EXERCISE - O

SINGLE CORRECT TYPE QUESTIONS

1. Equation $x^2 + 2\sqrt{2}xy + 2y^2 + 4\sqrt{2}x + 4y + 1 = 0$ represents -

(A) Pair of straight lines (B) A parabola

(C) An ellipse (D) A hyperbola

MPR011

2. If $(x-\alpha)^2 + (y-\beta)^2 = k(\ell x + my + n)^2$, where $\ell^2 + m^2 \neq 1$ and $\ell\alpha + m\beta + n \neq 0$, represent a parabola, then k is -

(A) $(\ell^2 + m^2)^{-2}$ (B) $\left(\sqrt{\ell^2 + m^2}\right)^{-1}$ (C) $\frac{1}{(\ell^2 + m^2)}$ (D) $(\ell^2 + m^2)^{-4}$

MPR061

3. Focus of conic represented parametrically by the equation $x = t^2 + 3, y = 2t - 1$ is

(A) $(4, 0)$ (B) $(4, 1)$ (C) $(0, 1)$ (D) $(4, -1)$

MPR010

4. If P be a point on the parabola $y^2 = 3(2x - 3)$ and M is the foot of perpendicular drawn from P on the directrix of the parabola, then length of each side of an equilateral triangle SMP, where S is focus of the parabola, is

(A) 2 (B) 4 (C) 6 (D) 8

MPR062

5. The focus of the parabola whose vertex is $(3,2)$ and directrix is $x - y + 1 = 0$ is -

(A) $(4, 1)$ (B) $(1, -1)$ (C) $(8, 7)$ (D) $(-4, 1)$

MPR063

6. The equation of latus rectum of parabola is $x + y = 8$ and equation of tangent at vertex is $x + y = 12$, then length of latus rectum is -

(A) $4\sqrt{2}$ (B) $2\sqrt{2}$ (C) $6\sqrt{2}$ (D) $8\sqrt{2}$

MPR019

7. Area of triangle formed by vertex and ends of latus rectum of parabola $y^2 = 4x$ is -

(A) 1 (B) 5 (C) 2 (D) 4

MPR017

8. Equation of circle drawn with focus of parabola $(x - 1)^2 = 8y$ as centre and touching the parabola at its vertex is -

(A) $x^2 + y^2 - 2x - 4y + 1 = 0$ (B) $2x^2 + 2y^2 - 2x - 4y + 3 = 0$

(A) $x^2 + y^2 - 2x - 4y = 0$ (D) $x^2 + y^2 - 2x - 2y + 1 = 0$

MPR016

9. If $(a, 2a)$ is exterior to both parabolas $y^2 = |x|$, then $a \in$

(A) $\left(-\infty, -\frac{1}{4}\right) \cup \left(\frac{1}{4}, \infty\right)$ (B) $\left(\frac{1}{4}, \infty\right)$ only

(C) $\left(-\infty, -\frac{1}{4}\right)$ only (D) $\left(-\frac{1}{4}, \frac{1}{4}\right)$

MPR064

10. Length of intercept cut by line $4x + 4\sqrt{3}y - 1 = 0$ on the curve $y^2 = x$ will be -

(A) 4 units (B) 9 units (C) 12 units (D) 16 units

MPR012

11. Length of latus rectum of the parabola, on which every point is equidistant from line $6x + 8y = 5$ and origin, is -

(A) 2 (B) 1 (C) 4 (D) $\frac{1}{2}$

MPR013

12. $A(3, 6)$ is a point lying on parabola $y^2 = 4ax$ such that chord AB subtends 90° at origin, then distance OB will, where O is origin-

(A) $12\sqrt{20}$ (B) $12\sqrt{17}$ (C) $9\sqrt{17}$ (D) $9\sqrt{10}$

MPR015

13. The circle drawn on latus rectum of parabola $4y^2 + 25 = 4(y + 4x)$ as diameter cuts the intercept on the axis of parabola whose length is-

(A) 4 (B) $\sqrt{2}$ (C) 2 (D) $2\sqrt{2}$

MPR008

14. Area of the trapezium whose vertices lies on the parabola $y^2 = 4x$ and its diagonals pass through $(1, 0)$ and having length $\frac{25}{4}$ unit each, is

(A) $\frac{75}{4}$ sq. unit (B) $\frac{625}{16}$ sq. unit (C) $\frac{25}{4}$ sq. unit (D) $\frac{25}{8}$ sq. unit

MPR006

15. If $x + 2y + 3 = 0$ is a tangent to the parabola $y^2 = ax$, then 'a' is equal to-

(A) -12 (B) 12 (C) 3 (D) -3

MPR018

16. The equation of tangent to parabola $y^2 = 32x$ at ends of its latus rectum is-

(A) $x - y + 8 = 0$ (B) $x + y + 8 = 0$ (C) $x + y - 8 = 0$ (D) Both (1) and (2)

MPR007

17. A point P moves such that slope of one tangent drawn from it to parabola $y^2 = 16x$ is four times the slope of other tangent. Length of latus rectum of conic represented by locus of P will be-

(A) 25 (B) 30 (C) 35 (D) 50

MPR009

18. The normal at three points P, Q, R of the parabola $y^2 = 4ax$ meet in (h, k). The centroid of triangle lies on

(A) $x = 0$ (B) $y = 0$ (C) $x = -a$ (D) $y = a$

MPR001

19. If the normal at $P(ap^2, 2ap)$ on $y^2 = 4ax$ makes 90° at the vertex, then

(A) $p = -1$ (B) $p = 1$ (C) $p = \frac{1}{\sqrt{2}}$ (D) $p = -\sqrt{2}$

MPR002

20. If normal at the point $A(1, 2)$ to the parabola $y^2 = 4x$ intersect the parabola again at B and the normal at B intersects the parabola at C, then the point C is

(A) $(1, 2)$ (B) $(1, -2)$ (C) $(2, -2\sqrt{2})$ (D) none of these

MPR003

21. The inclination of the normal with positive direction of x-axis, drawn at another end of a normal to the parabola $y^2 = 4x$ is always

(A) 60° (B) less than 60° (C) More than 60° (D) less than 45°

MPR004

22. The set of values of θ, for which the line $y = x\sin\theta + \sin^3\theta$ is a normal to the parabola $y^2 = 4x$, other than the x-axis, is

(A) R (B) $[-\pi/2, \pi/2]$ (C) ϕ (D) none of these

MPR005

23. If normal at point (h, k) on parabola $y^2 = 8x$ meets parabola again at point $(18, 12)$, then sum of all possible value of h, is -

