



RK VISION ACADEMY

NEET | IIT – JEE | FOUNDATION

CBSE PRACTICE PAPER(2024)

(Mathematics)

Grade : XII

Marks: 40

marks

Chapter: AOI Set-2

Time: 90

minutes

SECTION A

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

- The area of the region bounded by parabola $y^2 = x$ and the straight line $2y = x$ is
(A) $4/3$ sq units (A) 1 sq units (A) $2/3$ sq units (A) $1/3$ sq units
- The area of the region bounded by the curve $y = \sin x$ between the ordinates $x = 0$, $x = \pi/2$ and the x-axis is
(A) 2 sq units (B) 4 sq units (C) 3 sq units (D) 1 sq units
- The area enclosed by the ellipse $\frac{x^2}{25} + \frac{y^2}{16} = 1$ is equal to
(A) $20\pi^2$ (B) 20π (C) $16\pi^2$ (D) 25π
- The area of the region bounded by the circle $x^2 + y^2 = 1$ is
(A) 2π sq units (B) π sq units (C) 3π sq units (D) 4π sq units
- The area of the region bounded by the curve $y = x + 1$ and the lines $x = 2$ and $x = 3$ is
(A) $7/2$ sq units (B) $9/2$ sq units (C) $11/2$ sq units (D) $13/2$ sq units
- The area of the region bounded by the curve $x = 2y + 3$ and the y lines. $y = 1$ and $y = -1$ is
(A) 4 sq units (B) $3/2$ sq units (C) 6 sq units (D) 8 sq unit

SECTION B

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

- Find the area of the curve $y = \sin x$ between 0 and π .
- Find the area of the region bounded by the curve $ay^2 = x^3$, the y-axis and the lines $y = a$ and $y = 2$
- Find the area enclosed by the curve $x = 3 \cos t$, $y = 2 \sin t$.

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 curves $x = at^2$ and $y = 2at$ between the ordinate corresponding to $t = 1$ and $t = 2$
- 15 Find the area of the region above the x-axis, included between the parabola $y^2 = ax$ and the circle $x^2 + y^2 = 2a$
- 16 Find the area of a minor segment of the circle $x^2 + y^2 = a^2$ cut off by the line $x = a/2$

SECTION D

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

- 17 Find the area of the region above the x-axis, included between the parabola $y^2 = ax$ and the circle $x^2 + y^2 = 2a$
- 18 Draw a rough sketch of the given curve $y = 1 + |x + 1|$, $x = -3$, $x = 3$, $y = 0$ and find the area of the region bounded by them, using integration
- 19