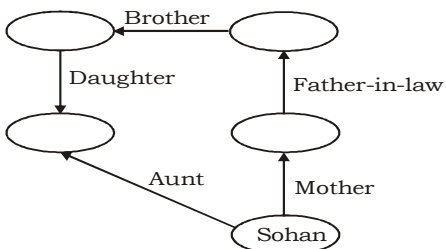
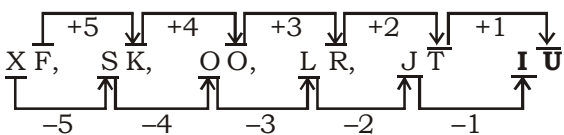


**SSC MOCK TEST - 374 (SOLUTION)**

1. (4) Arc is a part of Circle, Stem is a part of Plant.
2. (2) As,  $545 \Rightarrow (5 + 5)^2 - 4^2 = 100 - 16 = 84$   
Similarly,  $473 \Rightarrow (4 + 3)^2 - 7^2 = 49 - 49 = 0$
3. (4) (A)  $(6 - 2) \times (6 + 2) = 80$   
(B)  $(7 - 2) \times (7 + 2) = 106$   
(C)  $(8 - 2) \times (8 + 2) = 136$   
(D)  $(5 - 2) \times (5 + 2) = 58 \neq 52$
4. (1) As,  $(28 + 7) \times (28 \div 7) = 140$   
And,  $(125 + 25) \times (125 \div 25) = 155$   
Similarly,  $(136 + 4) \times (136 \div 4) = 174$
5. (1) Let the Raghu's present age of Raghu and Bromic are be  $3x$  and  $x$  year respectively.  
ATQ,  
 $(x - 5) \times 4 = 3x - 5$   
 $4x - 20 = 3x - 5$   
 $x = 15$  year  
 $\therefore$  Raghu's present are =  $15 \times 3 = 45$  years
6. (3) 

Hence, the lady is aunt of Raj.

7. (4)  $5 \times 3 - 1 = 14$   
 $14 \times 3 + 2 = 44$   
 $44 \times 3 - 3 = 129$   
 $129 \times 3 + 4 = 391$   
 $391 \times 3 - 5 = 1168$
8. (3) 
9. (2) Bread is made up of Wheat, while Sauce is made up of Tomato.
10. (1) klopnb/klppnb/klopnb/klrpnb
11. (3)  $(2)^3 = 8$ ,  $(3)^3 = 27 \neq 24$   
 $(5)^3 = 125$ ,  $(7)^3 = 343$   
 $(11)^3 = 1331$ ,  $(13)^3 = 2197$
12. (2)

13. (1) **In First Row,**

$$7 \times 3 + 7 = 28$$

**In Second Row,**

$$9 \times 8 + 9 = 81$$

**In Third Row,**

$$5 \times 9 + 5 = 50$$

14. (1)  $25 * 28 * 7 * 16 * 18 = 102$

After put the sign,

$$25 \times 28 \div 7 - 16 + 18 = 102$$

$$25 \times 4 - 16 + 18 = 102$$

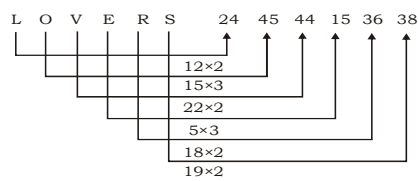
$$118 - 16 = 102$$

$$102 = 102$$

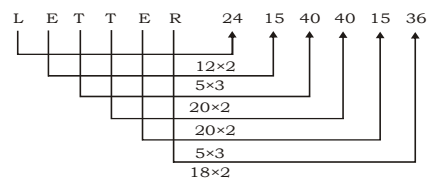
15. (4) Code is written as number of letters in the word.

∴ Code of 'You are a good person' is '33146'.

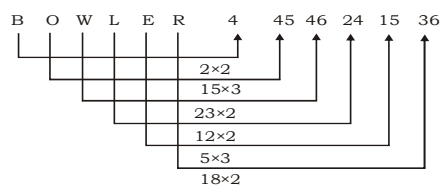
16. (1) As,



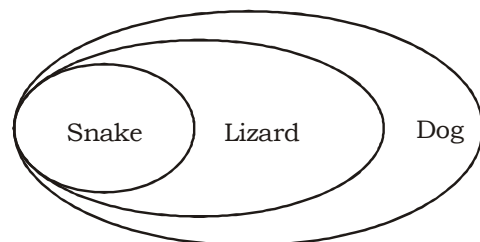
And,



Similarly,



17. (3)



I. False                  II. True                  III. True

Only Conclusion II and III follow.

