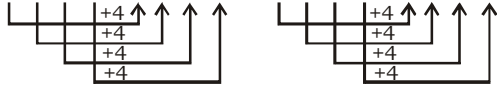


SSC MOCK TEST - 353 (SOLUTION)

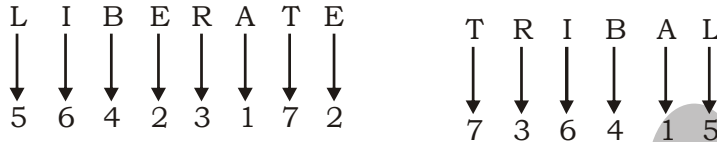
1. (A) Produce : Waste :: Contrast :: **Similar**



2. (C) B D A C : F H E G :: N P M O : **R T Q S**



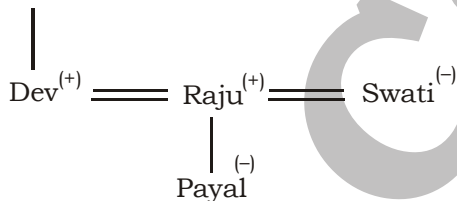
3. (D) Except option (D), the sum of all the digits are 22.
4. (D) Except option (D), others are state birds of India.
5. (A) As, Similarly,



6. (A) 2 **4** 8 16 32
-

7. (C) XV XVII XIV XVIII XIII **XIX**
-

8. (A) Mayank



Hence, Payal is grand-daughter of Mayank.

9. (C) As, $\frac{315}{15} = 21$, $\frac{21}{7} = 3$

Similarly, $\frac{486}{18} = 27$, $\frac{27}{9} = 3$

10. (D) b **c** e **m** d k **k** / **b** cem **d** kk / bc **e** m **d** kk

11. (D)

12. (C) **From I figure,**

$$6 + 3 + 5 + 7 + 4 + 3 = 28 \xrightarrow{28^2} 784$$

From II figure,

$$7 + 4 + 3 + 5 + 8 + 2 = 29 \xrightarrow{29^2} 841$$

From III figure,

$$6 + 9 + 3 + 10 + 2 + 4 = 34 \xrightarrow{34^2} 1156$$

13. (C) $45 \times 3 + 46 \div 2.5 - 8 = 119.8$

After changing the signs \times and \div , we have

$$45 \div 3 + 46 \times 2.5 - 8 = 122$$

$$\frac{45}{3} + 46 \times \frac{25}{10} - 8 = 122$$

$$15 + 23 \times 5 - 8 = 122$$

$$15 + 115 - 8 = 122$$

$$15 + 107 = 122$$

$$122 = 122$$

14. (A) 2. Insensate \rightarrow 1. Insensible \rightarrow 4. Insensitive \rightarrow 3. Insentiment \rightarrow 5. Instrument

15. (A) The day of before 3 days from 10 January is Thursday, i.e. on 7 January.

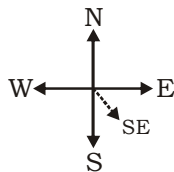
7 January = Thursday

14 January = Thursday

21 January = Thursday

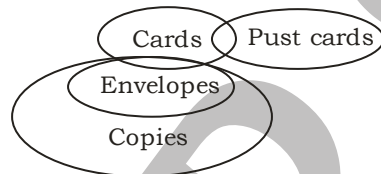
\therefore 26 January = Thursday + 5 day = Tuesday

16. (D)



Hence, Q is in South-East of R.

17. (A)



I. True II. False III. True

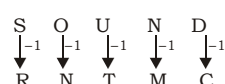
Hence only conclusion I and III follow.