(A) 8 (B) 12 (C) 10 (D) 6

MPR014

24. Minimum distance between the curves $x^2 + y^2 + 4x + 16y + 66 = 0$ and $y^2 = 8x$ is -

(A) $3\sqrt{2}$ units (B) $5\sqrt{2}$ units

(C) $4\sqrt{2} - 2$ units (D) $4\sqrt{2} + 2$ units

MPR020

MULTIPLE CORRECT TYPE QUESTIONS

25. Line $x + y = 7$ touches a parabola at $P(3,4)$. If the focus of the parabola is $(1,1)$, then-

(A) equation of its directrix is $3x + 2y = 30$

(B) length of its latus rectum is $\frac{50}{\sqrt{13}}$

(C) its vertex is $(6,6)$

(D) equation of its axis is $2x - 3y + 4 = 0$

MPR065

26. A, B, C are 3 points on the parabola $(y-1)^2 = 4(x-1)$ such that normals at A, B, C on the parabola meet at $P(10,7)$, then-

(A) sum of slopes of normal is zero (B) area of ΔABC is 20

(C) centroid of ΔABC is $\left(\frac{14}{3}, 0\right)$ (D) centroid of ΔABC is $\left(\frac{17}{3}, 1\right)$

MPR066

27. There are 3 common tangents of parabola $y^2 = 4x$ and circle $x^2 + y^2 - 6x = 0$ forming a triangle T. Identify correct facts about triangle $'T'$

(A) it is an equilateral triangle (B) its area is $3\sqrt{3}$

(C) its circumcentre is $(-1, 0)$ (D) its inradius is 1

MPR067

28. Normal of parabola $y^2 = 4x$ at P and Q meets at $R(\beta, 0)$ and tangent at P and Q meets at $T(\alpha, 0)$. Then identify the correct statement(s)?

(A) If $\beta = 3$ then the area of quadrilateral $PTQR$ equals 8.

(B) If length of tangent PT is $4\sqrt{5}$ then β equals 6.

(C) If three distinct normals are drawn to the parabola from point R then β can be 9.

(D) If $\beta = 4$ then area of circle circumscribing ΔPQR equals 9π.

MPR068

COMPREHENSION TYPE QUESTIONS

Paragraph for Question No. 29 to 30

If a chord of a parabola $y^2 = 4x$ subtends a right angle at centre of a circle $x^2 + y^2 = 9$ and the chord passes through a fixed point P and from point P three normal are drawn to intersect the parabola at A, B & C. Then -

29. Area of ΔABC

(A) $8\sqrt{2}$ (B) $4\sqrt{2}$ (C) $2\sqrt{2}$ (D) $6\sqrt{2}$

MPR069

30. Out of the 3 normal chord, the length of normal chord which is minimum is -

(A) $6\sqrt{3}$ (B) 4 (C) $2\sqrt{3}$ (D) 2

MPR070

Paragraph for Question No. 31 to 32

Given a parabola having axis as x-axis, equation of directrix is $x = -3$ and focus as (3,0).

31. Length of side of an equilateral triangle with one vertex at vertex of given parabola and inscribed in it

(A) $18\sqrt{3}$ (B) $24\sqrt{3}$ (C) $7\sqrt{3}$ (D) $14\sqrt{3}$

MPR071

32. Line $x + y = 1$ intersects given parabola at A and B. Then coordinate of point of intersection of tangents drawn at A and B is-

(A) $(-1, -6)$ (B) $(-2, 4)$ (C) $(-3, 16)$ (D) $(-12, 12)$

MPR072

Paragraph for Question No. 33 to 34

Consider a parabola $y^2 = 4x$.

33. Area of the figure formed by tangents and normal drawn at the extremities of its latus rectum is-

(A) 8 (B) 16 (C) 4 (D) 32

MPR073

34. The co-ordinates of centre of a circle circumscribing a triangle formed by any tangent, normal and x-axis is-

(A) (0,0) (B) (1,0) (C) (1,1) (D) (0,1)

MPR074

EXERCISE - S

1. A line passing through $(21, 30)$ is normal to the curve $y = 2\sqrt{x}$. If m is slope of the normal then the value of $m + 6$ is

MPR021

2. If any tangent to parabola $y^2 = 4x$ cut the co-ordinate axes at A and B respectively. The locus of mid-point of AB is $y^2 = -\frac{x}{\lambda}$, then λ is

MPR022

3. The equation of the line touching both the parabolas $y^2 = 4x$ and $x^2 = -32y$ is $x - 2y + \lambda = 0$, then λ is

MPR023

4. PQ is focal chord of parabola $y^2 = 4x$. If length of PQ is ℓ & p is perpendicular distance of PQ from the vertex of the parabola, then $(\ell)(p^2)$ is

MPR024

5. $P(1,2)$, Q & R are three points on parabola $y^2 = 4x$ such that $\angle PQR = \frac{\pi}{2}$ and PQ is normal to parabola at P. If area of ΔPQR is 2^λ, then λ is

MPR025

6. If equation of directrix of the parabola $x^2 + 4y - 6x + k = 0$ is $y + 1 = 0$, focus is (a, b) and vertex is (c, d), then $(k + a + c + 3b + 3d)$ is equal to

MPR026

7. Let $x - y = 1$ is equation of tangent at the vertex of a parabola, whose focus is $(3,4)$. If the equation of directrix of the parabola is $ax - y = b$, then $a + b$ is equal to

MPR027

8. A line with inclination 30° with positive direction of x-axis through origin (O) meets the parabola $y^2 = 12(x + 3)$ at P and Q. If perpendicular bisector of PQ intersects the x-axis at R then $\frac{RS}{4}$ is (S being the focus of parabola)

MPR028

9. Let a variable point A be lying on the directrix of parabola $y^2 = 4ax$. Tangents AB & AC are drawn to the curve where B & C are points of contact of tangent. The locus of centroid of ΔABC is a conic whose length of latus rectum is λ, then $\frac{\lambda}{a}$ is equal to

MPR029

10. If two tangents drawn from the point (h, k) to the parabola $y^2 = 64x$ be such that the slope of one tangent is 8 times of the other then the value of $\frac{k^2}{18h}$ is

MPR030

11. PQ is a focal chord of parabola $x^2 - 2x + y - 2 = 0$ whose focus is $'S'$. If $PS = 1$, then $(QS)^{-1}$ is equal to

