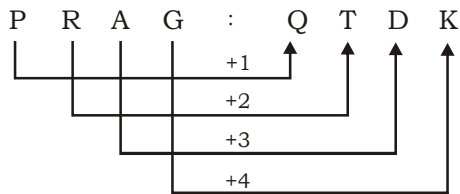
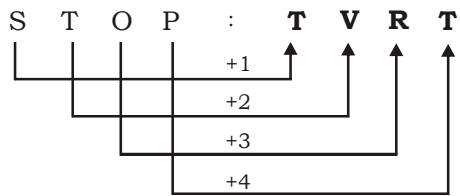


**SSC MOCK TEST - 279 (SOLUTION)**

1. (B) 'Vacant' is the synonym of 'Empty', similarly 'Dearth' is the synonym of 'Scarcity'.
2. (C) As,

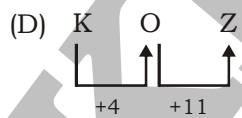
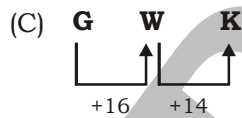
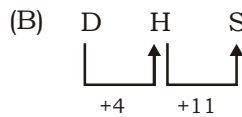
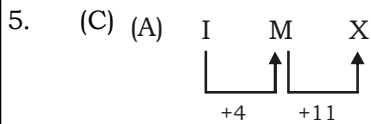


Similarly,



3. (B)  $8 : 24 :: 6 : 32$   
 $\uparrow 2 \times 4 = 8 \quad \uparrow 3 \times 2 = 6$

4. (A)



6. (C) (A)  $122 - 1331$       (C)  $173 - 2197$   
 $\uparrow \quad \quad \uparrow \quad \quad \uparrow \quad \quad \uparrow$   
 $11^2+1 \quad 11^3 \quad 13^2+4 \quad 13^3$

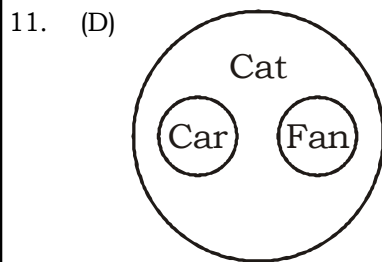
- (B)  $197 - 2744$       (D)  $290 - 4913$   
 $\uparrow \quad \quad \uparrow \quad \quad \uparrow \quad \quad \uparrow$   
 $14^2+1 \quad 14^3 \quad 17^2+1 \quad 17^3$

7. (D) 5. Sophisticated → 4. Specification → 1. Spokesperson → 2. Sportsman → 3. Spreadsheet

8. (A) N M T P O V R O X T S Z  
 $\begin{array}{cccccccc} & & +2 & & & +2 & & +2 & & & \\ & & | & & | & & | & & & & \\ & & +2 & & +2 & & +2 & & & & \\ & & | & & | & & | & & & & \\ & & +2 & & +2 & & +2 & & & & \end{array}$

9. (A) 2 6 12 20 30 42 56  
 $\begin{array}{cccccc} & +4 & +6 & +8 & +10 & +12 & +14 \\ & | & | & | & | & | & | \\ & 2 & 6 & 12 & 20 & 30 & 42 & 56 \end{array}$

10. (B) The girl is the daughter of the sister of Sanjay's father. Hence, the girl is the cousin or Sanjay is the cousin of the girl.



Hence, neither I nor II follows.

12. (D)  $3 \times 4 + 3 = 15$   
 $7 \times 5 + 3 = 38$   
 $3 \times 5 + 3 = \mathbf{18}$

13. (B)

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
4	8	20
9	3	15
6	6	<b>18</b>

$$2 \times 2^{\text{nd}} \text{ no.} + 1^{\text{st}} \text{ no.} = 3^{\text{rd}} \text{ no.}$$

$$2 \times 8 + 4 = 20$$

$$2 \times 3 + 9 = 15$$

$$2 \times 6 + 6 = \mathbf{18}$$

14. (A)

