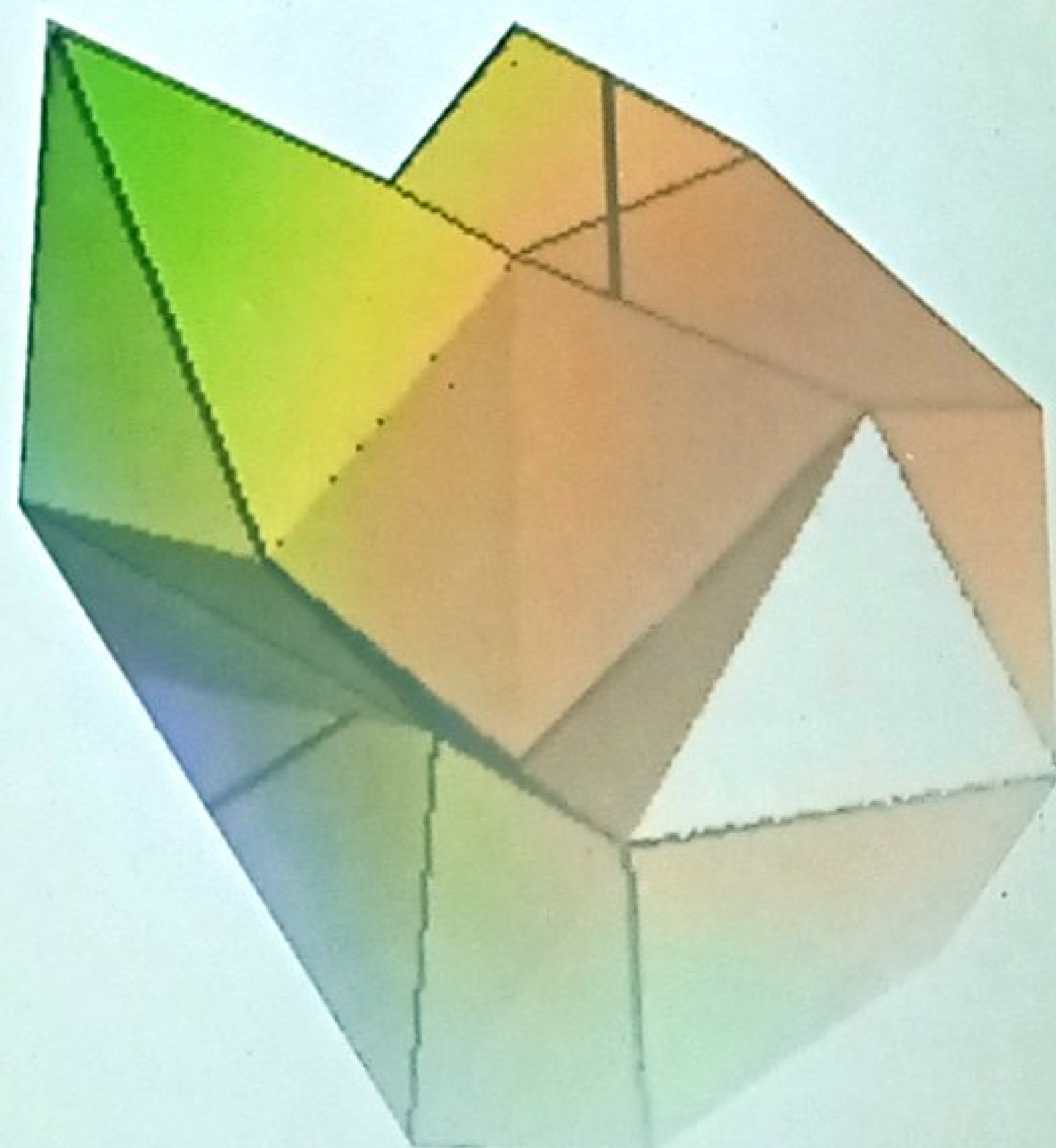


**Megha Study Package**<sup>TM</sup>

**J.K. GOYAL  
K.P. GUPTA**

- ★ Assertion & Reasoning
- ★ Numerical Grid-based Problems
- ★ Comprehension
- ★ Single Answer
- ★ Multiple Answer
- ★ Fill in Blanks
- ★ Column Matching
- ★ True/False