MPR075

12. Let from a point $P(-3, -4)$ pair of tangents are drawn to parabola $y^2 = 4(x-1)$. The sum of slopes of these tangents is

MPR076

13. A circle touches the parabola $y^2 = 4x$ at point P. Circle also passes through the focus S of the parabola and intersects its axis at point Q. If angle SPQ is 90°, then radius of circle is equal to

MPR077

14. If $x + y = k$ is a normal to the parabola $y^2 = 12x$ and p is length of prependicular from focus of parabola on this normal, then $\left(\frac{k}{3} + \frac{p}{\sqrt{2}}\right)$ is

MPR078

EXERCISE - JEE (Main) PYQ

1. Let P be the point on the parabola, $y^2 = 8x$ which is at a minimum distance from the centre C of the circle, $x^2 + (y + 6)^2 = 1$. Then the equation of the circle, passing through C and having its centre at P is : **[JEE (Main) 2016]**

(1) $x^2 + y^2 - 4x + 9y + 18 = 0$ (2) $x^2 + y^2 - 4x + 8y + 12 = 0$

(3) $x^2 + y^2 - x + 4y - 12 = 0$ (4) $x^2 + y^2 - \frac{x}{4} + 2y - 24 = 0$

MPR031

2. Tangent and normal are drawn at $P(16, 16)$ on the parabola $y^2 = 16x$, which intersect the axis of the parabola at A and B, respectively. If C is the centre of the circle through the points P, A and B and $\angle CPB = \theta$, then a value of tanθ is- **[JEE (Main) 2018]**

(1) 2 (2) 3 (3) $\frac{4}{3}$ (4) $\frac{1}{2}$

MPR032

3. The tangent to the parabola $y^2 = 4x$ at the point where it intersects the circle $x^2 + y^2 = 5$ in the first quadrant, passes through the point: **[JEE (Main) 2019]**

(1) $\left(-\frac{1}{3}, \frac{4}{3}\right)$ (2) $\left(-\frac{1}{4}, \frac{1}{2}\right)$ (3) $\left(\frac{3}{4}, \frac{7}{4}\right)$ (4) $\left(\frac{1}{4}, \frac{3}{4}\right)$

MPR033

4. If the tangent to the parabola $y^2 = x$ at a point $(\alpha, \beta), (\beta > 0)$ is also a tangent to the ellipse, $x^2 + 2y^2 = 1$, then α is equal to : **[JEE (Main) 2019]**

(1) $2\sqrt{2} + 1$ (2) $\sqrt{2} - 1$ (3) $\sqrt{2} + 1$ (4) $2\sqrt{2} - 1$

MPR034

5. The area (in sq. units) of the smaller of the two circles that touch the parabola, $y^2 = 4x$ at the point $(1, 2)$ and the x-axis is - **[JEE (Main) 2019]**

(1) $4\pi(2 - \sqrt{2})$ (2) $8\pi(3 - 2\sqrt{2})$ (3) $4\pi(3 + \sqrt{2})$ (4) $8\pi(2 - \sqrt{2})$

MPR035

6. If one end of a focal chord of the parabola, $y^2 = 16x$ is at $(1, 4)$, then the length of this focal chord is **[JEE (Main) 2019]**

(1) 25 (2) 24 (3) 20 (4) 22

MPR036

7. Let $A(4, -4)$ and $B(9, 6)$ be points on the parabola, $y^2 + 4x$. Let C be chosen on the arc AOB of the parabola, where O is the origin, such that the area of ΔACB is maximum. Then, the area (in sq. units) of ΔACB, is: **[JEE (Main) 2019]**

(1) $31\frac{3}{4}$ (2) 32 (3) $30\frac{1}{2}$ (4) $31\frac{1}{4}$

MPR037

8. Let a line $y = mx$ $(m > 0)$ intersect the parabola, $y^2 = x$ at a point P, other than the origin. Let the tangent to it at P meet the x-axis at the point Q. If area (ΔOPQ) = 4 sq. units, then m is equal to. **[JEE (Main) 2020]**

MPR038

9. If one end of a focal chord AB of the parabola $y^2 = 8x$ is at $A\left(\frac{1}{2}, -2\right)$, then the equation of the tangent to it at B is: **[JEE (Main) 2020]**

(1) $2x + y - 24 = 0$ (2) $x - 2y + 8 = 0$

(3) $2x - y - 24 = 0$ (4) $x + 2y + 8 = 0$

MPR039

10. Let P be a variable point on the parabola $y = 4x^2 + 1$. Then, the locus of the mid-point of the point P and the foot of the perpendicular drawn from the point P to the line $y = x$ is : **[JEE (Main) 2021]**

(1) $(3x - y)^2 + (x - 3y) + 2 = 0$ (2) $2(3x - y)^2 + (x - 3y) + 2 = 0$

(3) $(3x - y)^2 + 2(x - 3y) + 2 = 0$ (4) $2(x - 3y)^2 + (3x - y) + 2 = 0$

MPR040

11. If the point on the curve $y^2 = 6x$, nearest to the point $\left(3, \frac{3}{2}\right)$ is (α, β), then $2(\alpha + \beta)$ is equal to _____. **[JEE (Main) 2021]**

MPR041

12. Let the tangent to the parabola $S: y^2 = 2x$ at the point $P(2, 2)$ meet the x-axis at Q and normal at it meet the parabola S at the point R. Then the area (in sq. units) of the triangle PQR is equal to: **[JEE (Main) 2021]**

(1) $\frac{25}{2}$ (2) $\frac{35}{2}$ (3) $\frac{15}{2}$ (4) 25

MPR042

13. Let a parabola P be such that its vertex and focus lie on the positive x–axis at a distance 2 and 4 units from the origin, respectively. If tangents are drawn from $O(0, 0)$ to the parabola P which meet P at S and R, then the area (in sq. units) of ΔSOR is equal to : **[JEE (Main) 2021]**

(1) $16\sqrt{2}$ (2) 16 (3) 32 (4) $8\sqrt{2}$

MPR043

14. Consider the parabola with vertex $\left(\frac{1}{2}, \frac{3}{4}\right)$ and the directrix $y = \frac{1}{2}$. Let P be the point where the parabola meets the line $x = -\frac{1}{2}$. If the normal to the parabola at P intersects the parabola again at the point Q, then $(PQ)^2$ is equal to: **[JEE (Main) 2021]**

