

**SIR ARTHUR LEWIS COMMUNITY COLLEGE**

**Division of Technical Education and Management Studies**

**End of Course Exam**

Examination Session : **December 2007**  
Tutor(s) : **Rosaline Isaac, Philip J Larodé  
& James Joseph**  
Programme Title : **Architectural Technology  
Construction Engineering  
Quantity Surveying**  
Programme Codes : **3BD-ART-AD  
3BD-COE-AD  
3BD-QUS-AD**  
**Course Title** : **Building Technology I**  
Course Code : **BLT105**  
**Exam Date** : **6<sup>th</sup> December**  
Commencement Time : **9:00 am**  
Duration : **3 hours.**  
Invigilators : **T Monrose, D Combie,  
S. Yarde & K. Depradine.**  
Room(s) : **TRT-L1/L2 & TRT-R4**

# B19

**YOU SHOULD HAVE THE FOLLOWING FOR THIS EXAMINATION**

**Pen, Pencil & Eraser**

**INSTRUCTIONS**

- 1) Write only your **ID NUMBER** (no name) on your answer booklet.
- 2) Answer any four (4) questions.
- 3) Start each new question on a clean page.
- 4) Do not detach sheets from the answer booklet.
- 5) Borrowing and lending of equipment is not permitted.



### QUESTION #1

- a) Identify the outer elements of the building fabric and for each element describe two critical or usually important requirements; no requirement can be described more than once. (8 marks)
- b) Identify four different building materials commonly used in modern construction and briefly describe their application in buildings. (7 marks)
- c) Sketch and annotate the method of load transfer for:  
i) A skeletal structure, ii) A solid structure.  
Sketches must depict structures common to St. Lucia. (10 marks)

### QUESTION # 2

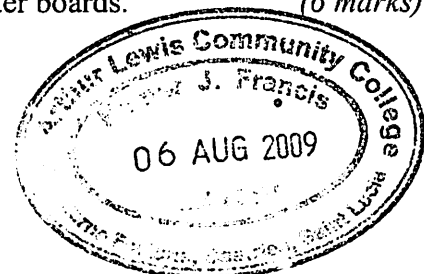
- a) Diagrammatically, show the traditional stages of the construction process. (8 marks)
- b) Draw the organisational chart for a traditional client organisation. (8 marks)
- c) Describe the following:  
i) Tender Sum, ii) Priced Bills of Quantities, iii) Project Programme. (9 marks)

### QUESTION # 3

- a) Explain the following terms as applied in 'preliminary site work':  
i) Boundary, ii) Set back, iii) Open space. (9 marks)
- b) Identify and explain two factors that must be considered in the type of site security fence selected. (6 marks)
- c) Sketch and annotate the vertical cross-section through a 'vertical free-standing hoarding'. (10 marks)

### QUESTION # 4

- a) You have been hired to set out the foundation for an 'L' shaped framed structure to be erected on a rectangular parcel of land. Sketch the setting out plan to show the following:  
i) Road, ii) Boundary line, iii) Boundary pegs, iv) Column positions,  
v) Profile boards, vi) Site datum, vii) Building line, viii) Diagonal checks. (11 marks)
- b) Identify and sketch two instruments that can be used to establish 90° angles during the setting out of a building. (8 marks)
- c) Explain the purpose of: i) Diagonal checks, ii) Profile/Batter boards. (6 marks)



**QUESTION # 5**

- a) State four reasons that make timbering to trenches and pits necessary. (8 marks)
- b) Use a well annotated sketch to show how you would provide timbering to a shallow trench in firm soil. (11 marks)
- c) Use a well annotated sketch to show two methods of providing safety barriers around trenches. (6 marks)

**QUESTION # 6**

- a) Gravels and sands are coarse-grained soils whilst silts and clays are fine-grained soils. Compare the two categories in terms of:  
i) Cohesion, ii) Compressibility, iii) Permeability. (9 marks)
- b) Sketch and annotate a cross-section through a normal reinforced concrete strip foundation and a wide reinforced concrete strip foundation. Explain the positioning of main reinforcement. (10 marks)
- c) Use annotated sketches to show how load is distributed by:  
i) Friction piles ii) end bearing piles (6 marks)

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**END OF PAPER**