18. (D) 19. (B)

20. (A) As,



And,



Similarly,



21. (C) As, $24 \times \frac{44}{8} = 132$

Similarly, $26 \times \frac{56}{8} = 182$

22. (A)

23. (C)

24. (A)

25. (D)

26. (B) Jain Doctrine is "established" upon an undying universal truth. It was Rishabh Dev, who first thought to realize the truth and achieve Kaivalya Gyan.
27. (B) According to 93rd Amendment, every child of the age group of 6-14 years shall have right to free and compulsory education. No child is liable to pay any kind of fee/capitation fee/charges. A collection of capitation fee invites a fine up to 10 times the amount collected.
28. (C) The coal found in India is mainly of noncoking quality and hence coking coal has to be imported. 70% of the steel produced today uses coal. Coking coal is a vital ingredient in the steel making process.
29. (C) FORTRAN (Formula Translation) is one of the earlier High Level programming languages used to write scientific applications. It was developed by IBM in 1956.
30. (C) He was defeated by his nephew, Farrukh Siyar with the help of Sayyid Brothers.
32. (B) G. V Mavalankar (1952-56), Hukum Singh (1962- 67); K.M. Munshi and U.N. Dhebar were never the Speakers of the Lok Sabha.
33. (B) Celebrations of the 100th anniversary of the founding of the Communist Party of China or the Centennial of the Communist Party of China were held on 1 July 2021 in Beijing to celebrate the centennial of the founding of the Chinese Communist Party (CCP).
34. (C) Dolby B and C are the noise reduction circuits developed by Dolby laboratories. Dolby noise reduction has made it possible to protect the music from tape noise, and helped make cassette the most popular audio product ever devised.
35. (D) The Servants of India Society was formed in Pune, Maharashtra, on June 12, 1905 by Gopal Krishna Gokhale. All are related to this organization.
37. (A) The Water (Cess) Act, 1977 related to water and irrigation and not the protection of environment.
38. (C) Prosperity in the Gupta Empire initiated a period known as the Golden Age of India, marked by extensive inventions and discoveries in science, technology, engineering, art, dialectic, literature, logic, mathematics, astronomy, religion, and philosophy.
40. (B) Jupiter takes 11.8618 Earth years to complete a single orbit of the Sun. In other words, a single Jovian year lasts the equivalent of 4,332.59 Earth days. Mercury takes just 87.97 days, Venus takes just 267 days, Earth takes just 365.26 days, Mars takes just 686.98 days, Saturn takes just 10,755.7 days, Uranus takes just 30,687.15 days, Neptune takes just 60,190.03 days.
42. (B) Indirect taxes are the charges that are levied on goods and services. Some of the significant indirect taxes include Value Added Tax, Central Sales Tax, Central Excise Duty, Customs Duty, stamp duties and expenditure tax. Property tax, Corporation tax and Wealth tax are examples of direct taxes.
43. (B) Asia's longest and the world's fifth high speed test track was inaugurated on Tuesday at National Automotive Test Tracks (NATRAX) in Madhya Pradesh.
44. (B) In a parallel circuit, the voltage across each of the components is the same, and the total current is the sum of the currents through each component. The wiring for most homes is parallel. In parallel circuit each branch receives equal current. If one branch in the circuit is broken, electric current will still flow in other branches.
45. (A) The largest coral reef is the Great Barrier Reef, located just off the north-eastern coast of Australia. The 1200 mile (1900 km) long reef is protected as a Marine Park.
47. (C) This all happened from 1975-78 during fifth five year plan, the period of which is (1974-78).
50. (B) Mekong - Ganga Cooperation (MGC) was established on November 10, 2000 at Vientiane in the First MGC Ministerial Meeting. It comprises six Member countries namely, India, Thailand, Myanmar, Cambodia, Laos and Vietnam. They emphasised four areas of cooperation, which are tourism, culture, education, and transportation linkage in order to be solid foundation for future trade and investment cooperation in the region.

51. (C) Total maximum marks = $(200 \times 2 + 150) = 550$

$$\text{Total marks obtained by Aakash} = 72\% \text{ of } 550 = \frac{72}{100} \times 550 = 396$$

$$\text{Marks obtained by Aakash in Maths} = 80\% \text{ of } 200 = 160$$

$$\text{Marks obtained by Aakash in Science} = 70\% \text{ of } 200 = 140$$

$$\text{Marks obtained by Aakash in Social science} = 396 - (160 + 140) = 96$$

$$\text{Percentage of marks obtained by Aakash in Social Science} = \frac{96}{150} \times 100 = 64\%$$

52. (D) Let the number be x .