(1) $\frac{75}{8}$ (2) $\frac{125}{16}$ (3) $\frac{25}{2}$ (4) $\frac{15}{2}$

MPR044

15. If a line along a chord of the circle $4x^2 + 4y^2 + 120x + 675 = 0$, passes through the point $(-30, 0)$ and is tangent to the parabola $y^2 = 30x$, then the length of this chord is: **[JEE (Main) 2021]**

(1) 5 (2) 7 (3) $5\sqrt{3}$ (4) $3\sqrt{5}$

MPR045

16. If two tangents drawn from a point P to the parabola $y^2 = 16(x - 3)$ are at right angles, then the locus of point P is : **[JEE (Main) 2021]**

(1) $x + 3 = 0$ (2) $x + 1 = 0$ (3) $x + 2 = 0$ (4) $x + 4 = 0$

MPR046

17. A tangent and a normal are drawn at the point $P(2,-4)$ on the parabola $y^2=8x$, which meet the directrix of the parabola at the points A and B respectively. If $Q(a,b)$ is a point such that $AQBP$ is a square, then $2a+b$ is equal to: **[JEE (Main) 2021]**

(1) -16 (2) -18 (3) -12 (4) -20

MPR047

18. A tangent line L is drawn at the point $(2,-4)$ on the parabola $y^2=8x$. If the line L is also tangent to the circle $x^2+y^2=a$, then 'a' is equal to_____. **[JEE (Main) 2021]**

MPR048

19. The length of the latus rectum of a parabola, whose vertex and focus are on the positive x–axis at a distance R and $S(>R)$ respectively from the origin, is: **[JEE (Main) 2021]**

(1) $4(S+R)$ (2) $2(S-R)$ (3) $4(S-R)$ (4) $2(S+R)$

MPR049

20. The tangents at the point $A(1,3)$ and $B(1,-1)$ on the parabola $y^2-2x-2y=1$ meet at the point P. Then the area (in unit^2) of the triangle PAB is :- **[JEE (Main) 2022]**

(1) 4 (2) 6 (3) 7 (4) 8

MPR050

21. The equation of a common tangent to the parabolas $y=x^2$ and $y=-(x-2)^2$ is **[JEE (Main) 2022]**

(1) $y=4(x-2)$ (2) $y=4(x-1)$ (3) $y=4(x+1)$ (4) $y=4(x+2)$

MPR051

22. Let P_1 be a parabola with vertex (3, 2) and focus (4, 4) and P_2 be its mirror image with respect to the line $x+2y=6$. Then the directrix of P_2 is $x+2y=$ ____. **[JEE (Main) 2022]**

MPR052

23. Let $x^2+y^2+Ax+By+C=0$ be a circle passing through (0, 6) and touching the parabola $y=x^2$ at (2, 4). Then $A+C$ is equal to_____ . **[JEE (Main) 2022]**

(1) 16 (2) 88/5 (3) 72 (4) –8

MPR053

24. Let $x=2t,\ y=\frac{t^2}{3}$ be a conic. Let S be the focus and B be the point on the axis of the conic such that $SA\perp BA$, where A is any point on the conic. If k is the ordinate of the centroid of ΔSAB, then $\lim\limits_{t\to 1}k$ is equal to **[JEE (Main) 2022]**

(1) $\frac{17}{18}$ (2) $\frac{19}{18}$ (3) $\frac{11}{18}$ (4) $\frac{13}{18}$

MPR054

25. Let $A(0,1), B(1,1)$ and $C(1,0)$ be the mid – points of the sides of a triangle with incentre at the point D. If the focus of the parabola $y^2=4ax$ passing through D is $\left(\alpha+\beta\sqrt{2},0\right)$, where α and β are rational numbers, then $\frac{\alpha}{\beta^2}$ is equal to **[JEE (Main) 2023]**

(1) 6 (2) 8 (3) 12 (4) $\frac{9}{2}$

MPR055

26. The ordinates of the points P and Q on the parabola with focus (3, 0) and directrix $x = -3$ are in the ratio 3 : 1. If $R(\alpha, \beta)$ is the point of intersection of the tangents to the parabola at P and Q, then $\frac{\beta^2}{\alpha}$ is equal to___: **[JEE (Main) 2023]**

MPR056

27. Let R be the focus of the parabola $y^2 = 20x$ and the line $y = mx + c$ intersect the parabola at two points P and Q. Let the point $G(10, 10)$ be the centroid of the triangle PQR. If $c - m = 6$, then $(PQ)^2$ is **[JEE (Main) 2023]**

(1) 325 (2) 317 (3) 296 (4) 346

MPR057

28. Let PQ be a focal chord of the parabola $y^2 = 36x$ of length 100, making an acute angle with the positive x-axis. Let the ordinate of P be positive and M be the point on the line segment PQ such that $PM : MQ = 3 : 1$. Then which of the following points does NOT lie on the line passing through M and perpendicular to the line PQ? **[JEE (Main) 2023]**

(1) $(-3, 43)$ (2) $(-6, 45)$ (3) $(3, 33)$ (4) $(6, 29)$

MPR058

29. If the x-intercept of a focal chord of the parabola $y^2 = 8x + 4y + 4$ is 3, then the length of this chord is equal to _____. **[JEE (Main) 2023]**

MPR059

30. The equations of two sides of a variable triangle are $x = 0$ and $y = 3$, and its third side is a tangent to the parabola $y^2 = 6x$. The locus of its circumcentre is : **[JEE (Main) 2023]**

(1) $4y^2 - 18y - 3x - 18 = 0$ (2) $4y^2 + 18y + 3x + 18 = 0$

(3) $4y^2 - 18y + 3x + 18 = 0$ (4) $4y^2 - 18y - 3x + 18 = 0$

MPR060

EXERCISE - JEE (Advanced) PYQ

Paragraph for Question 1 and 2

Let PQ be a focal chord of the parabolas $y^2 = 4ax$. The tangents to the parabola at P and Q meet at a point lying on the line $y = 2x + a, a > 0$.

1. If chord PQ subtends an angle θ at the vertex of $y^2 = 4ax$, then tanθ = **[JEE (Advanced) 2013]**

(A) $\frac{2}{3}\sqrt{7}$ (B) $\frac{-2}{3}\sqrt{7}$

(C) $\frac{2}{3}\sqrt{5}$ (D) $\frac{-2}{3}\sqrt{5}$

MPR079

2. Length of chord PQ is **[JEE (Advanced) 2013]**

(A) $7a$ (B) $5a$ (C) $2a$ (D) $3a$

MPR080

3. The common tangents to the circle $x^2 + y^2 = 2$ and the parabola $y^2 = 8x$ touch the circle at the point P, Q and the parabola at the points R, S. Then the area of the quadrilateral $PQRS$ is – **[JEE (Advanced) 2014]**

(A) 3 (B) 6 (C) 9 (D) 15

MPR081

Paragraph for Question No. 4 and 5

Let a, r, s, t be nonzero real numbers. Let $P(at^2, 2at)$, Q, $R(ar^2, 2ar)$ and $S(as^2, 2as)$ be distinct points on the parabola $y^2 = 4ax$. Suppose that PQ is the focal chord and lines QR and PK are parallel, where K is the point $(2a, 0)$.

