

## S.V.CLASSES FOR MATHEMATICS

### AREAS-JEEMAINS-6

1. The area enclosed by the curve  $|x| + |y| = 1$  in sq. units is ....  
 1. 2            2. 4            3. 1            4. 1/2
2. Area of the region bounded by  $x = |y + 4|$  and x-axis is sq.units  
 1. 4            2. 8            3. 16            4. 32
3. Area bounded by  $y = \{x\}, \{.\}$  is fractional part of function and  $x = \pm 1$  is in sq.units  
 1. 1            2. 2            3. 3            4. 4
4.  $f(x) = \text{minimum of } \{x - [x], -x - [-x]\}$  and  $x = \pm 2$  then the area of  $f(x)$  in sq.units  
 1.  $\frac{1}{2}$             2.  $\frac{1}{4}$             3.  $\frac{1}{3}$             4.  $\frac{1}{6}$
5.  $f(x) = \text{minimum of } \{|x - 1|, |x|, |x + 1|\}$  and  $x = \pm 1$  the area of  $f(x)$  is in sq.units  
 1.  $\frac{1}{2}$             2.  $\frac{1}{4}$             3.  $\frac{1}{3}$             4.  $\frac{1}{6}$
6. The area of the region bounded by  $3x \pm 4y \pm 6 = 0$  in sq.units  
 1. 3            2. 1.5            3. 4.5            4. 6
7. The area bounded by the X-axis and the curve  $y = 4x - x^2 - 3$  in sq. units is  
 1. 1/3            2. 2/3            3. 4/3            4. 7/3
8. The area of the region bounded by  $\sqrt{x} + \sqrt{y} = 1$  in the first quadrant is  
 1. 1 sq. unit            2.  $\frac{1}{2}$  sq. units  
 3.  $\frac{1}{6}$  sq. units            4.  $\frac{1}{5}$  units
9. The area of the region bounded by the curve  $y = x^3$ , x-axis and the ordinates  $x=1, x=4$  is  
 1.  $\frac{255}{4}$  sq. units            2.  $\frac{225}{2}$  sq. units  
 3.  $\frac{125}{3}$  sq. units            4.  $\frac{124}{3}$  sq. units
10. The area in square units of the region bounded by the curve  $x^2 = 4y$ , the line  $x=2$  and the X-axis is  
 1. 1            2. 2/3            3. 4/3            4. 8/3
11. The area bounded by the parabola  $y = 4 - x^2$  and X-axis in sq. units is  
 1. 32/3            2. 16/3            3. 8/3            4. 1/3
11. The area bounded by the parabola  $y = 4 - x^2$  and X-axis in sq. units is  
 1. 32/3            2. 16/3            3. 8/3            4. 1/3
12. The area bounded by the parabola  $y = x^2$  and the straight line  $y=2x$  is  
 1.  $\frac{4}{3}$  sq. units            2.  $\frac{3}{4}$  sq. units  
 3.  $\frac{2}{3}$  sq. units            4.  $\frac{1}{3}$  sq. units
13. The area bounded by the parabola  $y^2 = 4x$  and its latusrectum is  
 1.  $\frac{8}{3}$  sq. units            2.  $\frac{3}{8}$  sq. units  
 3. 12 sq. units            4.  $\frac{1}{3}$  sq. units
14. The area of the region bounded by  $y = [x]$  and the ordinates  $x=1, x=2$  in sq. units is  
 1. 2            2. 1            3. 4            4. 1/2
15. The area bounded by any one of the arc of the curve  $y = \sin x$  in sq. units with X axis  
 1. 2 sq. units            2. 1 sq. unit  
 3. 2/3 sq. unit            4. 1/2 sq. units
16. The area bounded by the curve  $y = \cos x$ , x-axis between the ordinates  $x = 0, x = 2\pi$  is  
 1. 1 sq. unit            2. 4 sq. units  
 3.  $\frac{2}{3}$  sq. units            4. 2 sq. units
17. The area of the curve  $x = a \cos^3 t$ ,  $y = b \sin^3 t$  in sq. units is  
 1.  $\frac{3\pi ab}{4}$             2.  $\frac{3\pi ab}{8}$             3.  $\frac{\pi ab}{4}$             4.  $\frac{\pi ab}{8}$

