

CST – Cost Estimation

T031

Tuesday, 17/11/2015

08:30 – 11:30

WORKFORCE DEVELOPMENT AUTHORITY



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**ADVANCED LEVEL NATIONAL EXAMINATIONS, 2015,
TECHNICAL AND PROFESSIONAL TRADES**

EXAM TITLE: Cost Estimation (COE)

OPTION: Construction (CST)

DURATION: 3hours

INSTRUCTIONS:

The paper is composed of **three (3) Sections:**

Section **I:** Eleven (**11**) questions, all **Compulsory**. **55marks**

Section **II:** Five (5) questions, **Choose Three (3) only**. **30marks**

Section **III:** Three (3) questions, **Choose only One (1)**. **15marks**

Every candidate is required to strictly obey the above instructions. Punishment measures will be applied to anyone who ignores these instructions.

Section I. Eleven (11) Compulsory questions. 55marks

- 01.** Mention six (6) qualities of a Good Estimate. **6marks**
- 02.** Mention the six (3) resources which require a unit rate in estimation. **3marks**
- 03.** State five (5) factors which an estimator should consider in pricing construction materials. **5marks**
- 04.** Highlight clearly the four (4) stages of Preparation of estimate. **8marks**
- 05.** The visit to the site will enable the estimator to produce a report which has specific information; describe three (3) of such information in that report. **6marks**
- 06.** Explain the meaning of the following Contract Documents as used in estimation:
- a. Conditions of contract
 - b. Contract Drawings **4marks**
- 07.** Differentiate the following documents which are used in estimations:
- i. Specification / Preambles
 - ii. Bill of Quantities **4marks**
- 08.** What do you understand by the term "Valuation"? Explain clearly. **3marks**
- 09.** Provide a clear description of the following terms used in estimation :
- a) Appraisal
 - b) Worth
 - c) Value
 - d) Market Value **8marks**
- 10.** What is the difference between price and cost? Give a clear meaning of each. **4marks**
- 11.** List at least four (4) items stated in the enquiries & quotation document to the suppliers during tender preparations. **4marks**

Section II. Answer any three (3) questions of your choice

(Do not choose more than three questions). 30marks

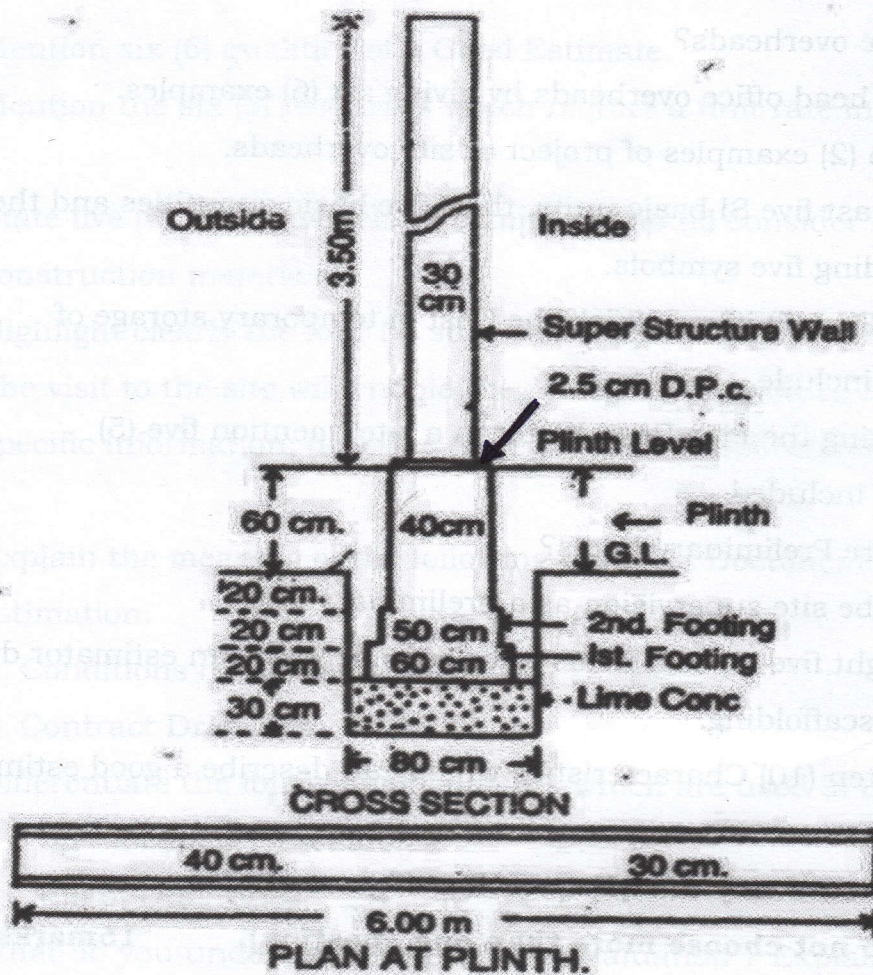
12. a) What are overheads? **2marks**
b) Explain head office overheads by giving six (6) examples. **6marks**
c) Give two (2) examples of project or site overheads. **2marks**
13. Name at least five SI basic units, their five basic quantities and the corresponding five symbols. **10marks**
14. (a). Name Five (5) items which the Cost of temporary storage of water can include. **5marks**
(b). In costing the Pipe Bone Water in a site, mention five (5) cost items included. **5marks**
15. (a).What are Preliminary Items? **2marks**
(b). Describe site supervision as a preliminary item. **3marks**
(c). Highlight five (5) cost items to be considered by an estimator during the pricing of scaffolding. **5marks**
16. Highlight ten (10) Characteristics which can describe a good estimator. **10marks**