4. The value of r is- **[JEE (Advanced) 2014]**

(A) $-\frac{1}{t}$ (B) $\frac{t^2+1}{t}$ (C) $\frac{1}{t}$ (D) $\frac{t^2-1}{t}$

MPR082

5. If $st = 1$, then the tangent at P and the normal at S to the parabola meet at a point whose ordinate is- **[JEE (Advanced) 2014]**

(A) $\frac{\left(t^2+1\right)^2}{2t^3}$ (B) $\frac{a\left(t^2+1\right)^2}{2t^3}$

(C) $\frac{a\left(t^2+1\right)^2}{t^3}$ (D) $\frac{a\left(t^2+2\right)^2}{t^3}$

MPR083

6. If the normals of the parabola $y^2 = 4x$ drawn at the end points of its latus rectum are tangents to the circle $(x-3)^2 + (y+2)^2 = r^2$, then the value of r^2 is **[JEE (Advanced) 2015]**

MPR084

7. Let the curve C be the mirror image of the parabola $y^2 = 4x$ with respect to the line $x + y + 4 = 0$. If A and B are the points of intersection of C with the line $y = -5$, then the distance between A and B is **[JEE (Advanced) 2015]**

MPR085

8. Let P and Q be distinct points on the parabola $y^2 = 2x$ such that a circle with PQ as diameter passes through the vertex O of the parabola. If P lies in the first quadrant and the area of the triangle ΔOPQ is $3\sqrt{2}$, then which of the following is(are) the coordinates of P ? **[JEE (Advanced) 2015]**

(A) $\left(4,2\sqrt{2}\right)$ (B) $\left(9,3\sqrt{2}\right)$ (C) $\left(\frac{1}{4},-\frac{1}{\sqrt{2}}\right)$ (D) $\left(1,\sqrt{2}\right)$

MPR086

9. The circle $C_1: x^2 + y^2 = 3$, with centre at O, intersects the parabola $x^2 = 2y$ at the point P in the first quadrant. Let the tangent to the circle C_1 at P touches other two circles C_2 and C_3 at R_2 and R_3, respectively. Suppose C_2 and C_3 have equal radii $2\sqrt{3}$ and centres Q_2 and Q_3, respectively. If Q_2 and Q_3 lie on the y-axis, then- **[JEE (Advanced) 2016]**

(A) $Q_2Q_3 = 12$ (B) $R_2R_3 = 4\sqrt{6}$

(C) area of the triangle OR_2R_3 is $6\sqrt{2}$ (D) area of the triangle PQ_2Q_3 is $4\sqrt{2}$

MPR087

10. Let P be the point on the parabola $y^2 = 4x$ which is at the shortest distance from the center S of the circle $x^2 + y^2 - 4x - 16y + 64 = 0$. Let Q be the point on the circle dividing the line segment SP internally. Then- **[JEE (Advanced) 2016]**

(A) $SP = 2\sqrt{5}$

(B) $SQ : QP = \left(\sqrt{5}+1\right) : 2$

(C) the x-intercept of the normal to the parabola at P is 6

(D) the slope of the tangent to the circle at Q is $\frac{1}{2}$

MPR088

11. If a chord, which is not a tangent, of the parabola $y^2 = 16x$ has the equation $2x + y = p$, and midpoint (h, k), then which of the following is(are) possible value(s) of p, h and k? **[JEE (Advanced) 2017]**

(A) $p = 5, h = 4, k = -3$ (B) $p = -1, h = 1, k = -3$

(C) $p = -2, h = 2, k = -4$ (D) $p = 2, h = 3, k = -4$

MPR089

12. Let E denote the parabola $y^2 = 8x$. Let $P = (-2, 4)$, and let Q and Q' be two distinct points on E such that the lines PQ and PQ' are tangents to E. Let F be the focus of E. Then which of the following statements is (are) **TRUE**? **[JEE (Advanced) 2021]**

(A) The triangle PFQ is a right-angled triangle

(B) The triangle QPQ' is a right-angled triangle

(C) The distance between P and F is $5\sqrt{2}$

(D) F lies on the line joining Q and Q'

MPR090

Paragraph for Question No. 13 and 14

Consider the region $R = \{(x, y) \in \mathbb{R} \times \mathbb{R} : x \geq 0 \text{ and } y^2 \leq 4 - x\}$. Let F be the family of all circles that are contained in R and have centers on the x-axis. Let C be the circle that has largest radius among the circles in F. Let (α, β) be a point where the circle C meets the curve $y^2 = 4 - x$.

13. The radius of the circle C is ____. **[JEE (Advanced) 2021]**

MPR091

14. The value of α is ____. **[JEE (Advanced) 2021]**

MPR092

15. Consider the parabola $y^2 = 4x$. Let S be the focus of the parabola. A pair of tangents drawn to the parabola from the point $P = (-2, 1)$ meet the parabola at P_1 and P_2. Let Q_1 and Q_2 be points on the lines SP_1 and SP_2 respectively such that PQ_1 is perpendicular to SP_1 and PQ_2 is perpendicular to SP_2. Then, which of the following is/are TRUE ? **[JEE (Advanced) 2022]**

(A) $SQ_1 = 2$

(B) $Q_1Q_2 = \frac{3\sqrt{10}}{5}$

(C) $PQ_1 = 3$

(D) $SQ_2 = 1$

MPR093

16. Let P be a point on the parabola $y^2 = 4ax$, where $a > 0$. The normal to the parabola at P meets the x-axis at a point Q. The area of the triangle PFQ, where F is the focus of the parabola, is 120. If the slope m of the normal and a are both positive integers, then the pair (a, m) is

[JEE (Advanced) 2023]

(A) (2, 3) (B) (1, 3) (C) (2, 4) (D) (3, 4)

MPR094

JEE (Main) Practice Paper

This paper is for yourself practice and assessment the discussion of this paper is optional though you can see PDF solutions or video solutions or solutions in hardcopy whichever is provided.

