

PARABOLA

Answer Ex-I

SINGLE CORRECT (OBJECTIVE QUESTIONS)

- | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 1. C | 2. C | 3. B | 4. D | 5. A | 6. B | 7. B | 8. D |
| 9. C | 10. C | 11. B | 12. D | 13. C | 14. C | 15. D | 16. B |
| 17. B | 18. D | 19. C | 20. C | 21. A | 22. C | 23. C | 24. A |
| 25. C | | | | | | | |

Answer Ex-II

MULTIPLE CORRECT (OBJECTIVE QUESTIONS)

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|---------------|---------|---------|----------|-------|-------|----------|------|
| 1. B | 2. A, B | 3. A, C | 4. A, B | 5. C | 6. D | 7. C | 8. A |
| 9. A, B, C, D | 10. A | 11. C | 12. B, C | 13. B | 14. A | 15. A, B | |

Answer Ex-III

SUBJECTIVE QUESTIONS

- | | |
|---|--|
| 2. (a, 0); a | 3. $2x - y + 2 = 0$, (1, 4) ; $x + 2y + 16 = 0$, (16, -16) |
| 5. $3x - 2y + 4 = 0$; $x - y + 3 = 0$ | 6. (4, 0) ; $y^2 = 2a(x - 4a)$ |
| 8. $y = -4x + 72$, $y = 3x - 33$ | 9. $7y \pm 2(x + 6a) = 0$ 15. $x^2 + y^2 + 18x - 28y + 27 = 0$ |
| 17. $x - y = 1$; $8\sqrt{2}$ sq. units | 18. $\frac{k-4}{h}$ 19. 2 20. $2y - 3 = 0$ 22. $a^2 > 8b^2$ |

Answer Ex-IV

ADVANCED SUBJECTIVE QUESTIONS

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|-----------------------------|---|------------------------|
| 3. $[a(t_0^2 + 4), -2at_0]$ | 5. $(ax + by)(x^2 + y^2) + (bx - ay)^2 = 0$ | 12. Q(4, -8) |
| 15. $y^2 = 8ax$ | 18. 5 19. $9/2$ | 20. $4(3 - 2\sqrt{2})$ |

Answer Ex-V

JEE PROBLEMS

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|---|---|--------------------------|
| 1. $x - 2y + 1 = 0$; $y = mx + \frac{1}{4m}$ where $m = \frac{-5 \pm \sqrt{30}}{10}$ | 2. (a) C ; (b) B | 3. $(x + 3)y^2 + 32 = 0$ |
| 4. (a) C ; (b) D | 5. C | 6. D |
| | 7. (a) C; (b) $\alpha = 2$ | 8. B |
| 9. $2(y - 1)^2(x - 2) = (3x - 4)^2$ | 10. (a) D, (b) A, B, (c) (i) A, (ii) B, (iii) D, (iv) C | |
| 11. A | 12. (a) C; (b) B; (c) D | 13. A, D |
| | 14. C, D | 15. 0002 |
| | 16. C | 17. A, B, D |



ELLIPSE

Answer Ex-I

SINGLE CORRECT (OBJECTIVE QUESTIONS)

1. C 2. A 3. A 4. B 5. C 6. B 7. A 8. B
 9. B 10. D 11. D 12. C 13. A 14. A 15. B 16. B
 17. C 18. B 19. B 20. B

Answer Ex-II

MULTIPLE CORRECT (OBJECTIVE QUESTIONS)

1. A 2. A,C,D 3. A 4. A 5. C 6. C 7. C 8. C
 9. A 10. A,B,D 11. A,B

Answer Ex-III

SUBJECTIVE QUESTIONS

1. (a) $20x^2 + 45y^2 - 40x - 180y - 700 = 0$; (b) $3x^2 + 5y^2 = 32$ 8. $x + y - 5 = 0$, $x + y + 5 = 0$
 9. 16 10. 24 sq. units 11. $\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}$ 14. $55\sqrt{2}$ sq. units 16. $\frac{18a}{17}$ 20. 85

