ST. LAWRENCE HIGH SCHOOL

TOPIC – Logarithm

Subject : Mathematics **Class-9** **F. M. 15**

WORKSHEET NO. - 6 **Second Term** **Date: 23.11.2020**

Q.1) Choose the correct option: **(1x15=15)**

i) The value of $4^{\log_2 x}$ is

a) x b) 1/x c) $\sqrt{x}$ d) x^2

ii) If $(\log_5 k)\ (\log_3 5)\ (\log_k x)$ = k, then the value of x is

a) k b) k^3 c) 3^k d) 5^k

iii) If $1 + \log_4 x = 2 \log_4 y$, then

a) $y^2 = x$ b) $y^2 = 2x$ c) $y^2 = 4x$ d) $x^2 = 2y$

iv) If $\log_x 4 + \log_x 8 + \log_x 32 = 5$, then the value of x is

a) 2 b) 4 c) $\sqrt{2}$ d) 1

v) The value of $\log_6(216\sqrt{6})$ is

a) 3/2 b) 5/2 c) 7/2 d) 9/2

vi) The value of $\log_8 128$ is

a) 7/3 b) 16 c) 3/7 d) None of these

vii) The value of $\log_{20} 3$ lies between

a) (1/4, 1/3) b) (1/3, 1/2) c) (1/2 , 3/4) d) (3/4, 4/5)

viii) The value of $2^{\log_3 5} - 5^{\log_3 2}$

a) 0 b) 3 c) 5 d) 2

ix) The value of $\log_9 27 - \log_{27} 9$ is

a) 0 b) 3/2 c) 5/6 d)None of these

x) If $\log_x a \,.\log_5 x = 3$, then the value of a is

a) $5x^3$ b) x^3 c)125 d) 243

xi) The value of $\log_b a \,.\log_c b \,.\log_a c$ is

a) 0 b) log abc c) 1 d) 10

xii) If a = $\log_{24} 12$, b = $\log_{36} 24$, c = $\log_{48} 36$, then value of (1 + abc) is

a) 2 ac b) 2 bc c) 2 ab d) None of these

xiii) If x = $\log_3 5$ and y = $\log_{17} 25$, then which of the following is correct?

a) x < y b) x = y c) x > y d) None of these

xiv) The number of solution of the equation $\log_4(x-1) = \log_2(x-3)$ is

a) 3 b) 1 c) 2 d) 0

xv) If $\log_2 x$ X $\log_2\left(\frac{x}{16}\right) + 4 = 0$, then the value of x is

a) 4 b) - 4 c) ¼ d) 2

-Chaitali Roy