ATQ,

$$60\% \text{ of } x + x^2 = x + 3460\% \text{ of } x$$

$$\frac{60x}{100} + x^2 = x + \frac{3460x}{100}$$

$$\frac{60x + 100x^2}{100} = \frac{3560x}{100}$$

$$100x^2 = 3500x$$

$$\therefore x = 35$$

53. (D) Let the quotient be x .

$$\text{Number} = \text{Divisor} \times \text{quotient} + \text{Remainder} = 321 \times x + 31 = 321x + 31$$

$$\text{Number is divided by 7, then } \frac{321x + 31}{7} = 4 - 5x + 4 + \frac{6x + 3}{7}$$

Hence, remainder is depends upon x , when the value of x will change the remainder will also change.

So, the remainder can't be determined.

54. (D) Difference between C.I and S.I. for 2 years = $P \left(\frac{R}{100} \right)^2$

$$= 8000 \times \left(\frac{10}{100} \right)^2 = 8000 \times \frac{1}{100} = ₹ 80$$

55. (C) Ratio of efficiency of A and B = $100 : 150 = 2 : 3$

$$\text{Ratio of Number of days taken by A and B} = 3 : 2$$

$$3 \text{ units} = 18 \text{ days}$$

$$2 \text{ units} = \left(\frac{18}{3} \times 2 \right) \text{ days} = 12 \text{ days}$$

$$\text{Number of days taken by B to complete the work} = 12 \text{ days}$$

$$\text{Ratio of efficiency of B and C} = 100 : 120 = 5 : 6$$

$$\text{Ratio of number of days taken by B and C} = 6 : 5$$

$$6 \text{ units} = 12 \text{ days}$$

$$5 \text{ units} = \left(\frac{12}{6} \times 5 \right) \text{ days} = 10 \text{ days}$$

$$\text{Number of days taken by C to complete the work} = 10 \text{ days}$$

	Total Work	Efficiency
B - 12 days	60	5
C - 10 days		6

Number of days taken by B and C together to complete two work = $\frac{60}{6+5}$ days

$$= \frac{60}{11} \text{ days} = 5 \frac{5}{11} \text{ days}$$

56. (B) $\frac{1}{\sqrt[3]{6}} = \frac{1}{(6^4)^{\frac{1}{12}}} = \frac{1}{(1296)^{\frac{1}{12}}}$

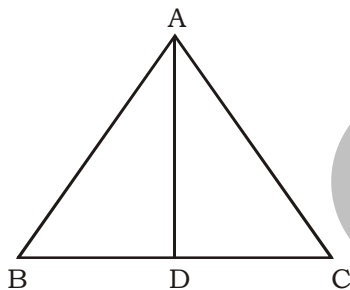
$$\frac{1}{\sqrt[4]{6}} = \frac{1}{(6^3)^{\frac{1}{12}}} = \frac{1}{(216)^{\frac{1}{12}}}$$

$$\frac{1}{\sqrt[2]{2}} = \frac{1}{(2^6)^{\frac{1}{12}}} = \frac{1}{(64)^{\frac{1}{12}}}$$

Hence, $\frac{1}{\sqrt[3]{2}} > \frac{1}{\sqrt[4]{6}} = \frac{1}{\sqrt[3]{6}}$

57. (D) Average speed = $\frac{2ab}{a+b} = \left(\frac{2 \times 20 \times 30}{20+30} \right) \text{ km/hr} = \left(\frac{1200}{50} \right) \text{ km/hr} = 24 \text{ km/hr}$

58. (D)



