ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

FOR GOD AND COUNTRY

Solution of worksheet-7

SUBJECT – MATHEMATICS

Pre-test

Chapter: Limit **Class: XII**

Topic: Limit **Date: 10.06.2020**

Choose the correct option **(1 X 15= 15)**

1. **The value of** $\lim_{x\to 0}\frac{e^{3x}-1}{2x}=?$

   a) $\frac{3}{2}$, **b)** $\frac{1}{6}$, **c)** $\frac{2}{3}$, **d)** $\frac{3}{4}$

2. **The value of** $\lim_{x\to 0}\frac{\log(1+4x)}{3x}=?$

   a) 4 , **b) 3** , **c)** $\frac{4}{3}$, **d)** $\frac{1}{12}$

3. **The value of** $\lim_{x\to 0}\frac{a^{2x}-1}{2x}=?$

   a) $\frac{1}{4}\log_a e$, **b) 1** , **c)** $\frac{1}{2}$, **d)** $\log_a e$

4. **The value of** $\lim_{x\to 0}(1+\frac{1}{x})^x=?$

   a) 1 , **b)** e , **c)** e^{-1} , **d) Doesn't exit.**

5. **The value of** $\lim_{x\to 0}\frac{e^{x^2}-1}{x}=?$

   a) 1 , **b) 0** , **c)** e^{-1} , **d) Doesn't exit.**

6. The value of $\lim_{x\to 1}\frac{\log x}{x-1}=?$

a) 1 , b) 0 , c) e , d) -1

7. The value of $\lim_{x\to 0}\frac{\log(1+\sin x)}{x}=?$

a) 1 , b) $\log_a e$, c) 0 , d) e

8. The value of $\lim_{x\to 0}\frac{\sin\log(1+x)}{x}=?$

a) 0 , b) $\log_a e$, c) 1 , d) e

9. The value of $\lim_{x\to 0}\frac{(e^x-1)\log(1+x)}{\sin x}=?$

a) 1 , b) 0 , c) e^{-1} , d) Doesn't exit.

10. The value of $\lim_{x\to 0}(1+4x)^{\frac{x+2}{x}}=?$

a) 1 , b) 0 , c) e^8 , d) Doesn't exit.

11. The value of $\lim_{x\to 2}\frac{\log(2x-3)}{2(x-2)}=?$

a) $\frac{1}{4}\log_a e$, b) 1 , c) $\frac{1}{2}$, d) $\log_a e$

12. The value of $\lim_{x\to 0}\frac{x\tan 2x-2x\tan x}{(1-\cos 2x)^2}=?$

a) $\frac{1}{4}\log_a e$, b) 1 , c) $\frac{1}{2}$, d) $\log_a e$

13. The value of $\lim_{x\to\infty}x^{\frac{3}{2}}(\sqrt{x^3+1}-\sqrt{x^3-1})=?$

a) 1 , b) 0 , c) e , d) -1

14. The value of $\lim_{x\to\frac{\pi}{6}} \frac{\sin(x-\frac{\pi}{6})}{\sqrt{3}/2-\cos x} = ?$

a) 4 , b) 3 , c) 2 , d) $\frac{1}{12}$

15. The value of $\lim_{x\to\infty} \left(\left(\frac{x^2+5x+3}{x^2+x+3}\right)^x\right) = ?$

a) 1 , b) 0 , c) e^4 **, d) Doesn't exit.**

Prepared by :-
SUKUMAR MANDAL (SkM).