# **OBJECTIVE MATHEMATICS**



**A. S. PRAKASHAN, MEERUT**

# Contents

## UNIT 1 : FUNCTIONS & LIMITS

- |    |   |       |
|----|---|-------|
| 1. | Functions   | 1-51  |
|    | One-one, Many one, onto, into maps                                |       |
|    | Product of Mapping ( $F_1, F_2, F_3, F_4, F_5$ ) (8-17)           |       |
|    | Domain of Functions ( $F_6, F_7, F_8$ ) (18-24)                   |       |
|    | Range of Functions ( $F_9, F_{10}, F_{11}$ ) (24-27)              |       |
|    | Identical, even, odd Functions ( $F_{12}$ ) (28-29)               |       |
|    | Periodic Functions ( $F_{13}$ ) (30-32)                           |       |
|    | Increasing Functions ( $F_{14}, F_{15}, F_{16}, F_{17}$ ) (33-38) |       |
| 2. | Limit   | 52-86 |

## UNIT 2 : DIFFERENTIAL CALCULUS

- |    |   |         |
|----|---|---------|
| 3. | Continuity and Differentiability        | 87-120  |
| 4. | Differentiation and Mean Value Theorems | 121-177 |
| 5. | Partial Differentiation                 | 178-186 |
| 6. | Tangents and Normals                    | 187-210 |
| 7. | Maxima and Minima                       | 211-238 |

## UNIT 3 : INTEGRAL CALCULUS

- |     |                                   |         |
|-----|-----------------------------------|---------|
| 8.  | Integration                       | 239-290 |
| 9.  | Definite Integrals                | 291-365 |
| 10. | Area of Curves, Volumes, Surfaces | 366-401 |
| 11. | Differential Equations            | 402-452 |

## UNIT 4 : CO-ORDINATE GEOMETRY

- |     |   |         |
|-----|---|---------|
| 12. | Rectangular Co-ordinates and Straight Lines | 453-513 |
| 13. | Pair of Lines                               | 514-541 |
| 14. | The Circle                                  | 542-606 |
| 15. | Parabola                                    | 607-647 |
| 16. | Ellipse                                     | 648-679 |
| 17. | Hyperbola                                   | 680-712 |

## UNIT 5 : VECTOR ALGEBRA

- |     |  |         |
|-----|--|---------|
| 18. | Vectors  | 713-776 |
| 19. | Co-ordinate Geometry of 3 dimensions                           | 777-881 |
|     | Plane, straight line, Sphere, Intersection of Plane and Sphere |         |

## UNIT 6 : ALGEBRA

- |     |                   |         |
|-----|-------------------|---------|
| 20. | Surds and Indices | 812-822 |
| 21. | Logarithms        | 823-843 |

22. Inequalities
23. Theory of Equations and Expressions
24. Complex Numbers
25. Sequences and Series
26. Permutations and Combinations
27. Binomial
28. Exponential and Logarithmic Series
29. Partial Fractions
30. Determinants
31. Matrices
32. Sets, Relations and Groups

844-865  
866-912  
913-959  
960-1011  
1012-1034  
1035-1077  
1078-1092  
1093-1099  
1100-1134  
1135-1165  
1166-1185

### UNIT 7 : STATISTICS

33. Probability
34. Correlation and Regression
35. Linear Programming

1186-1235  
1236-1254  
1255-1263

### UNIT 8 : TRIGONOMETRY

36. Trigonometric Ratios and Identities
37. Trigonometrical Equations
38. Inverse Trigonometrical Functions
39. Properties of Triangle
40. Circum Circle, Incircle and excircles of a triangle
41. Heights and Distances

1264-1304  
1305-1334  
1335-1361  
1362-1395  
1396-1403  
1404-1411

### UNIT 9 : MODERN ALGEBRA

42. Logic
43. Boolean Algebra

1412-1418  
1419-1424

### UNIT 10 : STATICS

44. Composition and Resolution of Forces
45. Parallel Forces, Moments and Couples
46. Equilibrium of coplanar Forces
47. Friction
48. Centre of Gravity

1425-1438  
1439-1448  
1449-1458  
1459-1468  
1469-1473

### UNIT 11 : DYNAMICS

49. Velocity, Acceleration and Relative velocity
50. Motion under gravity and Projectile
51. Impact (Collision of elastic bodies)
52. Work, Power and Energy
53. Number System (Number Base)

1474-1489  
1490-1509  
1510-1516  
1517-1522  
1523-1528