18. (3)

19. (4) As,  $57 + 69 = 126$

$$126 + 73 = 199$$

Similarly,  $63 + 69 = 132$

$$132 + 73 = \mathbf{205}$$

20. (2) 3. Southern → 6. Sovereignty → 5. Spacious → 1. Speaking → 4. Stampede → 2. Standardize

21. (1)

22. (3)

23. (3)

24. (2)

25. (4)

26. (2) Pushpa Kamal Dahal "Prachanda" was sworn-in as the Prime Minister of Nepal for a third time, a day after the former guerrilla leader dramatically walked out of the pre-poll alliance led by the Nepali Congress and joined hands with opposition leader K P Sharma Oli.
29. (2) A Municipal Corporation is a local governing body for cities, towns and villages. The British East India Company set up the first Municipal Corporation in 1687-88, in Madras.
30. (2) The Central Board of Indirect Taxes and Customs (CBIC) has constituted Customs, Central Excise and Service Tax Settlement Commission. It aims to resolve and settle the show-cause notices issued under the Customs Act, Central Excise Act and Service Tax regime.
31. (3) On 14 December 1990, the United Nations General Assembly designated October 1 as the International Day of Older Persons.
33. (2) Because the colour of chlorophyll is green, so it strongly absorbs blue and red colours of electromagnetic spectrum of the Sun.
38. (1) The major constituent of biogas is methane (55-70%), CO<sub>2</sub> (30-45%) and some traces of gases such as H<sub>2</sub>S and ammonia.
39. (1) Cow milk has 3-4 percent of fat, while buffalo milk has about 7.2%.
41. (4) The water pollution in the rivers is measured by the amount of dissolved oxygen. Dissolved oxygen (DO) is a measure of how much oxygen is dissolved in the water. Dissolved oxygen (DO) is the amount of oxygen available to living aquatic organisms. The amount of dissolved oxygen indicates its water quality.
42. (1) It uses the centrifugal force to move the particles to the bottom of the tube. In the above processes, both processes use the centrifugal force and act in the same manner. So, we can say that the working principle of the washing machine is centrifugation.
43. (1) Astronomical unit is the average distance between the Earth and the sun during an ear. It is useful to measure and report large distances. Q. Polar is located at a distance of 434 light-years from Earth.
44. (2) Puerto Miranda is an oil port situated on the east side of Lake Maracaibo in Venezuela opposite to the city of Maracaibo and is operated by the Venezuelan State Oil Company (PDVSA PETROLEO, S.A.) It is the largest crude oil export port in South America.
46. (2) Presently, markets in agricultural products are regulated under the Agricultural Produce Market Committee (APMC) Act enacted by State Governments. There are about 2477 principal regulated markets based on geography (the APMCs) and 4843 sub-market yards regulated by the respective APMCs in India.
49. (1) Stormy weather condition is indicated by a sudden fall in barometer reading. Because decrease of pressure indicates the advent of storms.
51. (4) ATQ,

	Spirit	:	Water	
Initial ratio	7×3	:	6×3	
Final ratio	3×7	:	2×7	

Spirit is added not Water. So Water will be equal.

**Spirit : Water = Total**

$$\begin{array}{l}
 \text{Initial ratio} \quad 7 \quad : \quad 6 \\
 \text{Final ratio} \quad \quad 9 \quad : \quad 6
 \end{array}
 \left. \vphantom{\begin{array}{l} 7 \\ 9 \end{array}} \right) 4 = 13$$

13 unit = 91 litre

1 unit = 7 litres

2 unit = 7 × 2 = 14 litres

52. (2)  $\frac{8 \text{ person} \times 8 \text{ hour}}{9600} = \frac{16 \text{ person} \times 5 \text{ hour}}{\text{Amount}}$

Amount =  $\frac{16 \text{ person} \times 5 \text{ hour} \times 9600}{8 \text{ person} \times 8 \text{ hour}} = ₹ 12000$

53. (1)

	Let total capacity	efficiency
A = 10	30	3
B = 15		2

A fills 3 unit in first minute and B empties 2 unit in second minute.

