

SSC MOCK TEST - 337 (SOLUTION)

1. (B) $33 : 10 :: 54 : 21$
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$
 $(3 \times 3) + 1 \uparrow \quad (5 \times 4) + 1 \uparrow$
2. (A) Produce : Waste :: Contrast :: **Similar**
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$
Opp. Opp.
3. (C) B D A C : F H E G :: N P M O : **R T Q S**
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$
+4 +4 +4 +4 +4 +4 +4 +4
4. (D) (A) $152 - 95 = 57$
(B) $133 - 76 = 57$
(C) $114 - 57 = 57$
(D) $144 - 38 = 106$
5. (D) Except option (D), three vowels are used in all.
6. (A) Freeway, Interstate Road and Expressway are all high-speed highways whereas a Street is for low speed traffic.
7. (A) Insensate Insensible Insentient Insensitive Instrument
 2 1 3 4 5
8. (D) Daughter of Aman's brother → The niece of Aman.
Thus, the granddaughter of the woman is Aman's niece.
Hence, the woman is the mother of Aman.
9. (C) 2 5 12 27 58
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$
 $\times 2 + 1 \uparrow \quad \times 2 + 2 \uparrow \quad \times 2 + 3 \uparrow \quad \times 2 + 4 \uparrow$
10. (C) +0 +0
 ┌──────────┐ ┌──────────┐
3, 5, 35, 10, 12, 35, 17, 19, 35
 └──────────┘ └──────────┘
 +7 +7
 +7 +7
11. (A) Here the common faces with number 3, are in same positions. Hence 6 is opposite to 2 and 5 is opposite to 1. Therefore 4 is opposite to 3.
12. (C) **For first triangle,**
 $10 - 4 = 6$
 $18 - 10 = 8$
 $18 - 4 = 14$
For second triangle,
 $14 - 8 = 6$
 $22 - 14 = 8$
 $22 - 8 = 14$
For third triangle,
 $11 - 5 = 6$
 $15 - 11 = 4$
 $15 - 5 = 10$

13. (B) $\frac{(18 \times 12)}{3} = 72$ and

$$\frac{(32 \times 16)}{4} = 128$$

Therefore, $\frac{(24 \times 14)}{?} = 112$

$$\left(\frac{336}{?}\right) = 112$$

$$? = \left(\frac{336}{112}\right)$$

$$? = 3$$

14. (C) DARE

15. (A) $361324 \Rightarrow \sqrt{361} = 19$ and $\sqrt{324} = 18$

$$19^2 - 18^2 = (19 + 18) \times (19 - 18) = 37 \times 1 = 37$$

$$484169 \Rightarrow \sqrt{484} = 22$$
 and $\sqrt{169} = 13$

$$22^2 - 13^2 = (22 + 13) \times (22 - 13) = 35 \times 9 = 315$$

$$625196 \Rightarrow \sqrt{625} = 25$$
 and $\sqrt{196} = 14$

$$25^2 - 14^2 = (25 + 14) \times (25 - 14) = 39 \times 11 = \mathbf{429}$$

16. (A) As the colour of the milk is White and it is given that 'White means Purple'.
So, the colour of milk is Purple

17. (D) a/badn/aa/badn/aa/badn/aa/badn/a

18. (A) As,

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| L | I | B | E | R | A | T | E |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 5 | 6 | 4 | 2 | 3 | 1 | 7 | 2 |

Similarly,

| | | | | | |
|---|---|---|---|---|---|
| T | R | I | B | A | L |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 7 | 3 | 6 | 4 | 1 | 5 |

19. (A) $T = 6 + \left[\frac{2}{11}(6 \times 30 + 0)\right] = 6 + \left[\frac{360}{11}\right] = 6 \text{ past } 32\frac{8}{11} \text{ min}$

20. (A) $4 \times 7 - 10 \div 5 + 3 \times 7 = 47$

$$4 \times 7 - 2 + 3 \times 7 = 47$$

$$28 - 2 + 21 = 47$$

$$28 + 21 - 2 = 47$$

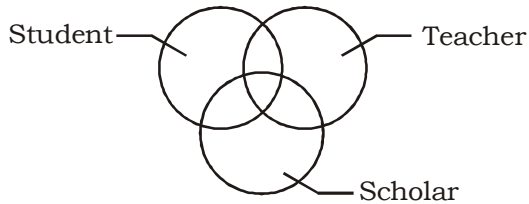
$$49 - 2 = 47$$

$$47 = 47$$

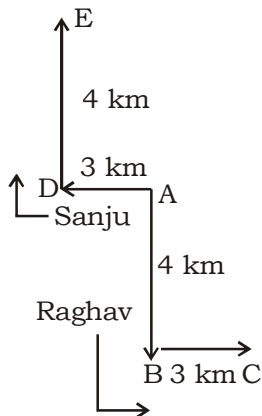
21. (A) Some students may be scholars and vice-versa.

