

**UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES**

DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE

SUPPLEMENTARY EXAMINATION PAPER JULY 2016

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) Draw sketches to show the following dimension lines used in construction drawings. [6]
 - i. Open arrowhead dimensions.
 - ii. Running dimensions.
 - iii. Closed arrowhead dimensions.
- b) Outline the Health and safety standards applicable at a building site [5]
- c) Outline the role of an environmental health officer in each stage in a traditional model of the building process. [12]
- d) A bathroom must have a minimum area of 3.7 square meters with the least dimension of 1520mm. Calculate the dimension of the other side. [2]

QUESTION TWO

- a) Outline the
 - i. Erase command sequence in AutoCAD [1]
 - ii. Offset command sequence in AutoCAD [1]
 - iii. Trim command sequence in AutoCAD [1]
- b) What is the importance of a Gantt Chart in a building project [2]
- c)) Give the appropriate titles to indicate the differences between the following CAD commands [4]

LINES and CIRCLES	ERASE, COPY, MIRROR, OFFSET, MOVE, ROTATE, STRETCH

- d) Using a sketch and imaginary dimensions to illustrate the following concerning sizes of foundations: $W=TW+2T$ [6]



- e) Write short notes on the use of scale in working drawings giving examples of appropriate scales for the component parts of working drawings [5]
- f) Given the following Fig 1, outline the procedure to follow in order to check the dimensions of the three angles using CAD. [5]

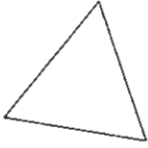


Fig 1

QUESTION THREE

- a) Illustrate with the aid of a sketch the following types of symbols used in a drawing office: [10]

- i. Door
- ii. Bed
- iii. Gulley
- iv. Vent pipe
- v. Single door swing
- vi. Double door swing
- vii. Folding doors
- viii. Reinforced concrete
- ix. Water closet
- x. Sink

- b) Define the following terms related to construction project management;

- i. Project Management [2]
- ii. Task duration [2]
- iii. Work man hours [2]
- iv. Tasks [2]
- v. Work break down structure [2]



c) Using sketches show three ways of dimensioning angles and circles. [5]

QUESTION FOUR

a) State three important precautions concerning toilets during scrutinization of building plans [5]

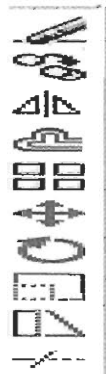
b) Why is scale important in working drawings? [4]

c) Concerning sections in construction drawing raise four points to explain their functions.

d) Of the following scales 1:1, 1: 2, 1: 5, 1: 10, 1: 20, 1: 50, 1:100, 1:200, 1:500, 1:2500, 1:5000, and 1:1000 state which one is used for

- Block plan [1]
- Showing details [1]
- Working drawings [1]

e) State the use of the following given CAD functions. [10]



f) Discuss the roles of an Environmental Officer in building construction [3]



QUESTION FIVE

- a) Over leaf (page 6) is a rough sketch for Ganth Chart with eight activities. Summarize the representative work break down structure from activity 1 to activity 8. [8]
- b) Give at least five points (reasons) why project planning and scheduling important? [5]
- c) When do you use OSNAP and Chamfer in AutoCad ? [2]
- d) What two things happen to objects when subjected to the scale command [2]
- e) Which are the three valid possibilities provided by the Zoom option [3]
- f) Pan allows you to: [2]
- i. Minimize the drawing
 - ii. See all of the drawing all at once
 - iii. Close in on small area
 - iv. Move around the drawing at the same scale
- g) Is there a difference between using the offset command and array [3]