(A - B)'s efficiency = (3 - 2) in 2 minutes

= 1 unit in 2 minutes

Efficiency                      Minute

1 unit                              2

27 unit                            = 27 × 2 = 54 minutes

Next 3 unit, only A can fill in 1 minute

27 + 3 unit = 54 + 1

30 unit = 55 minutes

54. (2) Speed of man in still water, x = 2.75 km/hr

Speed of the stream, y = 1.25 km/hr

Upstream speed = (x - y) = (2.75 - 1.25)km/hr = 1.5 km/hr

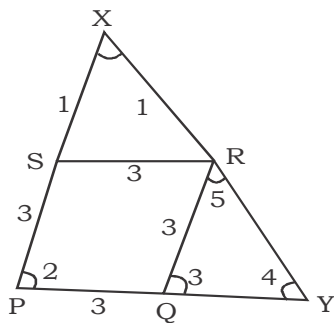
Upstream time =  $\frac{\text{Distance}}{\text{Upstream speed}} = \frac{18 \text{ km}}{1.5 \text{ km/hr}} = 12 \text{ hr}$

Downstream speed = x + y = (2.75 + 1.25) km/hr = 4 km/hr

Downstream time =  $\frac{\text{Distance}}{\text{Downstream speed}} = \frac{18 \text{ km}}{4 \text{ km/hr}} = 4.5 \text{ hr}$

Total time = (12 + 4.5) = 16.5 hrs

55. (3)



PQRS is a rhombus

PQ = QR = RS = SP

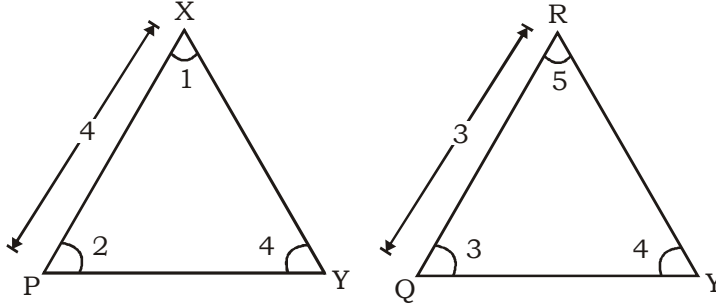
$SX = \frac{1}{3}PQ$                       (Given)

$\frac{SX}{PQ} = \frac{1}{3}$

In a rhombus  $\angle 2 = \angle 3$

$$\Delta PXY \sim QRY$$

$\angle Y$  is common and  $\angle 2 = \angle 3$



$$\frac{PX}{QR} = \frac{PY}{QY}$$

$$\frac{PX}{QR} = \frac{4}{3}$$

$$\frac{PQ + QY}{QY} = \frac{4}{3}$$

$$\frac{PQ}{QY} + 1 = \frac{4}{3}$$

$$\frac{PQ}{QY} = \frac{4}{3} - 1$$

$$\frac{PQ}{QY} = \frac{1}{3}$$

$$PQ : QY = 1 : 3$$

56. (3) Average weight of the 12 employees increased by  $4\frac{1}{2}$  kg

$$\text{Total increased weight} = 12 \times 4\frac{1}{2} \text{ kg} = 12 \times \frac{9}{2} \text{ kg} = 54 \text{ kg}$$

$$\text{Weight of old employees} = 38 \text{ kg}$$

$$\text{Weight of new employees} = (54 + 38) = 92 \text{ kg}$$

57. (2)  $2\operatorname{cosec}^2 23^\circ \cdot \cot^2 67^\circ - \sin^2 23^\circ - \sin^2 67^\circ - \cot^2 67^\circ$   
 $2\operatorname{cosec}^2 23^\circ \cdot \cot^2 (90 - 23^\circ) - \sin^2 23^\circ - \sin^2 (90 - 23^\circ) - \cot^2 67^\circ$   
 $2\operatorname{cosec}^2 23^\circ \cdot \tan^2 23^\circ - (\sin^2 23^\circ + \cos^2 23^\circ) - \cot^2 67^\circ$

$$= \frac{2}{\sin^2 23^\circ} \cdot \frac{\sin^2 23^\circ}{\cos^2 23^\circ} - 1 - \cot^2 67^\circ$$

$$= \frac{2}{\cos^2 23^\circ} - 1 - \cot^2 67^\circ$$

$$= 2\sec^2 23^\circ - 1 - \cot^2(90 - 23^\circ)$$

$$\begin{aligned}
 &= 2\sec^2 23^\circ - 1 - \tan^2 23^\circ \\
 &= 2\sec^2 23^\circ - (1 + \tan^2 23^\circ) \\
 &= 2\sec^2 23^\circ - \sec^2 23^\circ = \sec^2 23^\circ
 \end{aligned}$$