Some students may be teachers and vice-versa.

Some students who are scholars may be teachers.



22. (A)



$$\begin{aligned} \text{Required distance EC} &= \sqrt{AD^2 + DE^2} + \sqrt{AB^2 + BC^2} \\ &= \sqrt{3^2 + 4^2} + \sqrt{4^2 + 3^2} = \sqrt{25} + \sqrt{25} = 10 \text{ km} \end{aligned}$$

23. (B)

24. (A)

25. (C)

26. (C) The Indian Constitution was adopted by the Constituent Assembly on the 26th November, 1949 and it came into force after two months on 26th January, 1950. The day January 26th was chosen because it was on this very day when the Poorna Swaraj resolution was made in Lahore in 1930 and the first tricolor of India unfurled.
27. (C) Some of the dynasties that ruled Magadha were: Haryanka Kingdom (684-424 BC); Shishunaga Kingdom (413-345 BC); Nanda Empire (424-321 BC); and Maurya Empire (321-184 BC). 30. (A) Article 14 of the constitution guarantees that all citizens shall be equally protected by the laws of the country. It means that the State cannot discriminate any of the Indian citizens on the basis of their caste, creed, colour, sex, gender, religion or place of birth.
32. (B) A merchant bank is a financial institution which provides capital to companies in the form of share ownership instead of loans. It is a bank that deals mostly in (but is not limited to) international finance, long-term loans for companies and underwriting. Merchant banks do not provide regular banking services to the general public.
37. (D) When a piece of paper and a cricket ball are dropped from the same height, they reach the surface at different time because the shape of the paper is more flat and it behaves like a parachute causing more air resistance acting on it with respect to the ball. But, in order to reach the surface at the same time by both the articles, they must be dropped in vacuum. It is because in vacuum there is no other force other than force of gravity occurring on them and this leads to a conclusion that both the article reaches at the same time.
38. (D) The taste buds for sweet are on the tip of the tongue. The 'salt' taste buds are on the either side of the front of the tongue. The 'sour' taste buds are behind this and 'bitter' taste buds are way in the back.
39. (A) Raisina Hill is an area of Lutyens Delhi, New Delhi, housing India's most important government buildings, including Rashtrapati Bhavan, the official residence of the President of India and the Secretariat building housing the Prime Minister's Office and several other important ministries. It is surrounded by other important buildings and structures, including the Parliament of India, Rajpath, Vijay Chowk and India Gate.

40. (C) This is a method is described whereby, using primitive equipment anyone can measure the size of the earth to an accuracy of order of magnitude 10% by observing two sunsets in the space of a few seconds.
41. (B) Lead-potash lime glass is flint glass. It has high refractive index and is used in making prisms lens etc. It is a soft glass.
42. (D) Rock salt is another name given to "Sodium Chlorides ores".
44. (B) Ministry of Finance oversees the 'Stand Up India Scheme', which aims to promote entrepreneurship among women, Scheduled Castes (SC) & Scheduled Tribes (ST) categories, to help them in starting a Greenfield enterprise.
45. (A) An ashrama in Hinduism has four stages in an age-based social system as laid out in the Manu Smriti and later Classical Sanskrit texts. These stages are: Brahmachari (student), Grihastha (Householder), Vanaprastha (forest dweller or Hermit in semi retirement age) and Sannyasi (the renounced one in full retirement age). The Ashram system is believed by the Hindus to lead to a fulfillment of the four aims of life namely, Dharma (righteousness), Artha (wealth), Kama (pleasure) and Moksha (liberation).
46. (A) Because aluminium with oxygen forms a thin layer of Aluminium Oxide which is tough and protects aluminium objects from further corrosion.
48. (B) Karnataka will host the 15th edition of Pravasi Bharatiya Divas (PBD) 2017 in Bengaluru for 3 days from January 7th, 2017. The theme of 2017 PBD is "Redefined Engagement With Indian Diaspora". The PBD convention is held on January 9th each year to commemorate the return of Mahatma Gandhi from South Africa in 1915. It is celebrated to mark the contribution of the overseas Indian community to the development of the country.
51. (A) Let the boat's rate upstream be x km/h and that downstream be y km/h.
Then, distance covered upstream in 8 hours 48 minutes = Distance covered downstream in 4 hours

$$\left(x \times 8 \frac{4}{5}\right) = (y \times 4)$$

$$\frac{44}{5} \times \frac{y}{x} = 4y$$

$$y = \frac{11}{5}x$$

$$\frac{y}{x} = \frac{11}{5}$$

$$\text{Required ratio} = \frac{\text{Speed of boat}}{\text{Speed of current}} = \left(\frac{y+x}{2}\right) : \left(\frac{y-x}{2}\right)$$

