FACULTY: ENGINEERING

DEPARTMENT: CIVIL ENGINEERING

SECOND SEMESTER EXAMINATION (JULY 2017)

2016/2017 ACADEMIC SESSION

Course Title: Element of Architecture

Course Code: CVE 314

HOD'S SIGNATURE

Instructions:

1) **Answer questions 1 and any other two (Use necessary equations and expressions)**

2) **Time Allowed: 3 hours**

3) **SEVERE PENALTIES APPLY FOR MISCONDUCT, CHEATING, POSSESSION OF UNAUTHORIZED MATERIALS DURING EXAM**

Course: Element of Architecture   **Course Code:** CVE 314   **Units: 2**   **Instruction:** Attempt Question one and any other two   **Time Allowed:** 3 Hours

QUESTION 1 (30 Marks)

With the aid of the ground floor plan shown in Figure Q1, produce the following using AutoCAD:

    (i)   Front and Back Elevations. **(10 marks)**

    (ii)   Roof Plan. **(10 marks)**

    (iii)   Section C – C. **(10 marks)**

QUESTION 2 (15 Marks)

a) List the steps and activities in drawing a floor plan using AutoCAD **(5 marks)**

b) Explain the following four different types of 3D models:

          i.   Wireframe models

         ii.   Surface models

         ii.   Solids models

        iii.   Mesh Models **(8 marks)**

c) List 4 visual styles in AutoCAD 3D **(2 marks)**

QUESTION 3 (15 Marks)

a) With the aid of a table, list the recommended dimensions for Windows showing their designations, size of opening, size of window frame and size of window shutter using units in millimeters. **(10 marks)**

b) List the general door dimensions for a residential and public building stating the dimensions for the internal and external doors and show the width-height formula used for calculating door width and height. **(5 marks)**

QUESTION 4 (15 Marks)

a) With the aid of a table, list the different drawing paper size and their sizes **(5 marks)**

b) List 5 softwares used for Civil Engineering Architectural and Structural drawings explaining any two (2) of them. **(10 marks)**

QUESTION 5 (15 Marks)

a) Define Freehand sketching and listing its advantages **(5 marks)**

b) Using Freehand drawing, sketch a 2 bedroom apartment **(5 marks)**

c) Explain the following terms in relation to AutoCAD:

    i. Scale

    ii. Mirror

    iii. Chamfer

    iv. Explode

    v. Extrude   **(5 marks)**