

**THIRUVALLUR DISTRICT**

STD: X

**MATHS SLIP TEST-2023**

MARKS: 30

TIME: 30MINUTES

**I. Choose the correct answer:**

5x1=5

1. The point of intersection of  $3x-y=4$  and  $x+y=8$  is  
a) (5,3)      b) (2,4)      c) (3,5)      d) (4,4)
2. If slope of the line PQ is  $1/\sqrt{3}$  then the slope of the perpendicular bisector of PQ is  
a)  $\sqrt{3}$       b)  $-\sqrt{3}$       c)  $1/\sqrt{3}$       d) 0
3. If  $\sin\theta = \cos\theta$ , then  $2 \tan^2\theta + \sin^2\theta - 1$  is equal to  
a)  $-3/2$       b)  $3/2$       c)  $2/3$       d)  $-2/3$
4. The total surface area of a hemi-sphere is how much times the square of its radius  
a)  $\pi$       b)  $4\pi$       c)  $3\pi$       d)  $2\pi$
5. The range of the data 8,8,8,8,.....8 is  
a) 0      b) 1      c) 8      d) 3

**II. Answer all the questions:**

3x2=6

6. Find the equation of a Line passing through the point (3,-4) and having slope  $-5/7$ .
7. If the base area of a hemispherical solid is 1386 sq.m then find its total surface area?
8. If the range and smallest value of a set of data are 36.8 and 13.4 respectively, then find the largest value.

**III. Answer all the questions :**

3x3=9

9. Find the area of the quadrilateral whose vertices are at (-9, -2), (-8, -4), (2,2) and (1, -3).
10. If the radii of the circular ends of a frustum which is 45 cm high are 28cm and 7cm, find the volume of the frustum.
11. Two dice are rolled once. Find the probability of getting an even number on the first die or a total of face sum 8.

**IV. Answer all the questions:**

2x5=10

12. A metallic sphere of radius 16cm is melted and recast into small spheres each of radius 2cm. How many small spheres can be obtained?
13. a) Graph the quadratic equation  $x^2 - 6x + 9 = 0$  and state its nature of solutions.  
(or)  
b) Draw a circle of diameter 6cm from a point P, which is 8cm away from its centre. Draw the two tangents PA and PB to the circle and measure their lengths.