58. (4) By investing the sum at  $(r + 6)\%$  per annum for 3 years, it would fetch  $= 3 \times 6 = 18\%$  more interest.

$$18\% = 9306$$

$$1\% = \frac{9306}{18}$$

$$100\% = \frac{9306}{18} \times 100 = ₹ 51700$$

59. (3)  $x + y + z = 5$  .....(i)

$$xy + yz + zx = -24$$
 .....(ii)

$$x^3 + y^3 + z^3 = 203$$
 .....(iii)

Squaring equation (i) both sides,

$$x^2 + y^2 + z^2 + 2(xy + yz + zx) = 25$$

$$x^2 + y^2 + z^2 = 25 + 48$$

$$x^2 + y^2 + z^2 = 73$$

We know that,

$$x^3 + y^3 + z^3 - 3xyz = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$$

$$203 - 3xyz = 5[73 - (-24)]$$

$$203 - 3xyz = 5(73 + 24)$$

$$-3xyz = 485 - 203$$

$$-3xyz = 282$$

$$xyz = -94$$

60. (1) 
$$\frac{\frac{1}{3} + \left[ \frac{19}{4} - \left( 3\frac{1}{6} - \frac{7}{3} \right) \right]}{\left( \frac{1}{5} \text{ of } \frac{1}{5} \div \frac{1}{5} \right) \div \left( \frac{1}{5} \div \frac{1}{5} \times \frac{1}{5} \right)}$$

$$= \frac{\frac{1}{3} + \left[ \frac{19}{4} - \left( \frac{19-14}{6} \right) \right]}{\frac{1}{5} \div \frac{1}{5}} = \frac{\frac{1}{3} + \left[ \frac{19}{4} - \frac{5}{6} \right]}{\frac{1}{5} \times 5}$$

$$= \frac{1}{3} + \left[ \frac{57-10}{12} \right] = \frac{1}{3} + \frac{47}{12} = \frac{4+47}{12} = \frac{51}{12} = 4.25$$

61. (4) Let the total number of voter be x.

$$\text{Number of voters who did not cast their votes} = 20\% \text{ of } x = \frac{x}{5}$$

$$\text{Winning candidates votes} = 55\% \text{ of } x = \frac{11x}{20}$$

$$\text{Other candidates votes} = \frac{11x}{20} - 1090$$



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ATQ,

$$\frac{x}{5} + \frac{11x}{20} + \frac{11x}{20} - 1090 + 160 = x$$

$$\frac{26x}{20} - x = 930$$

$$\frac{6x}{20} = 930$$

$$x = \frac{930 \times 20}{6} = 3100$$

62. (3) CP for 1 banana = ₹  $\frac{9}{10}$

SP for 1 banana = ₹  $\frac{10}{9}$

SP > CP

$$\text{Profit} = \text{SP} - \text{CP} = ₹ \left( \frac{10}{9} - \frac{9}{10} \right) = \frac{100 - 81}{90} = ₹ \frac{19}{90}$$

$$\text{Profit}\% = \frac{\text{Profit} \times 100}{\text{CP}} = \frac{\frac{19}{90} \times 100}{\frac{9}{10}} = \frac{19 \times 100 \times 10}{90 \times 9} = 23 \frac{37}{81} \%$$

63. (1) The remainder when  $10^1$  is divided by 6 is 4  
 The remainder when  $10^2$  is divided by 6 is 4  
 The remainder when  $10^3$  is divided by 6 is 4  
 The remainder when  $10^4$  is divided by 6 is 4  
 Thus the remainder is always 4.

