

VI MATHS

IIT-JEE FOUNDATIONCOURSE
ASPIRANTS' FOUNDATION

KEY & SOLUTIONS

1. KNOWING OUR NUUMBERS

CDQ - 01

- | | |
|------|------|
| 1. B | 2. D |
| 3. A | 4. D |
| 5. B | 6. B |
| 7. B | 8. C |

CDQ - 02

- | | |
|------|------|
| 1. B | 2. B |
| 3. A | 4. B |
| 5. A | 6. A |
| 7. A | 8. A |

CDQ - 03

- | | |
|------|------|
| 1. D | 2. C |
| 3. D | 4. C |
| 5. A | 6. D |
| 7. A | 8. B |

CDQ - 04

- | | |
|------|------|
| 1. B | 2. B |
| 3. A | 4. B |
| 5. C | 6. B |
| 7. A | |

ADVANCED WORKSHEET

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

Sol. $86 \div 9 \Rightarrow \frac{90}{9} = 10$

$\therefore$ 9 is a digit, we cannot round off to 10

16. A

Sol. $= 5700 - 4400$
 $= 1,300$

17. C

Sol. $519 + 411 + 6289$
 Nearest Round value
 $= 500 + 400 + 6300$
 $= 900 + 6300$
 $= 7200$

18. A

Sol. 5981×4428
 Estimated product $= 5980 \times 4430$
 Estimated product $= 26,491,400$

19. C

20. B

Sol. Digit '3' appear 19 times
 $\Rightarrow 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 30, 31, 32, 34, 35, 36, 37, 38, 39$

21. C

Sol. $LXXVI = L + X + X + V + I$
 $= 50 + 10 + 10 + 5 + 1$
 $= 76$

22. D

23. B

Sol. $XLV = (50 - 10) + 5 = 45$

24. A

25. B

Sol. $CD = D - C$
 $= 500 - 100$
 $= 400$

26. C

27. D

Sol. Given
 $= (XXX + XV) + (XX + XV)$
 $= 30 + 15 + 20 + 15 = 80$

28. C

Sol. The product $= 13 \times 7$
 $= 91 = 90 + 1$
 $= XC + 1 = XCI$

29. D

VI ASPIRANTS - KEY

30. C

Sol. Greatest three digit number = 999
 $= 900 + 90 + 9$
 $= (1000 - 100) + (100 - 10) + (10 - 1)$
 $= \text{CMXCIX}$

31. A

32. B

Sol. $500 - 200 = 300 = \text{CCC}$

33. D

Sol. 19 Sep $\rightarrow 19 = \text{XIX}$

34. A, C **35. A, B, C**

36. A, C

37. B, D

Sol. $\text{XCII} = \text{C} - \text{X} + \text{I} + \text{I}$
 $= 100 - 10 + 1 + 1 = 90 + 1 + 1$
 $= 92 > 91 > 89$

38. C, D **39. A, C, D**

40. B, D **41. B, C, D**

42. A, B, D **43. A, C, D**

44. A, B

Sol. $1,00,000 \times 20 \text{ mg} = 2 \times 10^6 \text{ mg}$
 $= 2 \text{ kg}$

45. B, C

Sol. $20,000 \text{ l} = 20 \text{ kl} = 2 \times 10^7 \text{ ml}$

46. B

Sol. $38 + 27 = 65$

47. C

Sol. $\text{M} + \text{T} + \text{Left} = 38 + 65 + 220 = 323$

48. D

Sol. $\text{M} + \text{T} = 38 + 65 = 103$

49. C

Sol. $18,111 + 15,030 = 33,141$

50. A

Sol. $15 \text{ l} = 25 \text{ ml} \times N, N = \frac{15 \times 1000}{25}$
 $\Rightarrow N = 600$

51. D

Sol. $5 \times \text{weight of 1 pack} = 8 \text{ kg} \cdot 400 \text{ grams}$
 $5N = 8400 \text{ grams } N = 8400 / 5 \text{ grams}$
 $N = 1680 \text{ grams} = 1.68 \text{ kg}$

52. B

Sol. $1314 + 272 \text{ \& } 1300 + 300 = 1600$

53. D

Sol. $8001 - 457, 8000 - 500 = 7500$

54. D

Sol. $6995 - 3068 = 7000 - 3000 = 4000$

55. D

Sol. LXXXV
 $= \text{L} + \text{X} + \text{X} + \text{X} + \text{V}$
 $= 50 + 10 + 10 + 10 + 5$
 $= 85$

56. C

Sol. XLIX
 $= (\text{L} - \text{X}) + (\text{X} - \text{I})$
 $= 50 - 10 + 10 - 1$
 $= 50 - 1 = 49$

57. B

Sol. $= 10 + 10 + 10 + 5 + 1 + 1 + 1$
 $= 38$

58. A

Sol. (12)

59. C

Sol. $45 \times 67 = 50 \times 70 = 3500$

60. A

Sol. $70 - 40 = 30$

61. B, E

Sol. $1314 + 272 = 1310 + 270 = 1580$

62. D

Sol. $2308 \div 65 = 2310 \div 70 = 33$

63. C [By concept]

64. C

Sol. LD cannot be written

65. A

66. 3

Sol. CCCXLIII
 $= 343$ [Units digit is 3]

67. 4

Sol. $\text{IX} + \text{XV} + \text{XX}$
 $= 9 + 15 + 20$
 $= 44$ [Units digit is 4]

68. 0

Sol. $\text{DXXX} = 800$ [Units digit is 0]

69. 8 [By concept]

70. A

71. A