

**UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES**

**BACHELOR'S DEGREE IN ENVIRONMENTAL
HEALTH SCIENCES**

MAIN EXAMINATION PAPER DEC 2013

TITLE OF PAPER : BUILDING CONSTRUCTION
TECHNOLOGY II

COURSE CODE : EHM 305

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS : ANSWER ANY FOUR QUESTIONS

: EACH QUESTION CARRIES 25 MARKS

: NO PAPER SHOULD BE BROUGHT INTO NOR
OUT OF THE EXAMINATION ROOM

: BEGIN EACH QUESTION ON A SEPARATE
SHEET OF PAPER

**DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED
BY THE INVIGILATOR**

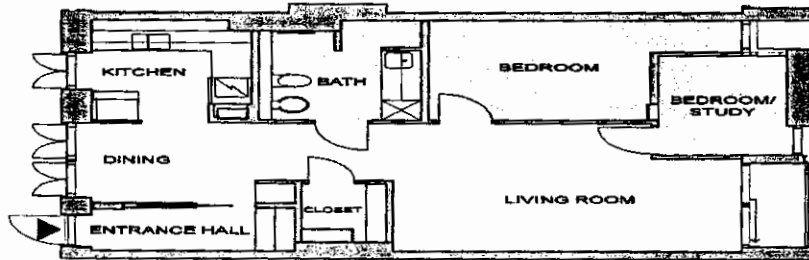
QUESTION ONE

- a) Explain the concept of the NORTH POINT in working drawings. [5]
- b) Outline steps taken to scrutinize drawing plans of a building. What do you look for as an Environmental Health Officer [10]
- c) One of the construction project management constraints relates to cost. What are the other two constraints? Describe fully the cost constraint. [10]

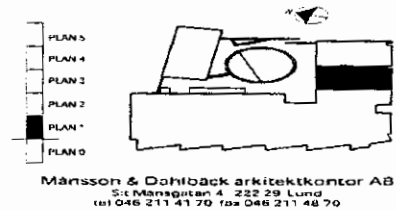
QUESTION TWO

- a) Given that there are several planning and building application procedures for government and municipalities, describe procedures and requirements of the Municipal Council of Mbabane. [5]
- b) In normal drawing plans like the one given below, what principal dimensions must be shown on the plan? [5]

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LAGENHET 2 72 m²
 0 1m 5m
 Skala 1:100



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- c) Describe the role of an EHO during the three quality management operations in construction activities. [10]

- d) Sketch out the site plan for the Faculty of Health Sciences and mention five things that make site plans useful in building construction. [5]

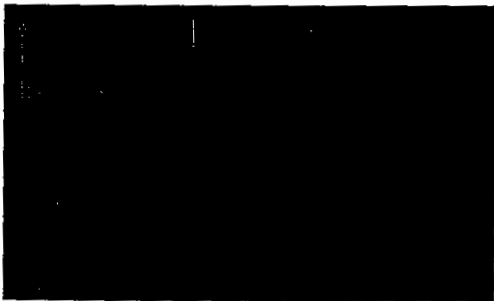
QUESTION THREE

- a) Produce an imaginary Gantt Chart for an ordinary small two bedroom house [6]
- b) You are asked to assemble contract documents. Describe ten documents expected in the contracts package. [10]
- c) Construction project tenders are normally subjected to technical and financial evaluation. Choose one of the two and describe how to carry out the evaluation fully. [9]

QUESTION FOUR

- (a) Given the following one bedroom house plan, lean-to roof. Outline the CAD sequence followed to come up with the elevations, sections and roof thereof.

Dimension 2000*1000, door 850, window 1500, roof pitch 10 ° [10]



- b) Name the two CAD symbols shown below and explain differences between them. [2]



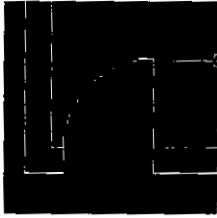
- c) Name the two CAD symbols shown below and explain differences between them [2]



- d) What does 'UCS' stand for? [2]

- e) Given the following representing a door dimension of 850mm. Outline how you go about drawing this in a floor plan.

[4]



- f) Which five CAD commands require that you have the object first before executing it? [5]

QUESTION FIVE

- a) Name at least six members of a design team in government [5]
- i. Define their roles in the design process. [5]
- ii. Is the process the same for municipalities and government if not state the differences [5]
- b) Explain the purpose of the following CAD commands: [5]
- i. Pan
- ii. Zoom previous
- iii. Zoom real-time
- iv. Copy to clipboard
- v. Zoom window
- c) Calculate the width of a strip foundation when the load bearing wall is transmitting a load of 25kN/m and the soil-bearing capacity of the subsoil is 75kN/m² [2]
- d) 2mm is the size of a road driveway leading to a building site. On a scale 1:1000, what is the size of the road in meters? [1]
- e) Specify the '*paper size*' and '*plot offset*' range we normally use in AutoCAD [2]
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