RK VISION ACADEMY

NEET | IIT – JEE | FOUNDATION

CBSE PRACTICE PAPER(2024)

(Mathematics)

Grade : XII **Marks: 40**

marks

Chapter: AOI Set-1 **Time: 90**

minutes

SECTION A

(This section comprises of Multiple-choice questions (MCQ) of 1 mark each.)

1. The area enclosed by the circle x 2 + y 2 = 2 is equal to

(A) 4π sq units (B) $2\sqrt{2}\pi$ sq units (C) $4\pi^2$ sq units (D) 2π sq units

2. $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$

(A) $\pi\, ^2ab$ (B) πab (C) $\pi a^2 b$ (D) πab^2

3. The area of the region bounded by the curve $y = x^2$ and the line y = 16

(A) 32 /3 (B) 256/ 3 (C) 64/ 3 (D) 128/ 3

4. The area of the region bounded by the curve $x = y^2$, y-axis and the line y = 3 and y = 4 is

(A) 37 /3 (B) 38/ 3 (C) 73/ 3 (D) 3/ 37 sq. units

5. The area of the region bounded by the curve $y = x^2 + x$, x-axis and the line x = 2 and x = 5 is equal to

(A)297 / 6 sq. units (B)6 / 7 sq. units (C)7 / 6 sq. units (D)9 / 6 sq. units

6. $\leq x \leq \frac{\pi}{2}$

(A) $\sqrt{2}$ sq units (B) $(\sqrt{2} + 1)$ sq units (C) $(\sqrt{2} - 1)$ sq units (D) $(2\sqrt{2} - 1)$ sq units

7. The area of the region bounded by the curve $x^2 = 4y$ and the straight line x = 4y – 2 is

(A) 3/ 8 sq units (B) 5 /8 sq units (C) 7/ 8 sq units (D) 9 /8 sq units

8. The area of the region bounded by the curve $y = \sqrt{16 - x^2}$ and x-axis is

(A) 8 sq units (B) 20πsq units (C) 16π sq units (D) 256π sq units

9. Area of the region in the first quadrant enclosed by the x-axis, the line y = x and the circle $x^2 + y^2 = 32$ is

(A) 16π sq units (B) 4π sq units (C) 32π sq units (D) 24 sq unit

10 Area of the region bounded by the curve y = cosx between x = 0 and x = π is

(A) 2 sq units (B) 4 sq units (C) 3 sq units (D) 1 sq units

SECTION B

(This section comprises of very short answer type-questions (VSA) of 2 marks each.)

11 Find the area of the region bounded by the curves y 2 = 9x, y = 3x. 3.

12 Find the area of the region bounded by the parabola $y^2 = 2px$, $x^2 = 2py$.

13 Find the area of the region bounded by the curve $y = x^3$ and y = x + 6 and x = 0

SECTION C

(This section comprises of short answer type questions (SA) of 3 marks each)

14 Find the area of the region bounded by the curve $y^2 = 4x$, $x^2 = 4y$.

15 Find the area of the region included between $y^2 = 9x$ and $y = x$

16 Find the area of the region enclosed by the parabola $x^2 = y$ and the line $y = x + 2$

SECTION D

(This section comprises of long answer-type questions (LA) of 5 marks each)

17 Find the area of the region bounded by the curve $y^2 = 2x$ and $x^2 + y^2 = 4x$.

18 Find the area bounded by the curve $y = \sin x$ between $x = 0$ and $x = 2$.

19 Find the area bounded by the curve $y^2=4x$ and $x+y=3$and y axis.