SATISH CHANDRA MEMORIAL SCHOOL

MATHEMATICS

VIII

Time: 1 hour (TEST ON LOG, SQUARE AND CUBE ROOTS) MM : 30

Section A (Each question 1 mark)

1. Find the value of $\log_9 59049$
   a) 6 b) 5 c) 7 d) 8
2. How many natural numbers lie between 5^2 and 6^2?
   (a) 9 (b) 10 (c) 11 (d) 12
3. Find the value of : $\sqrt{(248} + \sqrt{52} + \sqrt{144})$
4. $\sqrt[3]{\sqrt{.000064}}$ = ?
5. The largest four digit number, which is a perfect cube is ……. .

Section B (Each question 2 marks)

6. Find the log of 32 to the base 4.
7. Find the smallest square number that is divisible by each of the numbers 8, 15 and 20.
8. Find the square root of 42.25 using long division method.
9. Find the smallest number by which 68600 must be multiplied to get a perfect cube
10. Is the cube of 132651 an even number? Why?

Section B (Each question 3 marks)

11. Prove that: 2log(15/18) - log(25/162) + log(4/9) = log2
12. Find the value of x, if log(x+5)+log(x-5)=4log2+2log3
13. Find the smallest whole number by which 1008 should be multiplied so as to get a perfect square number. Also, find the square root of the square number so obtained.

14. **What is the smallest number by which 1323 may be multiplied so that the product is a perfect cube?**

15. **If** $\frac{log\ a}{b-c} = \frac{log\ b}{c-a} = \frac{log c}{a-b}$ **, prove that** $a^a . b^b . c^c = 1$.