SECTION–A

- This section contains **TWENTY** questions.
- Each question has **FOUR** options (1), (2), (3) and (4). **ONLY ONE** of these four options is correct.
- For each question, darken the bubble corresponding to the correct option in the ORS.
- For each question, marks will be awarded in one of the following categories:

Full Marks : +4, if only the bubble corresponding to the correct option is darkened.
Zero Marks : 0, if none of the bubbles is darkened.
Negative Marks : –1 in all other cases.

---

1. If the line $x - 1 = 0$ is the directrix of the parabola $y^2 - kx + 8 = 0$ then one of the values of 'k' is -
(1) 1/8 (2) 8 (3) 4 (4) 1/4

MPR095

2. The length of the intercept on y–axis cut off by the parabola, $y^2 - 5y = 3x - 6$ is
(1) 1 (2) 2 (3) 3 (4) 5

MPR096

3. A variable circle is drawn to touch the line $3x - 4y = 10$ and also the circle $x^2 + y^2 = 1$ externally then the locus of its centre is -
(1) straight line (2) circle
(3) pair of real, distinct straight lines (4) parabola

MPR097

4. The locus of the point of trisection of all the double ordinates of the parabola $y^2 = \ell x$ is a parabola whose latus rectum is -
(1) $\frac{\ell}{9}$ (2) $\frac{2\ell}{9}$ (3) $\frac{4\ell}{9}$ (4) $\frac{\ell}{36}$

MPR098

5. The straight line $y = m(x - a)$ will meet the parabola $y^2 = 4ax$ in two distinct real points if
(1) $m \in R$ (2) $m \in [-1, 1]$
(3) $m \in (-\infty, 1] \cup [1, \infty)$ (4) $m \in R - \{0\}$

MPR099

6. If on a given base, a triangle be described such that the sum of the tangents of the base angles is a constant, then the locus of the vertex is :
(1) a circle (2) a parabola (3) an ellipse (4) a hyperbola

MPR100

7. The equation of the circle drawn with the focus of the parabola $(x - 1)^2 - 8y = 0$ as its centre and touching the parabola at its vertex is :
(1) $x^2 + y^2 - 4y = 0$ (2) $x^2 + y^2 - 4y + 1 = 0$
(3) $x^2 + y^2 - 2x - 4y = 0$ (4) $x^2 + y^2 - 2x - 4y + 1 = 0$

MPR101

8. If a focal chord of $y^2 = 4x$ makes an angle $\alpha, \alpha \in \left(0, \frac{\pi}{4}\right]$ with the positive direction of x-axis, then minimum length of this focal chord is -

(1) $2\sqrt{2}$ (2) $4\sqrt{2}$ (3) 8 (4) 16

MPR102

9. A parabola $y = ax^2 + bx + c$ crosses the x-axis at $(\alpha,0)$ $(\beta,0)$ both to the right of the origin. A circle also passes through these two points. The length of a tangent from the origin to the circle is:

(1) $\sqrt{\frac{bc}{a}}$ (2) ac^2 (3) $\frac{b}{a}$ (4) $\sqrt{\frac{c}{a}}$

MPR103

10. If (2, –8) is one end of a focal chord of the parabola $y^2 = 32x$, then the other end of the focal chord, is-

(1) (32, 32) (2) (32, –32) (3) (–2, 8) (4) (2, 8)

MPR104

11. The length of a focal chord of the parabola $y^2 = 4ax$ at a distance b from the vertex is c, then

(1) $2a^2 = bc$ (2) $a^3 = b^2c$ (3) $ac = b^2$ (4) $b^2c = 4a^3$

MPR105

12. Locus of trisection point of any arbitrary double ordinate of the parabola $x^2 = 4$ by, is -

(1) $9x^2 = by$ (2) $3x^2 = 2by$ (3) $9x^2 = 4by$ (4) $9x^2 = 2by$

MPR106

13. Consider the graphs of $y = Ax^2$ and $y^2 + 3 = x^2 + 4y$, where A is a positive constant and $x, y \in R$. Number of points in which the two graphs intersect, is-

(1) exactly 4

(2) exactly 2

(3) at least 2 but the number of points varies for different positive values of A.

(4) zero for at least one positive A.

MPR107

14. From an external point P, pair of tangent lines are drawn to the parabola, $y^2 = 4x$. If θ_1 & θ_2 are the inclinations of these tangents with the axis of x such that, $\theta_1 + \theta_2 = \frac{\pi}{4}$, then the locus of P is:

(1) $x - y + 1 = 0$ (2) $x + y - 1 = 0$

(3) $x - y - 1 = 0$ (4) $x + y + 1 = 0$

MPR108

15. y-intercept of the common tangent to the parabola $y^2 = 32x$ and $x^2 = 108y$ is

(1) – 18 (2) – 12 (3) – 9 (4) – 6

MPR109

16. Tangents are drawn from the points on the line $x - y + 3 = 0$ to parabola $y^2 = 8x$. Then the variable chords of contact pass through a fixed point whose coordinates are:

(1) (3,2) (2) (2,4) (3) (3,4) (4) (4,1)

MPR110

17. Consider two curves $C_1:\left(y-\sqrt{3}\right)^2=4\left(x-\sqrt{2}\right)$ and $C_2:x^2+y^2=\left(6+2\sqrt{2}\right)x+2\sqrt{3}y-6\left(1+\sqrt{2}\right)$, then-

(1) C_1 and C_2 touch each other only at one point.

(2) C_1 and C_2 touch each other exactly at two points.

(3) C_1 and C_2 intersect (but do not touch) at exactly two points.

(4) C_1 and C_2 neither intersect nor touch each other.

MPR111

18. C is the centre of the circle with centre (0,1) and radius unity. P is parabola $y=ax^2$. The set of values of 'a' for which they meet at a point other than the origin, is-

(1) $a>0$ (2) $a\in\left(0,\frac{1}{2}\right)$ (3) $\left(\frac{1}{4},\frac{1}{2}\right)$ (4) $\left(\frac{1}{2},\infty\right)$

MPR112

19. If the locus of the middle points of the chords of the parabola $y^2=2x$ which touches the circle $x^2+y^2-2x-4=0$ is given by $(y^2+1-x)^2=\lambda(1+y^2)$, then the value of λ is equal to-

(1) 3 (2) 4 (3) 5 (4) 6

MPR113

20. PN is an ordinate of the parabola $y^2=4ax$(P on $y^2=4ax$ and N on x-axis). A straight line is drawn parallel to the axis to bisect NP and meets the curve in Q. NQ meets the tangent at the vertex in a point T such that $AT=kNP$, then the value of k is (where A is the vertex)

(1) 3/2 (2) 2/3 (3) 1 (4) none

MPR114

SECTION-B

- This section will have **TEN** questions. Candidate can choose to attempt any 5 question out of these 10 questions. In case if candidate attempts more than 5 questions, first 5 attempted questions will be considered for marking.
- The answer to each question is a **NUMERICAL VALUE.**
- For each question, enter the correct numerical value (Answer should be rounded off to the nearest integer).
- Answer to each question will be evaluated according to the following marking scheme:

  Full Marks : +4, if only correct answer is given.