$$\text{So, the required remainder} = \frac{4 + 4 + 4 + \dots \dots 78 \text{ times}}{6}$$

$$= \frac{4 \times 78}{6} \Rightarrow \text{remainder } 0$$

Thus the remainder is 0

64. (3) Given LCM = 385

HCF = 7

Let the numbers are 7x and 7y

∴ LCM = 7xy

7xy = 385

xy = 55

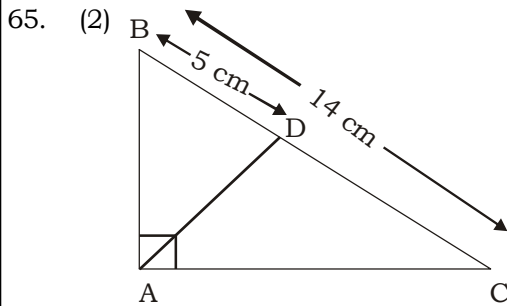
Possible co-prime factors are  $\begin{bmatrix} 1, & 55 \\ 5, & 11 \end{bmatrix}$

Possible numbers are 7x and 7y =  $\begin{bmatrix} 7, & 385 \\ 35, & 77 \end{bmatrix}$

Difference of the number = 42

So, required number = (35, 77)

∴ Sum of the numbers = (35 + 77) = 112



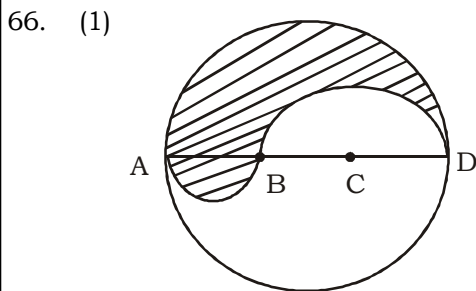
$$CD = (14 - 5)\text{cm} = 9\text{ cm}$$

We know that,

$$AD^2 = BD \times CD$$

$$AD^2 = 9 \times 5$$

$$AD = \sqrt{9 \times 5} = 3\sqrt{5}\text{ cm}$$



$$AB = BC = CD = \frac{24}{3} = 8\text{ cm}$$

$r_1$  = radius of circle whose diameter is AB

$r_2$  = radius of circle whose diameter is AD

$r_3$  = radius of circle whose diameter is BD

Perimeter of shaded portion =  $\pi r_1 + \pi r_2 + \pi r_3$

$$= \pi(4 + 12 + 8)\text{cm} = \left(\frac{22}{7} \times 24\right)\text{cm} = \frac{528}{7}\text{cm} = 75\frac{3}{7}\text{cm}$$

67. (4)  $\tan 16^\circ = \frac{A}{B}$

$$\tan(90^\circ - 74^\circ) = \frac{A}{B} \quad [\because \tan(90^\circ - \theta) = \cot\theta]$$

$$\cot 74^\circ = \frac{A}{B}$$

$$\frac{\sec^2 74^\circ}{1 + \cot^2 74^\circ} = \frac{\sec^2 74^\circ}{\operatorname{cosec}^2 74^\circ} \quad [\because 1 + \cot^2\theta = \operatorname{cosec}^2\theta]$$



$$= \frac{\sin^2 74^\circ}{\cos^2 74^\circ} = \tan^2 74^\circ$$

$$= \frac{1}{\cot^2 74^\circ} = \frac{1}{\left(\frac{A}{B}\right)^2} = \frac{B^2}{A^2}$$

68. (4)  $2 \sin\left(\frac{\pi x}{2}\right) = x^2 + \frac{1}{x^2}$

Put the value of  $x = 1$

$$2 \sin\left(\frac{\pi}{2}\right) = 1^2 + \frac{1}{1^2}$$

$$2 = 2$$

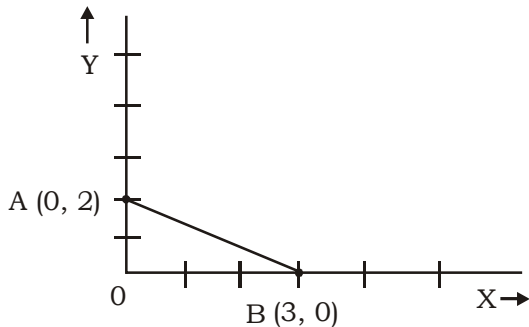
LHS = RHS

Hence value of  $x = 1$

$$\text{So, } x - \frac{1}{x} = 1 - \frac{1}{1} = 0$$

69. (3)  $4x + 6y = 12$

x	0	3
y	2	0



$$OA = 2 \text{ units}$$

$$OB = 3 \text{ units}$$

$$\text{Area of } \triangle OAB = \frac{1}{2} \times b \times h = \left(\frac{1}{2} \times 3 \times 2\right) \text{units}^2 = 3 \text{ units}^2$$

