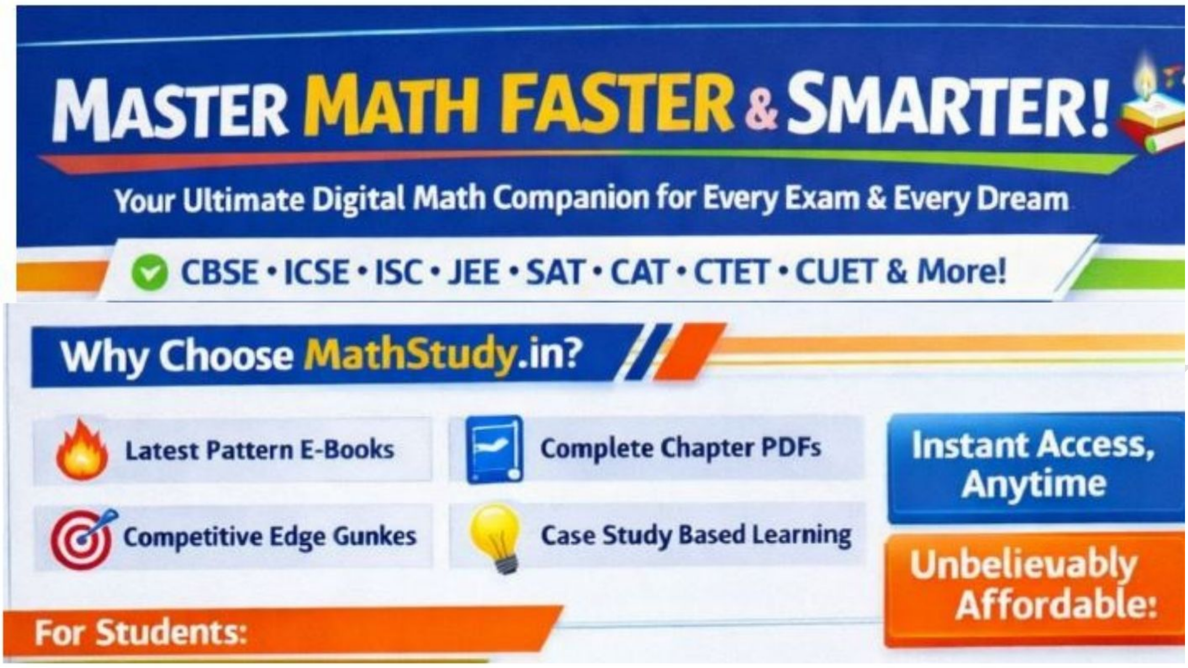
# CUET Mathematics Test

## Chapter: Linear Programming

**SOLUTIONS**

*www.udgamwelfarefoundation.com*

**For Best Mathematics E-Books, Visit: www.mathstudy.in**




# Special Features

- **Board-Specific** – CBSE, ICSE, ISC, State Boards
- **Exam-Focused** – JEE, SAT, CAT, CTET, CUET, NTSE
- **Grade-Wise** – Class 6 to 12
- **Bilingual Options** – English & Hindi Medium Support
- **Printable & Shareable** – Use offline, anytime

# How to Order:

Visit : https://www.mathstudy.in
Browse by Exam, Class, or Topic
Add to Cart & Checkout

## Contact & Support:

✉️ Email: admin@mathstudy.in
💬 WhatsApp Support Available : +91-+91 92118 65759

💡 Why Wait? Empower your learning journey, save time, and achieve your dreams!

🌐 Explore & Start Learning Today:
https://www.mathstudy.in – Premium eBooks for success
https://www.udgamwelfarefoundation.com – Free PDFs, practice tests, & guida

**MathStudy.in — Empowering Learners, Enabling Educators, Encouraging Excellence.**
**Digital Learning | Affordable Excellence | Trusted by Thousands**

## Solutions

1. **Solution:** In LPP, we optimize a linear objective function. **Correct Option: (B)**
2. **Solution:** The intersection of linear inequalities forms a convex polygon. **Correct Option: (B)**
3. **Solution:** $Z(0,3) = 12, Z(1,1) = 7, Z(3,0) = 9$. Minimum is 7. **Correct Option: (B)**
4. **Solution:** $Z = 2x+3y$ is the function to be optimized, not a constraint. **Correct Option: (C)**
5. **Solution:** For unbounded regions, an optimal value may not exist. **Correct Option: (B)**
6. **Solution:** The feasible region must satisfy all constraints simultaneously. **Correct Option: (C)**
7. **Solution:** If two corners give the same max, the entire segment between them is optimal. **Correct Option: (C)**
8. **Solution:** The best solution within the feasible set is the optimal one. **Correct Option: (B)**
9. **Solution:** Corners are $(0,0), (2,0), (0,2)$. Total 3. **Correct Option: (B)**
10. **Solution:** Substituting $(0,0)$ into $2x+3y \leq 6$ gives $0 \leq 6$ (True). **Correct Option: (C)**
11. **Solution:** Optimal values always occur at the vertices (corners). **Correct Option: (C)**
12. **Solution:** $Z(0,0) = 0, Z(1,0) = 1, Z(0,1) = 1$. Max is 1. **Correct Option: (B)**
13. **Solution:** $x \geq 6 \implies 2x \geq 12$. But $2x+y \leq 10$. This is impossible for $y \geq 2$. **Correct Option: (C)**
14. **Solution:** Non-negativity means variables cannot be negative $(x, y \geq 0)$. **Correct Option: (C)**
15. **Solution:** A set is convex if line segments between any two points stay within the set. **Correct Option: (A)**
16. **Solution:** $Z(0,2) = 20, Z(4,0) = 20, Z(6,0) = 30, Z(0,8) = 80$. Min is 20. **Correct Option: (A)**
17. **Solution:** For $(3,2)$, $2(3)+3(2) = 6+6 = 12$, which is $> 6$. **Correct Option: (C)**
18. **Solution:** $Z(5,0) = 10, Z(3,4) = 6+12 = 18, Z(0,5) = 15$. Max is 18. **Correct Option: (C)**
19. **Solution:** Finding the maximum/minimum is called optimization. **Correct Option: (B)**
20. **Solution:** Corners: $(0,0), (7,0), (0,5), (4,3)$. $Z(7,0) = 21$ is the maximum. **Correct Option: (A)**