15. (D)  $24 - 7 \times 5 \div 5 + 8 = 25$   
 $24 - 7 \times 1 + 8 = 25$   
 $24 - 7 + 8 = 25$   
 $32 - 7 = 25$   
 $25 = 25$

16. (B)

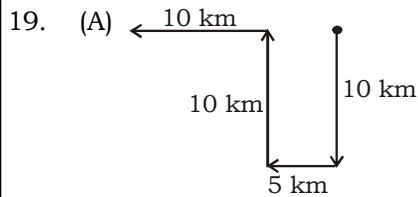
4	7	11	10	12	11	11	11	12	10
D	G	K	J	L	K	K	K	L	J
1	4	8	7	9	8	8	8	9	7

8	4	5	7	6
H	D	E	G	F
5	1	2	4	3

(All are reduced by 3)

17. (C)

18. (B) M A T H E M A T I C S



Required distance =  $10 + 5 = 15$  km

20. (B) R A T I O N A L → R T A N I O L A  
 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓     ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓  
 1 2 3 4 5 6 7 8     1 3 2 6 4 5 8 7

Similarly,

T R I B A L → T I R L B A  
 ↓ ↓ ↓ ↓ ↓ ↓     ↓ ↓ ↓ ↓ ↓ ↓  
 1 2 3 4 5 6     1 3 2 6 4 5

21. (C)                      22. (D)                      23. (A)                      24. (C)                      25. (D)

26. (C) An economic condition when there is one buyer and many sellers is called Monopsony.
28. (B) Nitrogen fixation is a process by which nitrogen in the Earth's atmosphere is converted into ammonia (NH<sub>3</sub>) or other molecules available to living organisms.
29. (A) Acetic acid is another name of vinegar. It is a colourless liquid organic compound. Its formula is CH<sub>3</sub>COOH. Sometimes, it is called glacial acetic acid. Its preferred IUPAC name is Acetic acid and its systematic IUPAC name is Ethanoic acid.
30. (A) Indian States which shares international border with China - Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh.
31. (B) All India Services refer to the civil services, the permanent executive branch of the Republic of India. The civil service system is the backbone of the administrative machinery of the country. All appointments to All India Civil Services are made by the President of India.
33. (B) Bal Gangadhar Tilak is known as the 'Father of Indian Unrest' as he was the first person to demand complete swarajya. He was given this title by valentine Chirol. He was also known as lokmanya and famous for his quote 'Swaraj is my birthright and I shall have it'.
34. (B) Environment Minister Prakash Javadekar launched the Indo-French year of Environment along with his French counterpart.
37. (D) Mycoplasma is the smallest bacteria which does not have cell wall around their cell membrane and can survive without oxygen and have various shapes. Due to lack of cell wall, these bacteria are unaffected by many common antibiotics or other beta-lactam antibiotics that targets cell wall synthesis. They can act as parasitic or saprotrophic as well.
40. (A) It's from the USA, that India has taken the provision of judicial review and subsequently has incorporated in its constitution. This concept has added to the vitality of the Indian constitution by enabling the judiciary to evaluate the legislative work to check their compatibility with the constitutional provision and philosophy.
41. (B) 25 cm is the value of the Least Distance of Distinct vision for a normal human being. It is the minimum comfortable distance between the naked human eye and a visible object.
46. (B) Minamata disease is a nervous disorder caused by eating fish, polluted with Mercury.
47. (B) The battle of Kanauj was fought on 17 May, 1540. The Battle of Kanauj was fought between Mughal Emperor Humayun and Sher Shah Suri of Suri Empire.
48. (C) Governor is the constitutional head of each state appointed by the president for a term of 5 years.
49. (A) When a ball is thrown vertically upwards, energy remains constant during its motion since it is a scalar unit and is independent as the potential energy gets converted into kinetic energy while the velocity and acceleration due to gravity increases.

51. (A) Let the CP of article = ₹ 100

$$\text{Original SP} = 100 \times \frac{80}{100} = ₹ 80$$

$$\text{Second SP} = 100 \times \frac{120}{100} = ₹ 120$$

ATQ,

$$(120 - 80) \rightarrow ₹ 335.50$$

$$40 \rightarrow 335.50$$

$$80 \rightarrow \frac{335.50}{40} \times 80 = ₹ 671$$

∴ Original SP = ₹ 671

52. (C) Let the sixth number be x.