Section III. Answer any one (1) question of your choice

(Do not choose more than one question). 15marks

17. Discuss clearly ten (10) factors affecting tender price. **15marks**
18. Prepare an abstract of estimated cost of part of a building wall from the given plan and section of general specifications (Wall with Standard Modular Bricks)
- General specifications:
- i. Foundation shall be in lime concrete
 - ii. Foundation and plinth shall be of 1st class brickwork in lime mortar
 - iii. Damp proof course-2.5mm cc 1:1½:3 with water proofing compound
 - iv. Superstructure -1st class brickwork in lime mortar
 - v. Wall finishing-inside wall 12mm cement plastered 1:6 and white washed 3 coats
 - vi. Outside wall 12mm cement plastered 1:6 including 10cm below ground level and finished with two coats of colour wash over coat of white washing.

WALL WITH STANDARD MODULAR BRICKS.

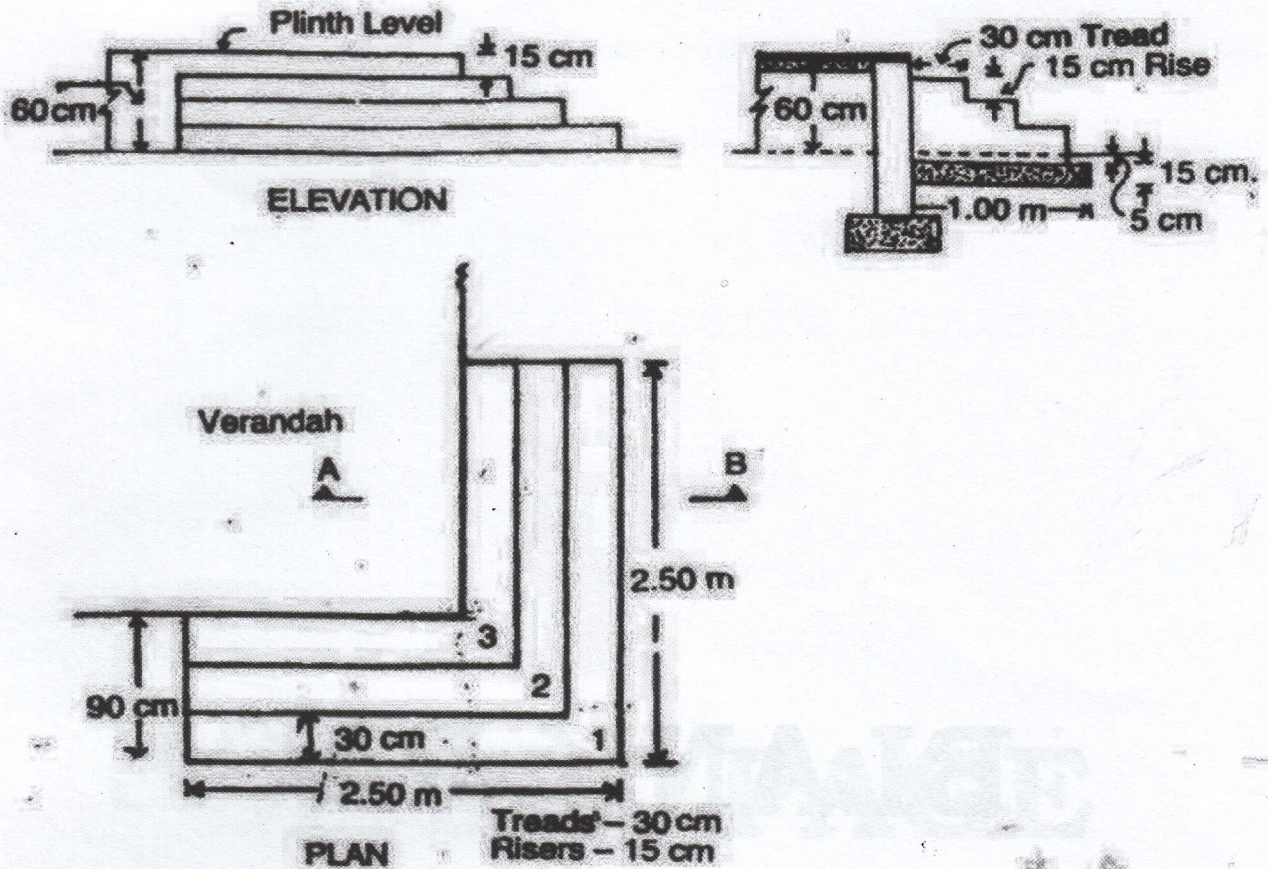


Assume the following rates (FRW)

