEAR: 2020-2021

Read carefully the instructions on page (i) 8r (ii)

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TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

INSTRUCTIONS TO CANDIDATES: PART I (Answer Booklet)

1. A candidate should fill in the actual names and the index number on the cover of this questions and answer booklet on the provided place (Black Box).
2. It is illegal for a candidate to write any of his/her names, index number or a school name inside the answer booklet.
3. A candidate should check if all pages of the answer booklet are complete. No candidate should remove or tear any pages or part of it from the answer booklet.
4. A candidate should answer in the language in which the examination is set. (See page **(ii)**)
5. A candidate should sign on the sitting plan when submitting the answer booklet. He/she has also to check if the answer booklet is well sealed.
6. No extra paper is allowed in the examinations room. If a candidate is caught with it his/her results will be nullified.
7. No candidate is allowed to write answers not related to the subject being sat for, otherwise it will be considered as a cheating case.
8. Write your answers on the 12 lined pages (From page 1 of 12 to page 12 of 12).
9. Use the last non-lined pages as draft.
10. Results for any candidate who is caught in examination malpractices are nullified. The cheating can be recognized during examinations administration, marking exercise or even thereafter.

TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

OPTION/TRADE: ROAD CONSTRUCTION

SUBJECT: Construction Materials Testing

DURATION: 3 hours

INSTRUCTIONS TO CANDIDATES: PART II (Question Paper)

The paper is composed of two (2) Sections as follows:

Section I: Attempt all the Twelve (12) questions (60 marks)

**Section II: Attempt any Four (4) questions out of Six (6)
(40 marks)**

Allowed materials:

- Ruler or square
- Calculator

Note:

Every candidate is required to carefully comply with the provided assessment instructions.

Section I : Attempt all the Twelve (12) questions (60 marks)

- (01)** Expand the following Abbreviation as used in CBR test
Performing:
a) ASTM
b) BS
c) AFNORIS
d) AASHTO. **(5 marks)**
- (02)** (a) What is a trial point used in deflection test?
(b) There are three (3) methods commonly used
for collecting deflection data, explain them. **(5 marks)**
- (03)** Identify methods of trial points used in deflexion
activities. **(5 marks)**
- (04)** Discuss about two (2) methods of drawing
deflexion graph. **(5 marks)**
- (05)** Explain two (2) Penetrometer extraction areas. **(5 marks)**
- (06)** Enumerate at least five (5) importance of proper
storage of tools and equipment. **(5 marks)**
- (07)** Explain two (2) main methods of excavation. **(5 marks)**
- (08)** Mention any five (5) elements required in the
report of compression test for each specimen. **(5 marks)**
- (09)** State at least five (5) conditions that affect the quality
of the concrete in both the structure and in the
specimens. **(5 marks)**
- (10)** Explain briefly 5(five) causes of segregation of
concrete while making concrete specimen. **(5 marks)**
- (11)** Identify any five (5) tools and equipment used in
Performing CBR test. **(5 marks)**
- (12)** Discuss two (2) methods of drying soil for Atterberg limit.
(5 marks)

Section II: Attempt any Four (4) questions out of Six (6)

(40 marks)

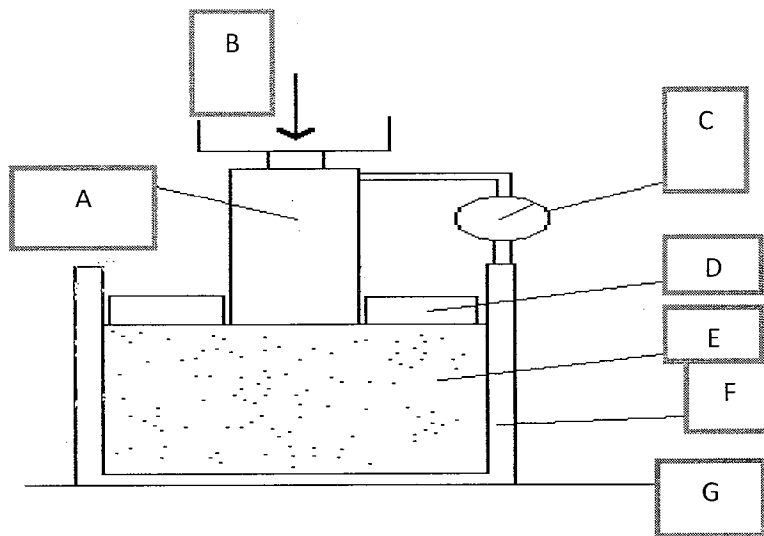
(13) Describe five (5) methods of curing concrete sample before making compression test.

(10 marks)

(14) Describe the process for concrete crashing of specimen.

(10 marks)

(15) (a) Name parts of CBR testing machine below:



(b) Enumerate any six (6) Contents of CBR test working sheet.

(10 marks)

(16) (a) Soils and aggregates can be classified into four broad groups based on the grain particle size. What are them?

(b) Explain the following soil properties.

- i. Consistency
- ii. Cohesion
- iii. Sensitivity
- iv. Surface Texture.

(10 marks)

(17) (a) Enumerate any five (5) Contents of Los Angeles test working sheet.

(b) Enumerate any five (5) characteristics of a good sample.
(10 marks)

(18) (a) Identify any five (5) procedures of in situ density test.

(b) Identify any five (5) procedures of moisture content Determination.
(10 marks)

Do not write anything on this page !

