**MBOGO HIGH SCHOOL**

**DEPARTMENT OF MATHEMATICS**

**TOPICAL TEST (THREE DIMENTIONS) JUNE -2013**

CLASS ; S.4

DURATION ; 1HOUR

**INSTRUCTIONS :**

* ***Answer all questions in this paper***
* ***All necessary calculations must be shown on the same page as the rest of your answer***
* ***Mathematical tables and list of formulae and squared papers are provided.***
* ***Silent and non programming calculators may be used.***
* ***State the degree of accuracy at the end of each answer.***

1. P S

4cm

A D

Q R

9cm

B 12cm C

The above diagram is a cuboid with the dimensions as shown. Calculate

(i) the length QC

(ii) the length PC

(iii) angle PCQ and

(iv) the angle between the planes PQC and PQRS.

2. E

6cm

D C

6cm

A B

8cm

In the figure above,a pyramid whose base ABCD is a rectangle of sides 8cm by 6cm has slanting edges AE = DE = BE = CE = 6cm.F is the point of intersection of the diagonals of the rectangle. G is a point on EF such that FG = FE. Find

(i) angle AEC

(ii) the lengths EF and AG

(iii) the angle which each of the slanting planes makes with the base.

3. O

D A

30cm

C N N B

The figure above(in thick heavy lines) shows a lampshed ABCD bounded by circles of radii 15cm and 25cm.The slanting side AB is 30cm.If the lampshed was cut from an original figure OABCD,of a complete cone, calculate the ;

(a)(i) slanting length of the cone OAB.

(ii) the angle formed by producing CD and BA to O.

(b)(i) vertical height of the lampshed.

(ii) volume of the lampshed **END.**