  Zero Marks : 0, if no answer is given.

  Negative Marks : -1 for incorrect answer

---

1. If $(a^2, a-2)$ be a point interior to the region of the parabola $y^2=2x$ bounded by the chord joining the points (2, 2) and (8, – 4), then the number of all possible integral values of a is:

MPR115

2. The number of integral values of a for which the point $(-2a, a+1)$ will be an interior point of the smaller region bounded by the circle $x^2+y^2=4$ and the parabola $y^2=4x$, is:

MPR116

3. A variable chord PQ of the parabola, $y^2=4x$ is drawn parallel to the line $y=x$. If the parameters of the points P & Q on the parabola be p & q respectively, then $(p+q)$ equal to

MPR117

4. The parabola whose axis is parallel to the y-axis and which passes through the points (0, 4), (1, 9) and (–2, 6), also passes through (2, α) then the value of $\frac{\alpha}{2}$ is:

MPR118

5. The centre of the circle which passes through the focus of the parabola $x^2 = 4y$ & touches it at the point (6, 9) is (α, β) then $|\alpha + \beta|$ is

MPR119

6. If ℓ is the distance between focus and directrix of the parabola

$9x^2 - 24xy + 16y^2 - 20x - 15y - 60 = 0$ then 4ℓ is:

MPR120

7. Points A, B & C lie on the parabola $y^2 = 4ax$. The tangents to the parabola at A, B & C, taken in pairs, intersect at points P, Q & R. the ratio of the areas of the triangles ABC & PQR is

MPR121

8. A normal is drawn to a parabola $y^2 = 4ax$ at any point other than the vertex and it cuts the parabola again at a point whose distance from the vertex is not less than ka find $[k]$ (where [.] is GIF)

MPR122

9. If three normal are drawn through $(5c, 0)$ to $y^2 = 4x$ and two of which of perpendicular then the value of c is

MPR123

10. Through the vertex O of the parabola $y^2 = 8x$, a perpendicular is drawn to any tangent meeting it at P & the parabola at Q, then the value of $\frac{OP.OQ}{4}$ is

MPR124

JEE (Advanced) Practice Paper

This paper is for yourself practice and assessment the discussion of this paper is optional though you can see PDF solutions or video solutions or solutions in hardcopy whichever is provided.

SECTION-I

- This section contains **SIX** questions.
- Each question has **FOUR** options for correct answer(*s*). **ONE OR MORE THAN ONE** of these four option(*s*) is (are) correct option(*s*).
- For each question, choose the correct option(*s*) to answer the question.
- Answer to each question will be evaluated according to the following marking scheme:

Full Marks	:	+4	if only (all) the correct option(*s*) is (are) chosen.
Partial Marks	:	+3	if all the four options are correct but ONLY three options are chosen.
Partial Marks	:	+2	if three or more options are correct but ONLY two options are chosen, both of which are correct options.
Partial Marks	:	+1	if two or more options are correct but ONLY one option is chosen and it is a correct option.
Zero Marks	:	0	if none of the options is chosen (i.e. the question is unanswered).
Negative Marks	:	–2	in all other cases.

For Example : If first, third and fourth are the **ONLY** three correct options for a question with second option being an incorrect option; selecting only all the three correct options will result in +4 marks. Selecting only two of the three correct options (e.g. the first and fourth options), without selecting any incorrect option (second option in this case), will result in +2 marks. Selecting only one of the three correct options (either first or third or fourth option), without selecting any incorrect option (second option in this case), will result in +1 marks. Selecting any incorrect option(*s*) (second option in this case), with or without selection of any correct option(*s*) will result in –2 marks.

---

1. The locus of the mid point of the focal radii of a variable point moving on the parabola, $y^2 = 8x$ is a parabola whose-

(A) Latus rectum is half the latus rectum of the original parabola

(B) Vertex is (1,0)

(C) Directrix is y-axis

(D) Focus has the co-ordinates (2,0)

MPR125

2. The straight line $y + x = 1$ touches the parabola

(A) $x^2 + 4y = 0$ (B) $x^2 - x + y = 0$

(C) $4x^2 - 3x + y = 0$ (D) $x^2 - 2x + 2y = 0$

MPR126

3. PQ is a double ordinate of the parabola $y^2 = 4ax$. If the normal at P intersect the line passing through Q and parallel to axis of x at G, then locus of G is a parabola with -

(A) length of latus rectum equal to $4a$ (B) vertex at $(4a, 0)$

(C) directrix as the line $x - 3a = 0$ (D) focus at $(5a, 0)$

MPR127

4. Let A be the vertex and L the length of the latus rectum of the parabola, $y^2 - 2y - 4x - 7 = 0$. The equation of the parabola with A as vertex, $2L$ the length of the latus rectum and the axis at right angles to that of the given curve is:

(A) $x^2 + 4x + 8y\ 4 = 0$ (B) $x^2 + 4x - 8y + 12 = 0$

(C) $x^2 + 4x + 8y + 12 = 0$ (D) $x^2 + 8x - 4y + 8 = 0$

MPR128

5. Let $y^2 = 4ax$ be a parabola and $x^2 + y^2 + 2bx = 0$ be a circle. If parabola and circle touch each other externally then:

(A) $a > 0, b > 0$ (B) $a > 0, b < 0$

(C) $a < 0, b > 0$ (D) $a < 0, b < 0$

MPR129

6. Locus of the centre of the circle passing through the vertex and the mid-points of perpendicular chords from the vertex of the parabola $y^2 = 4ax$ is

(A) is a parabola with vertex $(-a, a)$ (B) is a parabola with latus rectum a

(C) is a parabola with vertex $(2a, 0)$ (D) is a parabola with latus rectum $\frac{a}{2}$

MPR130

SECTION–II

- This section contains **TWO** paragraphs.
- Based on each paragraph, there are **THREE** questions.
- Each question has **FOUR** options (A), (B), (C) and (D) **ONLY ONE** of these four options is correct.
- For each question, darken the bubble corresponding to the correct option in the ORS.
- For each question, marks will be awarded in one of the following categories :

Full Marks	:	+3	if only the bubble corresponding to the correct answer is darkened.
Zero Marks	:	0	in all other cases.