In $\triangle ABD$

$$\angle DAB = 40^\circ$$

$$AB = AD \text{ (Given)}$$

$$\angle ABD = \angle ADB$$

$$\angle ABD = \frac{180^\circ - 40^\circ}{2} = 70^\circ = \angle ADB$$

In $\triangle ADC$

$$AD = DC \text{ (Given)}$$

$$\angle ACD = \angle DAC$$

$$\angle ADB + \angle ADC = 180^\circ \text{ (Straight angle)}$$

$$\angle ADC = 180^\circ - 70^\circ = 110^\circ$$

$$\angle DAC = \left(\frac{180^\circ - 110^\circ}{2} \right) = 35^\circ$$

$$\angle BAC = \angle DAB + \angle DAC = 40^\circ + 35^\circ = 75^\circ$$

59. (C) $\frac{(\operatorname{cosec}\theta + 1)}{\operatorname{cosec}^2\theta - 1} = \left(\frac{\operatorname{cosec}\theta}{\cot}\right)^2 + \frac{1}{\cot^2\theta}$

$$= \left(\frac{1}{\cos\theta}\right)^2 + \tan^2\theta = \sec^2\theta + \tan^2\theta$$

$$= \frac{\operatorname{cosec}\theta + 1}{\operatorname{cosec}\theta - 1} = \frac{(\operatorname{cosec}\theta + 1)(\operatorname{cosec}\theta + 1)}{(\operatorname{cosec}\theta - 1)(\operatorname{cosec}\theta + 1)}$$

$$= \frac{\operatorname{cosec}\theta + 1 + 2\operatorname{cosec}\theta}{\operatorname{cosec}^2\theta - 1}$$

$$= \frac{\operatorname{cosec}\theta + 1 + 2\operatorname{cosec}\theta}{\cot^2\theta} \quad (\because \operatorname{cosec}^2\theta - 1 = \cot^2\theta)$$

$$= \frac{\operatorname{cosec}^2\theta}{\cot^2\theta} + \frac{1}{\cot^2\theta} + \frac{2\operatorname{cosec}\theta}{\cot^2\theta}$$

$$= \frac{1}{\cos^2\theta} + \tan^2\theta + 2 \tan\theta \cdot \sec\theta$$

$$= \sec^2 + \tan^2 + 2 \tan\theta \cdot \sec\theta$$

$$= (\sec\theta + \tan\theta)^2 = K^2$$

60. (C) 1st candle \rightarrow 10 9
90 (Total work)
 2nd candle \rightarrow 9 10

Let the required time be t hours

ATQ,

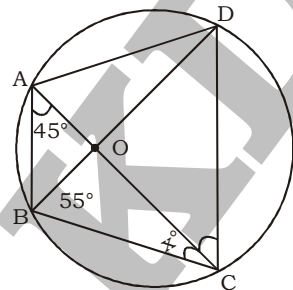
$$\frac{90 - 9t}{90 - 10t} = \frac{1}{2}$$

$$90 - 10t = 180 - 18t$$

$$8t = 90$$

$$t = \frac{45}{4} = 11\frac{1}{4} \text{ hr}$$

61. (B)



$$\angle BAC = \angle BDC = 45^\circ \quad (\because \text{Angles in the same segment of a circle})$$

In $\triangle BCD$,

$$\angle BCD + \angle BDC + \angle CBD = 180^\circ$$

$$\angle BCD + 45^\circ + 55^\circ = 180^\circ$$

$$\angle BCD = 180^\circ - 100^\circ = 80^\circ$$

62. (B) Let the principal be ₹ 100.

$$\text{Amount} = ₹ 180$$

$$\text{SI} = 180 - 100 = ₹ 80$$

$$\text{Rate} = \frac{80 \times 100}{100 \times 8} = 10\%$$

Now,

$$\text{Principal} = ₹ 14000$$

$$\text{Time} = 3 \text{ years}$$

$$\text{Rate} = 10\%$$

$$\text{CI} = ?$$

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

$$= 14000 \left(1 + \frac{10}{100} \right)^3 - 14000$$

$$= \left[14000 \times \frac{11}{10} \times \frac{11}{10} \times \frac{11}{10} \right] - 14000$$

$$= 18634 - 14000 = ₹ 4634$$

63. (D) We know, the distance formula,

$$P(2, 5) \text{-----} 13 \text{ units} \text{-----} Q(x, -7)$$

$$PQ^2 = (x - 2)^2 + (-7 - 5)^2$$

$$(13)^2 = x^2 + 4 - 4x + 144$$

$$x^2 + 4 - 4x = 169 - 144$$

$$x^2 - 4x - 21 = 0$$

$$x^2 - 7x + 3x - 21 = 0$$

$$x(x - 7) + 3(x - 7) = 0$$

$$(x + 3)(x - 7) = 0$$

$$x = 7, -3$$

Hence, the value of x is 7.