Item No	Description	Rate (FRW)
1	Earthwork in foundation	350.00
2.	Lime concrete in foundation	220.00
3.	1 st class brick work with white lime in foundation/plinth	300.00
4.	Dpc	20.00
5.	1 st class brick work with white lime in superstructure	320.00
6.	12mm cement plaster	8.50
7	White washing 3 coats	0.75
8	Colour washing 2 coats over one coat of white washing	0.82

15marks

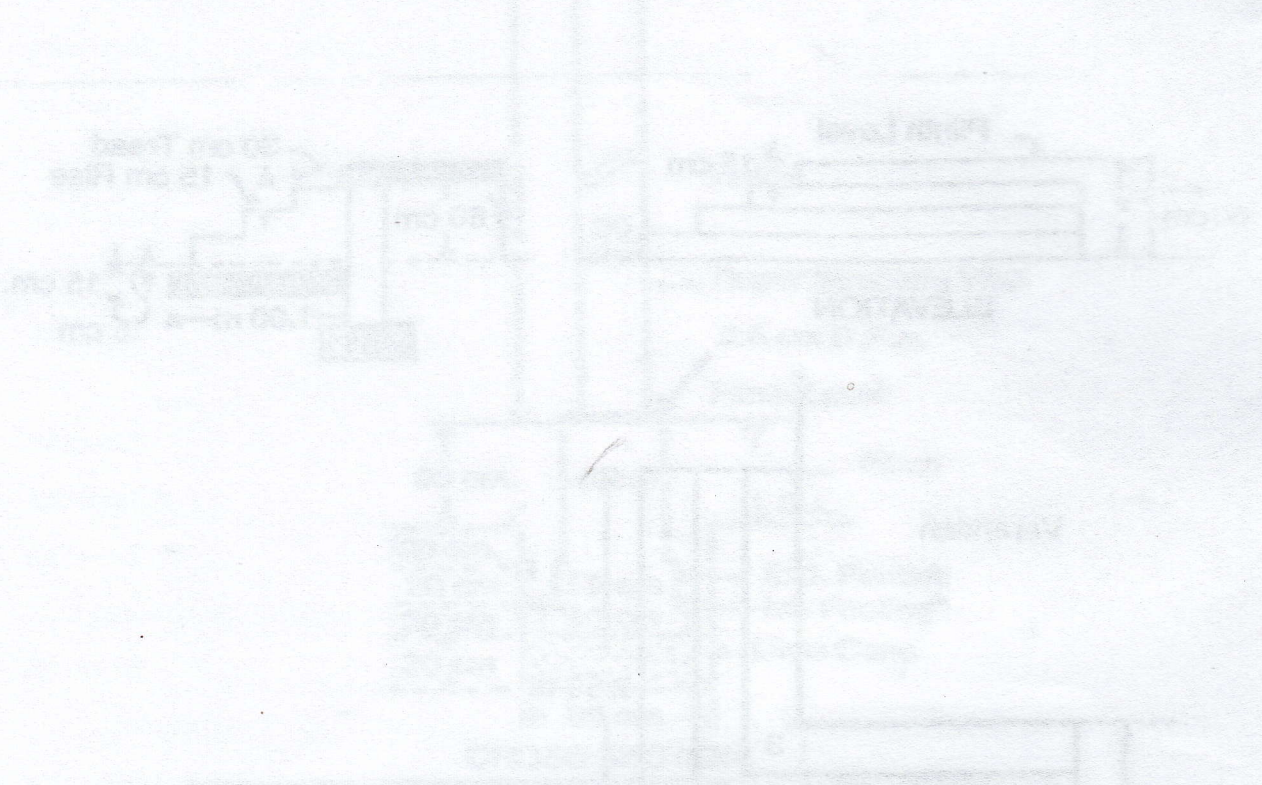
19. In the figure below, you are given an elevation, section and a plan of a corner step. The surface of the steps has a neat cement rendering of 20 mm cement plaster with a mixing ratio of (1:3).



Estimate the quantities of the total materials used in each of the following items:

- Earthwork in excavation (Front & side); **3marks**
- Concrete in foundation (Front & side); **3marks**
- Brickwork on the 1st , 2nd and 3rd steps (Front & side) and **4marks**
- Cement plastering on the 1st , 2nd , 3rd steps and on the plinth. **5marks**

19. In the figure below you are given an elevation, section and a plan of a
 corner step. The surface of the steps has a neat cement rendering of 20 mm
 finished plaster with a mixing ratio of (1:3).



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Estimate the quantities of the total materials used in each of the following

Sl. No.	Description	Quantity	Unit
1	Reinforcement in excavation (Front & side)	3 marks	
2	Concrete in foundation (Front & side)	3 marks	
3	Reinforcement on the 1st, 2nd and 3rd sides (Front & side) and	4 marks	
4	12mm cement plaster on the 1st, 2nd and 3rd sides and on the plan	5 marks	
5	White washing 3 coats		
6	Colour washing 2 coats		