ADVANCED LEVEL NATIONAL EXAMINATIONS, 2015,
TECHNICAL AND PROFESSIONAL TRADES

EXAM TITLE:  Cost Estimation (COE)

OPTION:  Construction (CST)

DURATION:  3 hours

INSTRUCTIONS:

The paper is composed of three (3) Sections:

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

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

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

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 4marks
   b. Contract Drawings

07. Differentiate the following documents which are used in estimations:
   i. Specification / Preambles 4marks
   ii. Bill of Quantities

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).  

12. a) What are overheads?  
b) Explain head office overheads by giving six (6) examples.  
c) Give two (2) examples of project or site overheads.  

13. Name at least five SI basic units, their five basic quantities and the  
corresponding five symbols.  

14. (a). Name Five (5) items which the Cost of temporary storage of  
water can include.  
(b). In costing the Pipe Bone Water in a site, mention five (5)  
cost items included.  

15. (a).What are Preliminary Items?  
(b). Describe site supervision as a preliminary item.  
(c). Highlight five (5) cost items to be considered by an estimator during the  
pricing of scaffolding. 

16. Highlight ten (10) Characteristics which can describe a good estimator. 

Section III. Answer any one (1) question of your choice  
(Do not choose more than one question).  

17. Discuss clearly ten (10) factors affecting tender price.  

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.
Assume the following rates (FRW)

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

i. Earthwork in excavation (Front & side); 3 marks
ii. Concrete in foundation (Front & side); 3 marks
iii. Brickwork on the 1st, 2nd and 3rd steps (Front & side) and 4 marks
iv. Cement plastering on the 1st, 2nd, 3rd steps and on the plinth. 5 marks
<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Earthwork in foundation</td>
<td>140</td>
<td>2,740</td>
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<tr>
<td>2</td>
<td>Excavation (front &amp; side)</td>
<td>120</td>
<td>1,920</td>
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<tr>
<td>3</td>
<td>Excavation (front &amp; side)</td>
<td>120</td>
<td>1,920</td>
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<tr>
<td>4</td>
<td>Dpc</td>
<td>80</td>
<td>20:00</td>
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<tr>
<td>5</td>
<td>1st class brick work with white lime in superstructure</td>
<td>40</td>
<td>160</td>
</tr>
<tr>
<td>6</td>
<td>Limited cement plaster</td>
<td>60</td>
<td>120</td>
</tr>
<tr>
<td>7</td>
<td>White washing 3 coats</td>
<td>30</td>
<td>210</td>
</tr>
<tr>
<td>8</td>
<td>Colour washing 2 coats over one coat of white washing</td>
<td>20</td>
<td>160</td>
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