# Course Content  VM- 1400
## Age:14-16

**Note : Above 14 yrs. - Falls in Next Category**

1. Multiplication by 11 and multiples of 11

2. Multiplication by 12 to 19

3. Multiplication by 111

4. Multiplication by 222 to 999

5. Base Method Multiplication

   (a) Below Base 10

   (b) Below Base 20-90

   (c) Below Base 100

   (d) Below Base 200-900

   (e) Above Base 10

   (f) Above Base 20-90

   (g) Above Base 100

   (h) Above Base 200-900

   (I) Base method when one number is above &  other is below the same base

   (j) When Bases are different but both numbers are below base

   (k) When Bases are different but both numbers are above base

6. If the sum of unit digits is 10 and rest place digits are same

7. If the sum of ten's place digit is 10 and one's place digits are same

8. Multiplication by 9

9. Multiplication of Number Ending with 9 i.e. 19- 99

10. General Method (2 digit x 2 digit)

11. Subtraction ( all from 9 last from 10)

12. Vinculum

13. Change unit digit into a vinculum

14. Change all digit to vinculum except first

15. Devinculate

16. Subtraction using vinculum

17. Addition Base Method

18. Subtraction Base Method

19  Addition Using Compliments

20  Division by 9

21. Division by 8

22. Division by 11

23. Division by 12

24. Division by 99

25. Division by number above base 100

26. Division Base Method (Above Base)

27. Division Base Method (Below Base)

28. Squares (Base Method)

29. Square of number ending with 5

30. Square of number starting with 5

31. Tables Using Vinculum

32.  Multiplication by number of 9's

    a) Multiplier has equal of 9's as multiplicand digits

    b) Multiplier has less number of 9's as compared to digits of multiplicand

    c) Multiplier has more number of 9's as compared to digits of multiplicand.

33.  Multiplication General Method

    a) 2 D x 2 D

    b) 3 D x 3 D

    c) 3 D x 2 D

    d) 4 D x 4 D

    e) 4 D x 3 D

    f) 4 D x 2 D

# Course Content VM- 1500
## Age:17-18

1. Multiplication by 11 and multiples of 11
2. Multiplication by 12 to 19
3. Multiplication by 111
4. Multiplication by 222 to 999
5. Base Method Multiplication

    (a) Below Base 10

    (b) Below Base 20-90

    (c) Below Base 100

    (d) Below Base 200-900

    (e) Above Base 10

    (f) Above Base 20-90

    (g) Above Base 100

    (h) Above Base 200-900

    (I) Base method when one number is above & other is below the same base

    (j) When Bases are different but both numbers are below base

    (k) When Bases are different but both numbers are above base

6. If the sum of unit digits is 10 and rest place digits are same
7. If the sum of ten's place digit is 10 and one's place digits are same
8. Multiplication by 9
9. Multiplication of Number Ending with 9 i.e. 19- 99
10. General Method (2 digit x 2 digit)
11. Subtraction ( all from 9 last from 10)
12. Vinculum
13. Change unit digit into a vinculum
14. Change all digit to vinculum except first
15. Devinculate
16. Subtraction using vinculum
17. Addition Base Method
18. Subtraction Base Method
19  Addition Using Compliments
20  Division by 9
21. Division by 8

22. Division by 11

23. Division by 12

24. Division by 99

25. Division by number above base 100

26. Division Base Method (Above Base)

27. Division Base Method (Below Base)

28. Squares (Base Method)

29. Square of number ending with 5

30. Square of number starting with 5

31. Tables Using Vinculum

32.  Multiplication by number of 9's
    a) Multiplier has equal of 9's as multiplicand digits
    b) Multiplier has less number of 9's as compared to digits of multiplicand
    c) Multiplier has more number of 9's as compared to digits of multiplicand.

33.  Multiplication General Method
    a) 2 D x 2 D
    b) 3 D x 3 D
    c) 3 D x 2 D
    d) 4 D x 4 D
    e) 4 D x 3 D
    f) 4 D x 2 D

34. Division General Method [Flag Method]

35. Squares by Duplex Method

36. Addition of Squares

37. Square Roots of Exact Squares

38. CUBES

39. Cube Roots of Exact Cubes

40. Fourth Power 2 Digit Number