Answer Ex-IV

ADVANCED SUBJECTIVE QUESTIONS

4. 186 5. $bx + a\sqrt{3}y = 2ab$ 6. (A) Q; (B) S; (C) P; (D) R 8. 80
 9. (b) $8/3$, (c) 4 12. $\sqrt{r^2 - b^2}$ 13. $12x + 5y = 48$; $12x - 5y = 48$ 15. 19

Answer Ex-V

JEE PROBLEMS

1. (a) A ; (b) B, D ; (c) $25y^2 + 4x^2 = 4x^2y^2$ 2. $(x - 1)^2 + y^2 = \frac{11}{3}$
 4. Locus is an ellipse with foci as the centres of the circles C_1 and C_2 .
 5. $a^2p^2 + b^2q^2 = r^2 \sec^2 \frac{\pi}{8} = (4 - 2\sqrt{2})r^2$ 7. (a) C ; (b) A 8. C 9. (a) A, (b) $AB = \frac{14}{\sqrt{3}}$
 10. B, C 11. D 12. C 13. D 14. C 15. A



HYPERBOLA

Answer Ex-I

SINGLE CORRECT (OBJECTIVE QUESTIONS)

1. B 2. D 3. A 4. C 5. A 6. B 7. C 8. B
 9. D 10. B 11. B 12. D 13. A 14. A 15. B 16. A
 17. B 18. B 19. C 20. A

Answer Ex-II

MULTIPLE CORRECT (OBJECTIVE QUESTIONS)

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

Answer Ex-III

SUBJECTIVE QUESTIONS

1. $7x^2 + 12xy - 2y^2 - 2x + 4y - 7 = 0$; $\sqrt{\frac{48}{5}}$ 2. $a^2 = 25/2$; $b^2 = 16$
 4. $(-1, 2)$; $(4, 2)$ & $(-6, 2)$; $5x - 4 = 0$ & $5x + 14 = 0$; $\frac{32}{3}$; 6 ; 8 ; $y - 2 = 0$;
 $x + 1 = 0$; $4x - 3y + 10 = 0$; $4x + 3y - 2 = 0$.
 5. $x + y \pm 3\sqrt{3} = 0$ 6. $3x + 2y - 5 = 0$; $3x - 2y + 5 = 0$ 11. $\frac{\left(x - \frac{1}{3}\right)^2}{\frac{1}{9}} + \frac{(y-1)^2}{\frac{1}{12}} = 1$
 13. $(x^2 + y^2)^2 (a^2y^2 - b^2x^2) = x^2y^2 (a^2 + b^2)^2$ 17. $\frac{x^2}{a^4} + \frac{y^2}{b^4} = \frac{1}{a^2 + b^2}$ 20. $\frac{x^2}{49} + \frac{y^2}{36} = 1$; $\frac{x^2}{9} - \frac{y^2}{4} = 1$

Answer Ex-IV

ADVANCED SUBJECTIVE QUESTIONS

2. $y = \frac{5}{12}x + \frac{3}{4}$; $x - 3 = 0$; 8 sq. unit 5. $(15, 10)$ and $(3, -2)$ and 30 sq. units
 6. $(-4, 3)$ & $\left(-\frac{4}{7}, -\frac{3}{7}\right)$ 7. $\frac{150}{\sqrt{481}}$ 8. $4\left(\frac{x^2}{a^2} - \frac{y^2}{b^2}\right) = 3$ 10. ab

Answer Ex-V

JEE PROBLEMS

1. (a) A ; (b) D ; (c) B 2. D 3. A 4. A 5. $\frac{x^2}{9} - \frac{y^2}{4} = \left(\frac{x^2 + y^2}{9}\right)^2$
 6. A, C 7. (a) A, (b) C, (c) C, 8. (a) A ; (b) (A)-P, Q ; (B)-P, Q ; (C)-Q, R ; (D)-Q, R
 9. (a) B ; (b) B 10. (A)-P ; (B)-S, T ; (C)-R ; (D)-Q, S 11. A, B 12. B
 13. A 14. 2 15. B, D 16. B