Sum of first five numbers = 7x

ATQ,

$$7x + x = 216 \times 6$$

$$8x = 216 \times 6$$

$$x = \frac{216 \times 6}{8} = 162$$

53. (D)  $(a + b - c + d)^2 - (a - b + c - d)^2$

$$= [(a + b) - (c - d)]^2 - [(a - b) + (c - d)]^2$$

$$= (a + b)^2 + (c - d)^2 - 2(a + b)(c - d) - [(a - b)^2 + (c - d)^2 + 2(a - b)(c - d)]$$

$$= a^2 + b^2 + 2ab + c^2 + d^2 - 2cd - 2ac + 2ac - 2bc + 2bd - (a^2 + b^2 - 2ab + c^2 + d^2 - 2cd + 2ac - 2ad - 2bc + 2bd)$$

$$= 4ab + 4ad - 4ac$$

$$= 4a(b + d - c)$$

54. (B) Principal = ₹ 15000

Rate = 7%

$$\text{Time} = 2\frac{5}{7} \text{ years}$$

$$\text{Amount} = P \left( 1 + \frac{R}{100} \right)^T$$

$$= 15000 \left( 1 + \frac{7}{100} \right)^2 \left( 1 + \frac{7 \times 5}{100} \right)$$

$$= 15000 \times \frac{107}{100} \times \frac{107}{100} \times \frac{21}{20}$$

$$= ₹ 18032.175$$

∴ CI = 18032.175 - 15000 = ₹ 3032.175

55. (B)  $MP = \frac{3402 \times 100 \times 100}{90 \times 108} = ₹ 3500$

56. (A) Required ratio =

$$\frac{4}{7} \times \frac{1}{2} = \frac{2}{5}$$

$$\frac{1}{10} \times \frac{1}{2} = \frac{1}{14}$$

= 14 : 10 = 7 : 5

57. (A)  $\frac{5A}{100} + \frac{4B}{100} = \frac{2}{3}$      $\frac{6A}{100} + \frac{8B}{100}$

$15A + 12B = 12A + 16B$

$3A - 4B = 0$

$\frac{A}{B} = \frac{4}{3}$

A : B = 4 : 3

58. (C) Average marks of top 5 students =  $\frac{86 \times 40 - 85 \times 35}{5}$

=  $\frac{3440 - 2975}{5} = \frac{465}{5} = 93$

59. (A) Let a two digit number be  $10x + y$ , when its digits reversed, two digit number will be  $x + 10y$ .  
ATQ,

$\frac{10x + y - (x + 10y)}{10} = 3.6$

$9(x - y) = 3.6 \times 10$

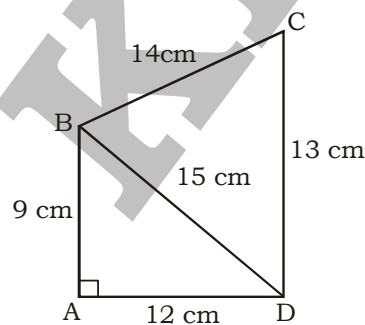
$x - y = 4$

60. (B)  $B + C = 3A$  and  $A + C = 4B$

Ratio of their work A : B : C = 5 : 4 : 11

Time taken by A alone =  $\frac{24 \times 20}{5} = 96$  days

61. (A) Base of the prism = ABCD



$BD^2 = 9^2 + 12^2 = 225$

BD = 15 cm

$$ar(\triangle BCD) = \sqrt{21(21-14)(21-15)(21-13)}$$

$$= \sqrt{21 \times 7 \times 6 \times 8} = 84 \text{ cm}^2$$

$$\text{Area of the base} = ar(\triangle BAD) + ar(\triangle BCD) = \frac{1}{2} \times 9 \times 12 + 84 = 138 \text{ cm}^2$$

$$\text{Height of the prism} = \frac{\text{Volume}}{\text{area of the base}} = \frac{2070}{138} = 15 \text{ cm}$$

$$\begin{aligned} \text{Lateral surface area} &= \text{Perimeter of the base} \times \text{height} \\ &= 48 \times 15 = 720 \text{ cm}^2 \end{aligned}$$

