1.The equation of the asymptote of the curve $xy^2 = 4a^2(2a - x)$is

a. y = 0

b. x = 0

c. x = 2a

d. None of these.

2. For the curve $a^2x^2 = y^3(2a - y)$ at the origin there is

a. Node point

b. Singular point

c. Cusp point

d. None of these.

3. The curve $xy = c$ is symmetrical about

a. X-axis

b. Y-axis

c.$y = x$

d. None of these.

4.The equation of tangents at the origin of the curve $x(x^2 + y^2) = a(x^2 - y^2)$

a.$y = \pm x$

b. $x = \pm a$

c.$x = 0$

d. $\theta = \pm\frac{\pi}{3}$

11. The curve $r = asin3\theta$ is symmetric about

a. Initial line.

b. Pole.

c. $\theta = \pi$

d. $\theta = \frac{\pi}{2}$

12. The formula for $\int_0^{\frac{\pi}{2}} sin^n\theta d\theta =$

a. $\frac{(n-1)(n-3)\ldots\ldots}{n(n-2)(n-4)\ldots\ldots} \times \frac{\pi}{2}$

b. $\frac{(n-1)(n-3)\ldots\ldots}{n(n-2)(n-4)\ldots\ldots} \times 1$

c. $\frac{(n-1)(n-3)\ldots\ldots}{n(n-2)(n-4)\ldots\ldots} \times 1 \; or \; \frac{\pi}{2}$

d. None of these.

13. The value of $\int_0^{\frac{\pi}{2}} sin^m\theta cos^n\theta d\theta = \frac{(m-1)(m-3)\ldots\ldots\times(n-1)(n-3)\ldots\ldots}{(m+n)(m+n-2)(m+n-4)\ldots\ldots} \times k$ where k is

a. 0

b. 1

c. $\frac{\pi}{2}$

d. $\frac{\pi}{2}$ *or* 1 *depends on* m, n

d. None of these.

16.The equation of the asymptote of the curve $r = a(sec\theta + cos\theta)$is

a. x = a

b. x = -a

c. y = a

d. y = -a

17.The curve$(x - a)y^2 = x^2(2a - x)$ is symmetrical about

a. Y-axis

b. X-axis

c. Y-axis and X-axis

d. None of these.

18.The equation of asymptote of the curve $a^4y^2 = x^5(2a - x)$is

a. x = a

b. Y-axis

c. No asymptote

d. None of these.

19.The equation of the asymptote of the curve $r^2 = a^2cos2\theta$is

a. x = a

21.The equation of the tangent at the origin of the curve $ay^2 = x^3$ is

a. Y-axis

b. X-axis

c. y = x

d. None of these.

22.The equation of the tangent at the origin of the curve

$(x + a)y^2 = x^2(2a - x)$ is

a. $y = 2x$

b. $y = -2x$

c. $y = \pm\sqrt{2}x$

d. None of these.

23.The equation of the curve $x = acos^3\theta,\ y = asin^3\theta$ is symmetric about

a. Y-axis

b. X-axis

c. Both the axis.

d. None of these.

24.The equation of the tangent at the origin of the curve