18. The area of the region bounded by  $y = \sin^4 x$ , X-axis and ordinates  $x = 0, x = 2\pi$  (in sq. units)

1.  $\frac{3\pi}{4}$     2.  $\frac{\pi}{4}$     3.  $\frac{3\pi}{2}$     4.  $3\pi$

19. Area of the region

$$R = \left\{ \left[ (x, y) / x^2 \leq y \leq x \right] \right\} \text{ is}$$

1.  $1/6$     2.  $2/3$     3.  $4/3$     4.  $2$

20. The area bounded by the curve

$$y = 7x - 10 - x^2 \text{ with X-axis is}$$

1. 9 sq. units    2. 3 sq. units  
3.  $9/2$  sq. units    4. 4 sq. units

21. The area bounded by the curve

$$y = (x - 4)(x - 1) \text{ and the X-axis is}$$

1.  $\frac{6}{5}$  sq. units    2.  $\frac{9}{4}$  sq. units  
3.  $\frac{9}{2}$  sq. units    4.  $\frac{5}{6}$  sq. units

22. The area of the region  $y = ax - bx^2$  bounded by X-axis in sq. units is

1.  $\frac{a^3}{6b^2}$     2.  $\frac{a^3}{6}$     3.  $a$     4.  $b$

23. The area between the curve  $y = (x - 1)^2 - 25$  and X-axis in sq. units is

1.  $\frac{250}{3}$     2.  $\frac{500}{3}$     3.  $\frac{750}{3}$     4.  $\frac{1000}{3}$

24. The area bounded by  $y = x^2 + 2$ , X-axis,  $x = 1$  and  $x = 2$  is

1.  $\frac{16}{3}$     2.  $\frac{17}{3}$     3.  $\frac{13}{3}$     4.  $\frac{20}{3}$

25. The area of the region bounded by the curve

$$y = x^2, \text{ x-axis and the ordinates } x = 0, x = 2 \text{ is}$$

1.  $\frac{8}{3}$  sq. units    2.  $\frac{3}{8}$  sq. units  
3. 24 sq. units    4. 25 sq. units

26. The area bounded by the parabola  $y = 4x^2$ , X-axis between the ordinates  $x = 2, x = 4$  is

1.  $\frac{224}{3}$  sq. units    2.  $\frac{125}{3}$  sq. units  
3.  $\frac{122}{3}$  sq. units    4.  $\frac{121}{3}$  sq. units

27. The area bounded by the curve  $y = 1 + \frac{8}{x^2}$  with X-axis and ordinates at  $x = 2$  and  $x = 4$  in sq. units is

1. 4    2. 2    3.  $\frac{1}{2}$     4. 5

28. The area bounded by the curve  $y = \frac{x^2}{2}$  bounded by  $x = 0, x = 2$  and  $y = 0$  is

1.  $\frac{4}{5}$  sq. units    2.  $\frac{3}{2}$  sq. units  
3.  $\frac{3}{4}$  sq. units    4.  $\frac{4}{3}$  sq. units

29. The area between the curve  $y^2 = 9x$  and the line  $y = 3x$  is

1.  $\frac{1}{3}$  sq. units    2.  $\frac{8}{3}$  sq. units  
3.  $\frac{1}{2}$  sq. units    4.  $\frac{1}{5}$  sq. units

30. The area bounded by the curve  $xy = 4$ , x-axis between the ordinates  $x = 2, x = 4$  is

1.  $\log 2$  sq. units    2.  $2 \log 2$  sq. units  
3.  $3 \log 2$  sq. units    4.  $4 \log 2$  sq. units