64. (D) Let the income is ₹ 100.

$$\text{Expenditure} = 100 \times \frac{75}{100} = ₹ 75$$

$$\text{Saving} = 100 - 75 = ₹ 25$$

Now,

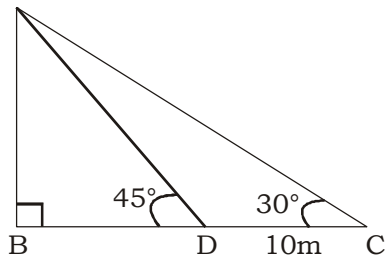
$$\text{New income} = 100 \times \frac{120}{100} = ₹ 120$$

$$\text{New expenditure} = 75 \times \frac{110}{100} = ₹ 82.5$$

$$\text{New saving} = 120 - 82.75 = ₹ 37.25$$

$$\therefore \text{Required\%} = \left(\frac{37.25 - 25}{25} \times 100 \right) \% = 50\%$$

65. (D) A



Let AB is tower.

In $\triangle ABD$,

$$\tan 45^\circ = \frac{AB}{BD}$$

$$1 = \frac{AB}{BD}$$

$$AB = BD \quad \dots(i)$$

In $\triangle ABC$,

$$\tan 30^\circ = \frac{AB}{BC}$$

$$\frac{1}{\sqrt{3}} = \frac{AB}{BD + CD}$$

$$\frac{1}{\sqrt{3}} = \frac{AB}{AB + 10} \quad (\because AB = BD)$$

$$AB\sqrt{3} = AB + 10$$

$$AB\sqrt{3} - AB = 10$$

$$AB(\sqrt{3} - 1) = 10$$

$$AB = \frac{10}{\sqrt{3} - 1} \times \frac{\sqrt{3} + 1}{\sqrt{3} + 1}$$

$$= \frac{10(\sqrt{3} + 1)}{2} = 5(\sqrt{3} + 1)m$$

66. (D)
$$\frac{(x^2 - y^2)^3 + (y^2 - z^2)^3 + (z^2 - x^2)^3}{(x - y)^3 + (y - z)^3 + (z - x)^3}$$

Let $(x^2 - y^2) = a$,

$(y^2 - z^2) = b$,

$(z^2 - x^2) = c$

and $(x - y) = p$

$(y - z) = q$,

$(z - x) = r$

Now, $\frac{a^3 + b^3 + c^3}{p^3 + q^3 + r^3}$

If $a + b + c = 0$, then $a^3 + b^3 + c^3 = 3abc$
and $p + q + r = 0$, then $p^3 + q^3 + r^3 = 3pqr$

$$\begin{aligned} \therefore \frac{(x^2 - y^2)^3 + (y^2 - z^2)^3 + (z^2 - x^2)^3}{(x - y)^3 + (y - z)^3 + (z - x)^3} \\ = \frac{3(x^2 - y^2)(y^2 - z^2)(z^2 - x^2)}{3(x - y)(y - z)(z - x)} \\ = \frac{3(x + y)(x - y)(y + z)(y - z)(z + x)(z - x)}{3(x - y)(y - z)(z - x)} \\ = (x + y)(y + z)(z + x) \end{aligned}$$

67. (A) Let the number of student in one row be x and the number of rows be y .