Comprehension # 1 (Q. No. 7 - 9)

Tangents are drawn to the parabola $y^2 = 4x$ from the point $P(6, 5)$ to touch the parabola at Q and R. C_1 is a circle which touches the parabola at Q and C_2 is a circle which touches the parabola at R. Both the circles C_1 and C_2 pass through the focus of the parabola.

7. Area of the ΔPQR equals

(A) $\frac{1}{2}$ (B) 1 (C) 2 (D) $\frac{1}{4}$

MPR131

8. Radius of the circle C_2 is

(A) $5\sqrt{5}$ (B) $5\sqrt{10}$ (C) $10\sqrt{2}$ (D) $\sqrt{210}$

MPR132

9. The common chord of the circles C_1 and C_2 passes through the

(A) incentre of the ΔPQR (B) circumcenter of the ΔPQR

(C) centroid of the ΔPQR (D) orthocenter of the ΔPQR

MPR133

Comprehension # 2 (Q. No. 10 - 12)

Consider three lines y-axis, $y = 2$ and $\ell x + my = 1$ where (ℓ, m) lies on $y^2 = 4x$. Answer the following:

10. Locus of circumcentre of triangle formed by given three lines is a parabola whose

(A) vertex is $\left(-2, \frac{3}{2}\right)$ (B) vertex is $\left(2, \frac{3}{2}\right)$ (C) L.R. = 4 (D) L.R. = $\frac{1}{16}$

MPR134

11. Area of triangle formed by vertex and end points of latus rectum of parabola obtained in questions (4) is

(A) $\frac{1}{2^8}$ (unit)^2

(B) $\frac{1}{2^9}$ (unit)^2

(C) $\frac{1}{2^{10}}$ (unit)^2

(D) (Total number of subsets of a set contain 10 elements)$^{-1}$ (unit)^2

MPR135

12. Any point on the parabola obtained in question (4) can be represented as

(A) $\left(2+\frac{1}{32}t^2, \frac{3}{2}+\frac{t}{16}\right)$ (B) $\left(2+\frac{t^2}{32}, \frac{-3}{2}+\frac{1}{16}t^2\right)$

(C) $\left(-2+\frac{1}{32}t^2, \frac{3}{2}+\frac{t}{16}\right)$ (D) $\left(-2+\frac{1}{16}t^2, \frac{3}{2}+\frac{t}{5}\right)$

MPR136

SECTION-III

- This section contains **SIX** questions.
- The answer to each question is a **SINGLE DIGIT INTEGER** ranging from 0 TO 9, BOTH INCLUSIVE.
- For each question, enter the correct integer corresponding to the answer using the mouse and the on-screen virtual numeric keypad in the place designated to enter the answer.
- Answer to each question will be evaluated according to the following marking scheme:

Full Marks : +3 If ONLY the correct integer is entered;
Zero Marks : 0 If the question is unanswered;
Negative Marks : –1 In all other cases.

---

13. The two parabolas $y^2 = 4ax$ and $y^2 = 4c(x - b)$ cannot have common normal, other than the axis unless $b/(a - c) > k$. Find minimum value of k

MPR137

14. If $P(-3, 2)$ is one end of the focal chord PQ of the parabola $y^2 + 4x + 4y = 0$, then the slope of tangent at Q is –

MPR138

15. If the line $x - y - 1 = 0$ intersect the parabola $y^2 = 8x$ at P & Q, if the point of intersection of tangents at P & Q is (α, β), then $\alpha + \beta$ is

MPR139

16. A tangent to the parabola $y^2 = 8x$ makes an angle of 45° with the straight line $y = 3x + 5$. If equation of tangent passes through integer point then abscissa of its point of contact is

MPR140

17. If the line $y = 3x + \lambda$ intersect the parabola $y^2 = 4x$ at two distinct points then number of positive integral values of λ is -

MPR141

18. Through the vertex O of a parabola $y^2 = 4x$ chords OP and OQ are drawn at right angles to one another. If for all position of P, PQ cuts the axis of the parabola at a fixed point (α, β) then $\alpha + \beta$ is

MPR142

ANSWER KEY

EXERCISE - O

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	B	C	D	C	A	D	C	A	A	A
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	B	A	A	A	C	D	A	B	D	D
Que.	21	22	23	24	25	26	27	28	29	30
Ans.	C	C	C	A	A,B	A,B,D	A,B,C,D	A,B,C,D	B	A
Que.	31	32	33	34						
Ans.	B	A	A	B						

EXERCISE - S

1.	1	**2.**	2	**3.**	4	**4.**	4	**5.**	7
6.	8	**7.**	4	**8.**	6	**9.**	3	**10.**	9
11.	3	**12.**	1	**13.**	4	**14.**	6		

EXERCISE - JEE (Main) PYQ

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	2	1	3	3	2	1	4	0.50	2	2
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	9	1	2	2	4	2	1	2	3	4
Que.	21	22	23	24	25	26	27	28	29	30
Ans.	2	10	1	4	2	16	1	1	16	3

EXERCISE - JEE (Advanced) PYQ

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	D	B	D	D	B	2	4	A,D	A,B,C	A,C,D
Que.	11	12	13	14	15	16				
Ans.	D	A,B,D	1.50	2.00	B,C,D	A				

JEE (Main) Practice Paper

	Q.	1	2	3	4	5	6	7	8	9	10
Section-A	A.	3	1	4	1	4	2	4	3	4	1
	Q.	11	12	13	14	15	16	17	18	19	20
	A.	4	3	1	3	2	3	2	4	3	2
Section-B	Q.	1	2	3	4	5	6	7	8	9	10
	A.	1	0	2	9	5	2	2	9	3	4

JEE (Advanced) Practice Paper

Section-I	**Q.**	**1**	**2**	**3**	**4**	**5**	**6**
	A.	A,B,C,D	A,B,C	A,B,C,D	A,B	A,D	B,C
Section-II	**Q.**	**7**	**8**	**9**	**10**	**11**	**12**
	A.	A	B	C	A	B	C
Section-III	**Q.**	**13**	**14**	**15**	**16**	**17**	**18**
	A.	2	2	**3**	**8**	**0**	**4**

Important Notes