70. (3) Volume of frustum of a cone =  $\frac{\pi h}{3}(R^2 + r^2 + Rr)$

$$h = 21, R = 3 \text{ and } r = 2$$

$$\frac{22}{7 \times 3} \times 21(3^2 + 2^2 + 3 \times 2) \text{cm}^3$$

$$= 22 \times 19 = 418 \text{ cm}^3$$

71. (4)  $\sqrt{x} + \frac{1}{\sqrt{x}} = 3$

Squaring both sides,

$$\left(\sqrt{x} + \frac{1}{\sqrt{x}}\right)^2 = (3)^2$$

$$x + \frac{1}{x} = 9 - 2 = 7$$

Again squaring both sides

$$\left(x + \frac{1}{x}\right)^2 = (7)^2$$

$$x^2 + \frac{1}{x^2} = 49 - 2 = 47$$

$$\frac{x^4 + 1}{x^2} = 47$$

$$x^4 + 1 = 47x^2$$

$$x^4 - 47x^2 = -1$$

$$\therefore x^2(x^2 - 47) = -1$$

72. (2) From the graph we can say that the production of wheat in the year 2004 (i.e. 1000 tonnes) is maximum.

73. (3) Production of wheat in the year 2002 = 300 tonnes

Production of wheat in the year 2003 = 500 tonnes

$$\text{Required increase\%} = \left(\frac{500 - 300}{300}\right) \times 100 = \left(\frac{200}{300} \times 100\right)\% = 66\frac{2}{3}\%$$

74. (3) Production in the year 2001 = 400 tonnes

Production in the year 2002 = 300 tonnes

$$\text{Decrease percentage} = \left(\frac{400 - 300}{400} \times 100\right) = 25\%$$

$\therefore$  Required year is 2002.

75. (3) Total production from the year 2000 to 2004 = (700 + 400 + 300 + 500 + 1000)tonnes  
= 2900 tonnes

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## MEANINGS IN ALPHABETICAL ORDER

Beseech	ask (someone) urgently and fervently to do something; implore; entreat	प्रार्थना करना
Colossal	extremely large	प्रचंड
Ecstatic	feeling or expressing overwhelming happiness or joyful excitement	उन्मादपूर्ण
Enormous	very large in size, quantity, or extent	विशाल
Insolvent	unable to pay debts owed	दिवालिया
Lapsed	no longer valid; expired	कालातीत
Mend	repair (something that is broken or damaged)	सुधार
Mutilate	inflict a violent and disfiguring injury on	पंगु बनाना
Obscure	not discovered or known about; uncertain	अस्पष्ट
Obsolete	no longer produced or used; out of date	अप्रपलित
Paradise	(in some religions) heaven as the ultimate abode of the just	स्वर्ग
Paradox	a seemingly absurd or self-contradictory statement or proposition that when investigated or explained may prove to be well founded or true	विरोधाभाष
Pristine	in its original condition; unspoiled	प्राचीन
Recuperate	recover from illness or exertion	स्वस्थ हो जाना
Reinstate	restore (someone or something) to their former position or condition	पुनः स्थापित करना
Reluctantly	in an unwilling and hesitant way	अनिच्छा से
Solvent	having assets in excess of liabilities; able to pay one's debts	विलायक
Vigorous	strong, healthy, and full of energy	जोरदार

## SSC MOCK TEST - 374 (ANSWER KEY)

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

76. (3) The correct answer is (3). The given sentence is talking about a single task of a specific day. Use of plural verb 'are' is incorrect.

**Correct sentence:** Participating in the Republic Day Parade is considered an honour by many people.

77. (1) The correct answer is (2). The correct use is 'had picked' instead of 'has been picked' which in itself is wrong. The sentence refers to an action which happened in the past.

**Correct sentence:** I think someone had picked my pocket while I was travelling in the metro.

86. (3) The correct answer is (4). 'to + base form of the verb' is the correct expression.

**Correct sentence:** How much does it cost to travel from the airport to Noida?

87. (2) The correct answer is (2). When an event started in the past and is still going on in the present, use present perfect continuous.

**Correct sentence:** I have been writing a novel for the last two years but it is not finished yet.

90. (4) The correct spelling of 'Seperate' is 'Separate'.

91. (3) The correct spelling of 'Beseige' is 'Besiege'.