UNITY TRAINING
ACADEMY FOR DDCET

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Practice Set 3 Solution

Function & LIMIT

Topics :

1. Function and simple examples
2. Limit of a Function
3. Standard formulae of Limit and related simple examples

DDCET final exam weightage of this topic : 3 Questions (6 Marks)

Total Practice sets of this topic :	5 (sets) x 30 (questions) = 150 Questions
Total Practice tests of this topic :	2 (exams) x 30 (questions) = 60 Questions
Offline / Online during lecture :	4 (lectures) X 50 (Questions) = 200 Question

DDCET 2025

Total 410 Questions to practice this topic

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Section 2 :

1. Function and simple examples
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1. If $f(x) = x^2 - 2$, then $f(-2) =$ _____.

   a. -2
   b. 2 ✓
   c. -1
   d. 1

2. If $f(x) = 2x^2 - 3x + 5$, then $f(-1) =$ _____.

   a. 10 ✓
   b. -10
   c. 4
   d. 6

3. If $f(x) = 2x^3 - 3x^2 + 5x - 3$, then $f(-1) =$ _____.

   a. 10
   b. 13
   c. -10
   d. -13 ✓

4. If $f(x) = x^3 - 1$, then $f(2) + f(3) =$ _____.

   a. 23
   b. 43
   c. 33 ✓
   d. 63

5. If $f(x) = 3^x - \log_2 x$, then $f(2) =$ _____.

   a. 2
   b. 3
   c. 4
   d. 8 ✓

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6. If f(x) = sin x, then f (x) + f(-x) = _____.

   a. $\sin^2 x$
   b. 2sin x
   c. cos x
   d. 0 ✓

7. If f(x) = $e^{\sin x}$, then f (0) = _____.

   a. e
   b. 1 ✓
   c. 0
   d. ∞

8. If f(x) = $\log_2 (e^{\sin x})$, then f (0) = _____.

   a. e
   b. 1
   c. 0 ✓
   d. ∞

9. If f(x) = log (tanx), then f $(\frac{\pi}{4})$ = _____.

   a. 0 ✓
   b. 1
   c. e
   d. undefined

10. If f(x) = $\log_2$ (sinx) + $\log_2$ (cosx), then f $(\frac{\pi}{4})$ = _____.

   a. 0
   b. -1 ✓
   c. -1/2
   d. 1

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11.If f(x) = $log\left(\frac{x-1}{x}\right)$, then f (-x) = _____.

a $log\left(\frac{x-1}{x}\right)$
b. $log\left(\frac{x+1}{x}\right)$ ✓
c. $log\left(\frac{x}{x-1}\right)$
d. $log\left(\frac{x}{x+1}\right)$

12.If f(x) = $\frac{1+x}{1-x}$, then f (x) · f(-x) = _____.

a. 1 ✓
b. -1
c. 0
d. ∞

13.If f(x) = $\log_4 x$, then f (64) = _____. [DDCET-2024]

a. 3 ✓
b. -3
c. 6
d. 1/3

14.If f(x) = $x^2 + 2x + 1$, what is f (-3)?

a. 4 ✓
b. 16
c. 1
d. 0

15.If f(x) = 1/x, then f(2) + f(-2) = _____.

a. 1
b. 0 ✓
c. -1
d. undefined

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16.If f(x) = $\sqrt{(x+4)}$, find f(5)

a. 3 ✓
b. 9
c. $\sqrt{9}$
d. 1

17.If f(x) = |3 - x|, then f (4) =

a. 1 ✓
b. -1
c. 0
d. 7

18.If f(x) = $(x^2 + 1)/x$, then f (1) =

a. 1
b. 2 ✓
c. 3
d. 0

19.If f(x) = $1/x^2$, then f(-2) =

a. 1
b. 1/4 ✓
c. -4
d. ½

20.If f(x) = x^2 - 9, then f(-3) =

a. 0 ✓
b. -6
c. 6
d. -9

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21.If f(x) = $\log_5(x) + \frac{x}{5}$, then f(25) =

a. 2
b. 3
c. 5
d. 7 ✓

22.If f(x) = 1/ (x + 1), then f (-1) =

a. 0
b. 1
c. ∞ ✓
d. -1

23.If f(x) = $\log_2(8x)$, then f (1) =

a. 2
b. 3 ✓
c. 1
d. 4

24.If f(x) = (3x - 1)/(x + 1), then f(0) =

a. -1 ✓
b. 1
c. 0
d. 3

25.If f(x) = x^2, then f(x) + f(-x) =

a. 0
b. $2x^2$ ✓
c. $-2x^2$
d. x^2

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26. If f(x) = $\sqrt{(9 - x^2)}$, then the domain of f(x) is:

a. $x \in \mathbb{R}$
b. $x \leq 3$
c. $|x| \leq 3$ ✓
d. $x \geq 3$

27. The function f(x) = $\sqrt{(x - 4)}$, is defined for:

a. $x \geq 0$
b. $x \geq 4$ ✓
c. $x \leq 4$
d. $x > 0$

28. The codomain of f: R → R given by $f(x) = x^2$ is:

a. R ✓
b. R+
c. R - {0}
d. R^-

29. The image of the function $f(x) = x^2$ for $x \in [-2, 2]$ is:

a. [0, 4] ✓
b. $(-\infty, \infty)$
c. [2, 4]
d. [1, 4]

30. Which of the following is not in the domain of f(x) = log(x - 3)?

a. 4
b. 5
c. 3 ✓
d. 10

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