FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI
2ND SEMESTER EXAMINATIONS, 2014/2015
DESCRIPTIVE GEOMETRY II

Instructions:

Answer one question in Section A, then in section B, answer question 3 and either question 4 or question 5

Time: 2 hrs.

SECTION A

1. A line **AB** is given by its coordinates: **A = (6, 10, 12), B = (6, 10, 4)**
   (i) Construct the 3 projections of line **AB** on P_1, P_2 & P_3.
   (ii) Determine the true length of **AB**
   (iii) Determine the angle of inclination of line **AB** to P_1
   (iv) How could this line be described?

(20 points).

2. A line **AB** whose projections on P_1 are given as: a_1 **(8, 3)** b_1 **(3, 8)**. This line **AB** is parallel to P_1.
   a) Draw the projections of **AB** on P_1, P_2, and P_3 assuming 4 units from P_1
   b) Which of these projections will give the true length of **AB** and why.
   c) Locate the point of intersection of **AB** with P_2 (the Frontal Trace)

(20 points).

SECTION B

3. A triangular plane **ABC** is given by its coordinates as: **A(6,4,10), B(8,6,2), C(2,11,5).**
   Construct the three projections of **ABC** on P_1, P_2 & P_3. ..... **(30pts)**

4. Using the data in Question 3:
   a) Construct the Frontal Line of **ABC**.
   b) Construct the Frontal Line of maximum inclination of **ABC**.
   c) Determine the inclination of **ABC** to P_2. ..... (20pts)

5. Using the data in Question 3:
   a) Construct the Horizontal Line of **ABC**.
   b) Construct the Horizontal Line of maximum inclination of **ABC**.
   c) Determine the inclination of **ABC** to P_1. ..... (20pts)

GOOD LUCK