62. (D)  $r \rightarrow$  Radius of the cylinder

$R \rightarrow$  Radius of the sphere

$$\therefore r = 2R$$

$$R = \frac{r}{2}$$

$$\text{Volume of cylinder} = \text{Volume of the sphere} = \pi r^2 h = \frac{4}{3} \pi (R)^3$$

$$\pi r^2 h = \frac{4}{3} \pi \left(\frac{r}{2}\right)^3$$

$$h = \frac{4r}{3 \times 8}$$

$$\frac{h}{r} = \frac{1}{6}$$

$$h : r = 1 : 6$$

63. (B) When wire is bent to form circle  $2\pi r = 44$

$$= \frac{2 \times 22r}{7} = 44$$

$$r = 7 \text{ cm}$$

$$\therefore \text{Area} = \pi r^2 = \frac{22}{7} \times 7 \times 7 = 154 \text{ cm}^2$$

When the wire is bent of form a square  $4 \times \text{side} = 44$

$$\text{Side} = 11 \text{ cm}$$

$$\text{Its area} = 11^2 = 121 \text{ cm}^2$$

$$\text{Required different} = 154 - 121 = 33 \text{ cm}^2$$

64. (C)  $x = \sqrt{5} + 2$

$$\frac{1}{x} = \sqrt{5} - 2$$

$$\therefore x - \frac{1}{x} = 4$$

Now,

$$\frac{2x^2 - 2x - 2}{3x^2 - 4x - 3} = \frac{2x^2 - 2 - 3x}{3x^2 - 3 - 4x}$$

$$= \frac{2x\left(x - \frac{1}{x}\right) - 3x}{3x\left(x - \frac{1}{x}\right) - 4x} = \frac{x\left[2\left(x - \frac{1}{x}\right) - 3\right]}{x\left[3\left(x - \frac{1}{x}\right) - 4\right]}$$

$$= \frac{2 \times 4 - 3}{3 \times 4 - 4} = \frac{5}{8} = 0.625$$

65. (B)  $\therefore a + b + c = 0$

Now  $a^3 + b^3 + c^3 - 3abc$

$$(a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca) = 0$$

66. (D)  $f(2) = 0$

$$f(2) = (2)^3 + 4(2)^2 + 5(2) - k = 0$$

$$8 + 16 + 10 - k = 0$$

$$k = 34$$

67. (B) Population at the starting of third year =  $1,00,000 \left(1 + \frac{10}{100}\right)^2 = 1,21,000$

68. (D) Total distance =  $48 \times 10 = 480$  km

$$\text{So, New speed} = \frac{480}{8} = 60 \text{ km/hr}$$

$$\text{Speed is increased by} = (60 - 48) = 12 \text{ km/hr}$$

69. (B) Let distance between P and Q =  $x$  km

ATQ,

$$\frac{x}{4} \times \frac{1}{10} + \frac{3x}{4} \times \frac{1}{12} = 7$$

$$\frac{x}{8} \left[ \frac{1}{5} + \frac{1}{2} \right] = 7$$

$$x = \frac{7 \times 8 \times 10}{7} = 80 \text{ km}$$

70. (D) C.I. =  $8000 \left(1 + \frac{10}{200}\right)^3 - 8000$   
=  $9261 - 8000 = ₹ 1261$

71. (A) Depth of ditch =  $\frac{48 \times 31.5 \times \left(6.5 \times \frac{1}{10}\right)}{27 \times 18.2} = 2 \text{ m}$

72. (A) Profit in 2007 =  $(45 - 40)$  crores = 5 crores  
Profit in 2008 =  $(60 - 50)$  crores = 10 crores  
Difference =  $(10 - 5)$  crores = 5 crores