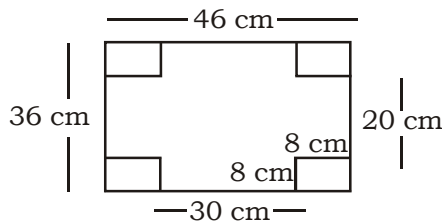
$$= \frac{11+5}{2} : \frac{11-5}{2} = 8 : 3$$

$$\therefore \text{Percentage decrease} = \frac{8-3}{8} \times 100\% = 62.5\%$$

52. (C) Let the number of students be 100.
Number of students opting both subjects = $56 + 68 - 100 = 24$

$$\text{Total number of students} = \frac{100}{24} \times 36 = 150$$

53. (B)



Volume of the box made of the remaining sheet = $30 \times 20 \times 8 = 4800 \text{ cm}^3$

54. (B) For 2 years, $R = 10\%$

For $\frac{1}{3}$ year, $R = \frac{10}{3}\%$

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

$$1351.80 = P \left[\left(1 + \frac{10}{100} \right)^2 \left(1 + \frac{10}{3 \times 100} \right) - 1 \right]$$

$$1351.80 = P \left(\frac{121}{100} \times \frac{310}{300} - 1 \right)$$

$$1351.80 = P \left(\frac{751}{3000} \right)$$

$$\therefore P = \frac{1351.80 \times 3000}{751} = ₹ 5400$$

55. (C) Let the present age of Ram and Shyam be $4x$ and $5x$ years respectively.

ATQ,

$$\frac{4x+5}{5x+5} = \frac{5}{6}$$

$$24x + 30 = 25x + 25$$

$$x = 5$$

\therefore Present age of Ram = $4 \times 5 = 20$ years

56. (D) Let number be N

$$\text{Then, \% error} = \frac{\frac{5}{3}N - \frac{3}{5}N}{\frac{5}{3}N} \times 100 = \frac{16 \times 3}{15 \times 5} \times 100 = 64\%$$

57. (C) $\left(1 + \frac{1}{x+1} \right) \left(1 + \frac{1}{x+2} \right) \left(1 + \frac{1}{x+3} \right) \left(1 + \frac{1}{x+4} \right)$

$$= \left(\frac{x+1+1}{x+1} \right) \left(\frac{x+2+1}{x+2} \right) \left(\frac{x+3+1}{x+3} \right) \left(\frac{x+4+1}{x+4} \right) = \left(\frac{x+5}{x+1} \right)$$

58. (D) $x = 3 \cos A + 4 \sin A$

$$x^2 = 9 \cos^2 A + 16 \sin^2 A + 24 \cos A \sin A \quad \dots\dots(i)$$

$$y = 3 \sin A - 4 \cos A$$

$$y^2 = 9 \sin^2 A + 16 \cos^2 A - 24 \cos A \sin A \quad \dots\dots(ii)$$

Adding equation (i) and (ii), we get

$$x^2 + y^2 = 9 \cos^2 A + 16 \sin^2 A + 24 \cos A \cdot \sin A + 9 \sin^2 A + 16 \cos^2 A - 24 \cos A \cdot \sin A$$

$$x^2 + y^2 = 9(\cos^2 A + \sin^2 A) + 16(\cos^2 A + \sin^2 A)$$

$$x^2 + y^2 = 9 + 16$$

$$\therefore x^2 + y^2 = 25$$

59. (D) Let the distance from starting point be x .

Speed of man downstream = $5 + 1.5 = 6.5$ km/hr

Speed of man upstream = $5 - 1.5 = 3.5$ km/hr

Then, we have

$$\frac{x}{6.5} + \frac{x}{3.5} = 1$$

$$10x = 6.5 \times 3.5$$

$$\therefore x = \frac{22.75}{10} = 2.275$$

60. (B) Suppose B joins for x months.