ATQ,

$$xy = (x + 1) \times (y - 2)$$

$$xy = xy - 2x + y - 2$$

$$2x - y = -2 \quad \dots\dots(i)$$

and

$$xy = (x - 1)(y + 3)$$

$$xy = xy + 3x - y - 3$$

$$3x - y = 3 \quad \dots\dots(ii)$$

Solving equation (i) and (ii),

$$\begin{array}{r} 2x - y = -2 \\ -3x - y = -3 \\ \hline x = 5 \end{array}$$

Put the value of x in equation (i),

$$2x - y = -2$$

$$2 \times 5 - y = -2$$

$$y = 12$$

\therefore Number of students in class = $xy = 5 \times 12 = 60$

68. (B) $P = ₹ 15625$

$$R = 4\%$$

$$A = 17576$$

$$T = ?$$

We know that,

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

$$17576 = 15625 \left(1 + \frac{4}{100} \right)^T$$

$$\frac{17576}{15625} = \left(1 + \frac{1}{25}\right)^T$$

$$\left(\frac{26}{25}\right)^3 = \left(\frac{26}{25}\right)^T$$

$$\therefore T = 3 \text{ years}$$

69. (B) 50% of $(x - y) = 30\%$ of $(x + y)$

$$\frac{50}{100}(x - y) = \frac{30}{100}(x + y)$$

$$\frac{x - y}{2} = \frac{3x + 3y}{10}$$

$$10x - 10y = 6x + 6y$$

$$4x = 16y$$

$$\frac{x}{y} = \frac{16}{4}$$

$$\therefore \text{Required\%} = \left(\frac{4}{16} \times 100\right)\% = 25\%$$

70. (C) $\left(1 - \frac{1}{3}\right)\left(1 - \frac{1}{4}\right)\left(1 - \frac{1}{5}\right) \dots \left(1 - \frac{1}{99}\right)\left(1 - \frac{1}{100}\right)$

$$= \frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} \times \dots \times \frac{98}{99} \times \frac{99}{100} = 2 \times \frac{1}{100} = \frac{1}{50}$$

71. (A) Let the original speed of the aircraft be x km/hr.

Then new speed = $(x - 200)$ km/hr

Duration of flight at original speed = $\left(\frac{600}{x}\right)$ hour

Duration of flight at reduced speed = $\left(\frac{600}{x - 200}\right)$ hour

ATQ,

$$\frac{600}{x - 200} - \frac{600}{x} = \frac{1}{2}$$

$$\frac{600x - 600(x - 200)}{x(x - 200)} = \frac{1}{2}$$

$$\frac{120000}{x^2 - 200x} = \frac{1}{2}$$

$$x^2 - 200x - 240000$$

$$x^2 - 600x + 400x - 240000 = 0$$

$$(x - 600)(x + 400) = 0$$

$$x = 600 \text{ or } x = -400$$

$$x = 600$$

So, the original speed of the aircraft was 600 km/hr.

Hence, duration of flight = $\left(\frac{600}{x}\right)$ hour = $\left(\frac{600}{60}\right)$ hour = 1 hour

72. (A) Required ratio = $(70 + 80 + 40) : (20 + 60 + 20) = 190 : 100 = 19 : 10$
73. (B) Total production in all the years together = $(60 + 70 + 80 + 80 + 40) = 330$ lakh
Total export in all the years together = $(20 + 30 + 60 + 70 + 20) = 200$ lakh
 \therefore Required difference = $(330 - 220) = 110$ lakh
74. (D) Difference of production and import in the year 2001 = $(70 - 30) = 40$ lakh
Difference of production and export in the year 2004 = $(40 - 20) = 20$ lakh
 \therefore Required more% = $\left(\frac{40 - 20}{20} \times 100\right)\% = 100\%$
75. (B) On seeing the graph, we can easily say.
 \therefore Required year is 2000 and 2001.

MEANINGS IN ALPHABETICAL ORDER

Acquaintances	a person's knowledge or experience of something	परिचय
Ambiguous	(of language) open to more than one interpretation; having a double meaning	अस्पष्ट
Bliss	perfect happiness; great joy	परमानंद
Decisive	settling an issue; producing a definite result	निर्णायक
Detach	disengage (something or part of something) and remove it	अलग करना
Inefficient	not achieving maximum productivity; wasting or failing to make the best use of time or resources	अकुशल
Tradition	the transmission of customs or beliefs from generation to generation, or the fact of being passed on in this way	परंपरा

SSC MOCK TEST - 353 (ANSWER KEY)

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

76. (C) Replace 'nice' by 'nicer'.
77. (C) Replace 'another' by 'other'.
90. (C) The correct spelling of 'Behave' is 'Behave'.
91. (C) The correct spelling of 'Inefficent' is 'Inefficient'.