73. (C) Average expenditure =  $\frac{25 + 40 + 40 + 50 + 55}{5} = 42$  crores  
Clearly from the graph the number of years = 2

74. (C) Required % =  $\frac{15}{45} \times 100 = 33\frac{1}{3}\%$

75. (B) Required ratio =  $\frac{35 + 50 + 45 + 60 + 60}{25 + 40 + 40 + 50 + 55} = \frac{250}{210} = 25 : 21$



**MEANINGS IN ALPHABETICAL ORDER**

Battalion	a large body of troops ready for battle, especially an infantry unit forming part of a brigade typically commanded by a lieutenant colonel	बटालियन
Contemporary	living or occurring at the same time	समकालीन
Determination	firmness of purpose; resoluteness	दृढ़ निश्चय
Devout	having or showing deep religious feeling or commitment	धार्मिक
Instability	lack of stability; the state of being unstable	अस्थिरता
Motive	a reason for doing something, especially one that is hidden or not obvious	प्रेरणा
Passive	accepting or allowing what happens or what others do, without active response or resistance	निष्क्रिय
Perseverance	persistence in doing something despite difficulty or delay in achieving success	दृढ़ता
Persistence	firm or obstinate continuance in a course of action in spite of difficulty or opposition	हठ
Pleased	feeling or showing pleasure and satisfaction, especially at an event or a situation	प्रसन्न
Proficient	competent or skilled in doing or using something	प्रवीण
Profound	(of a state, quality, or emotion) very great or intense	गहन
Reluctant	unwilling and hesitant; disinclined	अनिच्छुक
Scanty	small or insufficient in quantity or amount	अल्प
Steady	firmly fixed, supported, or balanced; not shaking or moving	नियमित
Trivial	of little value or importance	तुच्छ

**SSC MOCK TEST - 279 (ANSWER KEY)**

- |         |         |         |          |
|---------|---------|---------|----------|
| 1. (B)  | 26. (C) | 51. (A) | 76. (C)  |
| 2. (C)  | 27. (A) | 52. (C) | 77. (A)  |
| 3. (B)  | 28. (B) | 53. (D) | 78. (C)  |
| 4. (A)  | 29. (A) | 54. (B) | 79. (C)  |
| 5. (C)  | 30. (A) | 55. (B) | 80. (A)  |
| 6. (C)  | 31. (D) | 56. (A) | 81. (A)  |
| 7. (D)  | 32. (B) | 57. (A) | 82. (A)  |
| 8. (A)  | 33. (D) | 58. (C) | 83. (C)  |
| 9. (A)  | 34. (B) | 59. (A) | 84. (D)  |
| 10. (B) | 35. (D) | 60. (B) | 85. (B)  |
| 11. (D) | 36. (C) | 61. (A) | 86. (C)  |
| 12. (D) | 37. (A) | 62. (D) | 87. (A)  |
| 13. (B) | 38. (B) | 63. (B) | 88. (D)  |
| 14. (A) | 39. (C) | 64. (C) | 89. (A)  |
| 15. (D) | 40. (C) | 65. (B) | 90. (B)  |
| 16. (B) | 41. (C) | 66. (D) | 91. (A)  |
| 17. (C) | 42. (B) | 67. (B) | 92. (D)  |
| 18. (B) | 43. (D) | 68. (D) | 93. (C)  |
| 19. (A) | 44. (B) | 69. (B) | 94. (B)  |
| 20. (B) | 45. (A) | 70. (D) | 95. (B)  |
| 21. (C) | 46. (C) | 71. (A) | 96. (B)  |
| 22. (D) | 47. (B) | 72. (A) | 97. (A)  |
| 23. (A) | 48. (B) | 73. (C) | 98. (D)  |
| 24. (C) | 49. (A) | 74. (C) | 99. (B)  |
| 25. (D) | 50. (B) | 75. (B) | 100. (B) |

76. (C) 'to be performed' (passive) replace 'to perform' (Active)  
77. (A) 'to make' replace with 'make'.  
90. (B) The correct spelling is 'Contemporary'.  
91. (A) The correct spelling is 'Battalion'.