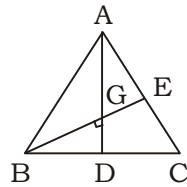
ATQ,

$$\frac{450 \times 12}{300 \times x} = \frac{2}{1}$$

$$x = \frac{450 \times 6}{300} = 9 \text{ months}$$

$$\therefore \text{B joins after } (12 - 9) = 3 \text{ months}$$

61. (C)



$$AD = 9 \text{ cm}$$

$$GD = \frac{1}{3} \times 9 = 3 \text{ cm}$$

$$BE = 6 \text{ cm}$$

$$BG = \frac{2}{3} \times 6 = 4 \text{ cm}$$

$$BD = \sqrt{3^2 + 4^2} = 5 \text{ cm}$$

62. (D) $\frac{b-c}{a} + \frac{a+c}{b} + \frac{a-b}{c} = 1$

$$\frac{a+c}{b} - 1 + \frac{a-b}{c} + 1 = 1 - \frac{b-c}{a}$$

$$\frac{a+c-b}{b} + \frac{a-b+c}{c} = \frac{a-b+c}{a}$$

$$(a-b+c) \left(\frac{1}{b} - \frac{1}{c} \right) = (a-b+c) \frac{1}{a}$$

$$\frac{1}{b} = \frac{1}{a} - \frac{1}{c}$$

63. (A) $A+B$ 8 $\xrightarrow{\hspace{2cm}}$ 3
 B 12 \searrow -24 $\xrightarrow{\hspace{2cm}}$ 2
 C 12 $\xrightarrow{\hspace{2cm}}$ 2

ATQ,

Work done by (A+B) in 4 days = $4 \times 3 = 12$ work

Work done by B in 2 days = $2 \times 2 = 4$ work

Work remaining = $24 - 12 - 4 = 8$

Time taken by C = $\frac{8}{2} = 4$ days

64. (B) If two triangles are congruent then there must be equal.

65. (B) Total of 28 numbers = $28 \times 75 = 2100$

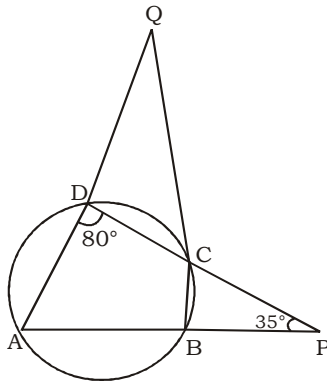
Total of first 14 numbers = $14 \times 72 = 1008$

Total of last 15 numbers = $15 \times 80 = 1200$

Now, 14th number = $(1008 + 1200) - 2100 = 108$

\therefore Average of remaining 27 numbers = $\frac{2100 - 108}{27} = \frac{1992}{27} = 73\frac{7}{9}$

66. (A)



$\angle ADC + \angle ABC = 180^\circ$ (Sum of opposite angles of cyclic quadrilateral is 180°)

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

Now, $\angle ABC + \angle CBP = 180^\circ$ (Straight angle)

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

In $\triangle BPC$,

$\angle BPC + \angle CBP + \angle BCP = 180^\circ$ (Sum of angles of \triangle is 180°)

$35^\circ + 80^\circ + \angle BCP = 180^\circ$

$\angle BCP = 180^\circ - 115^\circ = 65^\circ$

$\angle BCP = \angle QCD = 65^\circ$ (Vertically opposite angle)

$\angle ADC + \angle CDQ = 180^\circ$ (Straight angle)

$80^\circ + \angle CDQ = 180^\circ$

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

In $\triangle QDC$,

$$\angle CDQ + \angle QCD + \angle CQD = 180^\circ \quad (\text{Angle sum property of } \triangle)$$

$$100^\circ + 65^\circ + \angle CQD = 180^\circ$$

$$\therefore \angle CQD = 180^\circ - 165^\circ = 15^\circ$$

67. (D) $x - y = 11 \quad \dots(i)$

$$\frac{1}{x} - \frac{1}{y} = \frac{11}{24}$$

$$\frac{y - x}{xy} = \frac{11}{24}$$

$$\frac{-(x - y)}{xy} = \frac{11}{24}$$

$$\frac{-11}{xy} = \frac{11}{24} \quad [\text{From (i)}]$$

$$xy = -24$$

$$\text{Now, } (x - y)^2 = x^2 + y^2 - 2xy$$

$$(11)^2 = x^2 + y^2 - 2(-24)$$

$$x^2 + y^2 = 121 - 48$$

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

$$\therefore x^3 - y^3 + x^2y^2 = (x - y)(x^2 + y^2 + xy) + x^2y^2$$

$$= (11)(73 - 24) + (-24)^2 = 11 \times 49 + 576 = 1115$$

68. (B) Number $538xy$ is divisible by 3, 7 and 11.

