



**Names.**

Index number

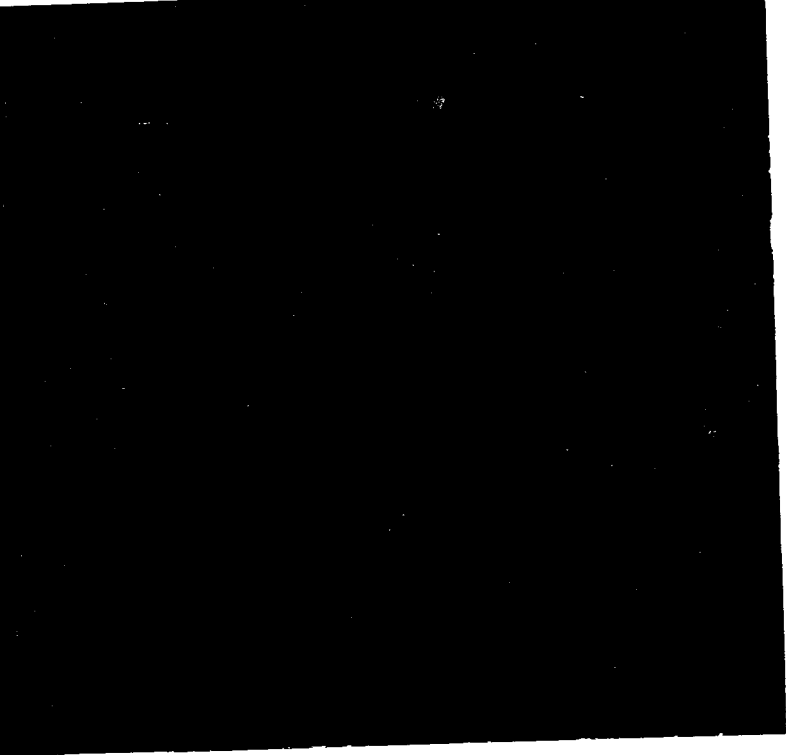
## QUESTIONS and ANSWERS BOOKLET

ACADEMIC YEAR: **2020-2021**

Read carefully the instructions on page (i) & (ii).

**FOR EXAMINER'S USE ONLY**

[illegible]



# **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: PLUMBING**

**SUBJECT: Cost estimation and Topography**

**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.***

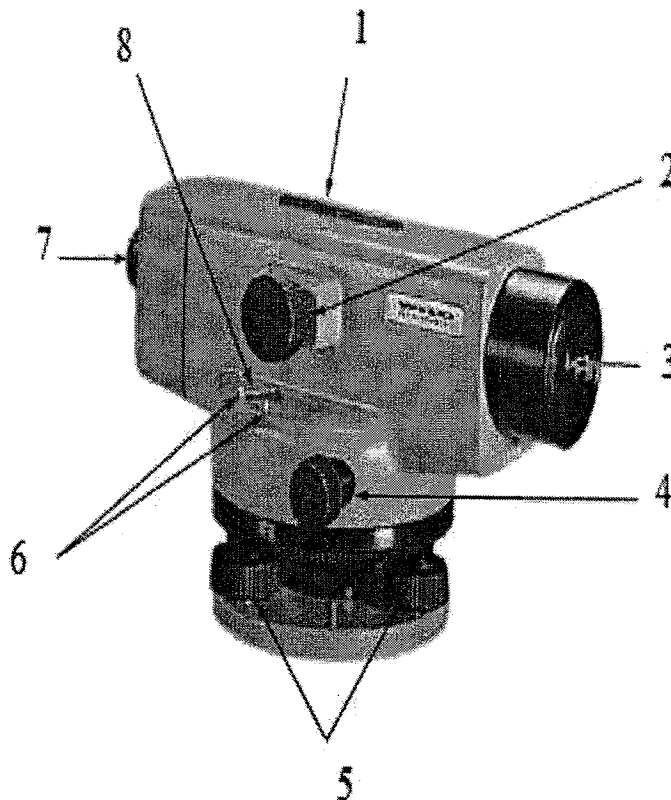
**Section I : Attempt all the Twelve (12) questions (60 marks)**

- 01.** Explain the following words:
- a)** A cost estimate
  - b)** Actual cost. **(5 marks)**
- 02.** State any four (4) main requirements for preparing an estimate. **(5 marks)**
- 03.** Outline any four (4) steps of work duration determination. **(5 marks)**
- 04.** Identify the key points for determining the work extent in any construction project. **(5 marks)**
- 05.** Explain the types of bills of quantities and state their importance. **(5 marks)**
- 06.** Define the following terms used in leveling:
- a)** Datum
  - b)** Reduced Level
  - c)** Benchmark
  - d)** Height Of Instrument
  - e)** Change Point. **(5 marks)**
- 07.** Identify at least five (5) types of estimate. **(5 marks)**
- 08.** What do you understand by the term “specification”? **(5 marks)**
- 09.** Identify the steps of estimate in construction work. **(5 marks)**

- 10.** Estimate the quantities of brickwork and plastering in a wall 4 m long, 3 m height and 30 cm thick. Calculate also the cost if the rate of Brickwork is Rs.320 per m<sup>3</sup> and of plastering is Rs.8.50 per m<sup>2</sup>. **(5 marks)**
- 11.** Mention any five (5) qualities of good estimate. **(5 marks)**
- 12.** Determine the areas in hectares between the line AB for the offsets taken at a regular interval of 10 m along the line AB. Use both mid-ordinate rule and trapezoidal rule, if the offsets are 28m., 30m 32m, 33m, 35m, 32m and 29m. **(5 marks)**

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

13. Complete the parts of the figure below: (10 marks)



14. a) What are overheads?  
b) Explain office overheads by giving six (6) examples. (10 marks)
15. Enumerate the elements of invoice. (10 marks)
16. a) Define an invoice  
b) Outline any five (5) functions of invoice. (10 marks)

17. a) State the meaning of a quantity surveyor
- b) Outline at least five (5) duties of a quantity surveyor. **(10 marks)**
18. The elevation of a point P is to be determined by observation from adjacent stations of a theodolite survey, the staff was held vertically up on the point and the instrument is fitted with anallatic lens, the constant  $K=100$ .
- Compute the distance of A and B from P and also compute the elevation of P. **(10 marks)**





