# All Branches Hinglish

## Subject: Engineering Mathematics

DPP-02

## Chapter: Calculus

## Topic : Limits & its application

**1.** The value of

$$\lim_{x\to 0}\frac{x\left(e^x-1\right)+2\left(\cos x-1\right)}{x\left(1-\cos x\right)}=\_\_\_\_\_$$

**2.** The value of $\left[\lim_{x\to\infty}\left(\frac{1}{\sin x}-\frac{1}{\tan x}\right)\right]$ is:

(a) 0 (b) 1

(c) 2 (d) ∞

**3.** Value of the function $\lim_{x\to a}(x-a)^{(x-a)}$ is given by

(a) 1 (b) 0

(c) ∞ (d) a

**4.** The value of the function $f(x)=\lim_{x\to 0}\frac{x^3+x^2}{2x^3-7x^2}$ is

(a) Zero (b) $-\frac{1}{7}$

(c) $\frac{1}{7}$ (d) Infinite

**5.** $\lim_{x\to\infty}\frac{x^3-\cos x}{x^2+(\sin x)^2}$ equal

(a) ∞ (b) 0

(c) 2 (d) does not exist

**6.** $\lim_{x\to 0}\left(\frac{1-\cos x}{x^2}\right)$ is

(a) 1/4 (b) 1/2

(c) 1 (d) 2

**7.** The value of $\lim_{x\to 8}\frac{x^{1/3}-2}{(x-8)}$

(a) $\frac{1}{16}$ (b) $\frac{1}{12}$

(c) $\frac{1}{8}$ (d) $\frac{1}{4}$

**8.** $\lim_{x\to 0}\frac{e^x-\left(1+x+\frac{x^2}{2}\right)}{x^3}=$

(a) 0 (b) 1/6

(c) 1/3 (d) 1

# Answer Key

1. **(1)**
2. **(d)**
3. **(a)**
4. **(b)**
5. **(a)**
6. **(b)**
7. **(b)**
8. **(b)**