First of all LCM of 3, 7 and 11 = 231

Largest possible value of $538xy$ is 53899.

When we divided 53899 by 231, then we obtain 76 as remainder.

So, required number = $53899 - 76 = 53823$

Hence, $x = 2$ and $y = 3$

$$\therefore x^2 + y^2 = 2^2 + 3^2 = 13$$

69. (A) Volume of the hemispherical ditch = $\frac{2}{3}\pi r^3 = \frac{2}{3}\pi \times (15)^3 = 2250\pi \text{ m}^3$

$$\text{Volume of the cylindrical ditch} = \text{Volume of each dug out} = \pi r^2 h = \pi \times 8^2 \times 4 = 256\pi \text{ m}^3$$

So, fraction of hemispherical ditch by the earth dug out from the cylindrical ditch

$$= \frac{256\pi}{2250\pi} = \frac{128}{1125}$$

70. (B) Slope of line passing through points $(4, -2)$ and $(-3, 5) = \frac{5 + 2}{-3 - 4} = \frac{7}{-7} = -1$

Slope of two parallel lines is always equal.

Slope of the line parallel to the line having slope $-1 = -1$

71. (D) Initial Speed of train B = $\frac{500}{40} = \frac{25}{2} \text{ m/s}$

$$\text{Speed of car} = 70 \times \frac{5}{18} = \frac{350}{18} \text{ m/s}$$

$$\text{Relative speed} = \frac{350}{18} - \frac{25}{2} = \frac{125}{18} \text{ m/s}$$

$$\text{Time taken by car} = \frac{\text{Distance}}{\text{Relative speed}} = \frac{450}{125} \times 18 = \frac{18 \times 18}{5} \text{ sec}$$

$$\text{Distance covered by a car} = \frac{18 \times 18}{5} \times \frac{350}{18} = 1260 \text{ m}$$

$$\text{After middle point, the relative speed} = 70 - 60 = 5 \times \frac{5}{18} \text{ sec}$$

$$\text{Time taken to completely pass the train B from its middle point} = \frac{150}{5 \times \frac{5}{18}} = 90 \text{ sec}$$

$$\text{Distance covered by car in 540 sec} = 90 \times \frac{350}{18} = 1750 \text{ m}$$

∴ Total distance cover by car = 1750 + 1260 = 3010 m or 3.01 km

72. (B) The train can cover (200 + 200) m distance in 20 seconds which means the speed of the train is 20 m/s.

Relative speed of man and train is 25 m/s.

To cover the distance of 200 metre, it will take 8 seconds.

73. (C) Speed of train D = $\frac{550}{22} \times \frac{18}{5} = 90 \text{ km/hr}$

Distance cover by train D in 3 hours = $90 \times 3 = 270 \text{ km}$

Relative speed of both the trains = $90 + 105 = 195 \text{ km/hr}$

Distance travel by both the trains in 2 hours = $195 \times 2 = 390 \text{ km}$

Total distance = $390 + 270 = 660 \text{ km}$

74. (D) Speed of Train F = $\frac{(200 + 220)}{18} \times \frac{18}{5} = 84 \text{ km/hr}$

$$\text{Average Speed} = \frac{\text{Total Distance}}{\text{Total Time taken}} = \frac{600}{\frac{200}{84} + \frac{200}{56} + \frac{200}{21}} = 38 \frac{10}{13} \text{ kmph}$$

75. (B) Speed of train E = $\frac{(200 + 280)}{48} = 20 \text{ m/sec}$

Distance travel by both the train is same.

ATQ,

$$15 \times (x - 20) = 5 \times (2x - 10)$$

$$3x - 30 = 2x - 10$$

$$x = 20 \text{ m/sec}$$

∴ Speed of train M in Km/hr = $20 \times \frac{18}{5} = 72 \text{ km/hr}$

MEANINGS IN ALPHABETICAL ORDER

| | | |
|--------------|---|------------------------|
| Acquainted | make someone aware of or familiar with | परिचित |
| Anthropology | the study of human societies and cultures and their development | मनुष्य जाति का विज्ञान |
| Commemorate | recall and show respect for (someone or something) | स्मरण करना |
| Condense | make (something) denser or more concentrated | गाढ़ा करना |
| Confined | (of a space) restricted in area or volume | सीमित |
| Congest | crowd a place so as to hinder or prevent freedom of movement | भर देना |
| Corrigible | capable of being corrected | संशोधनीय |
| Covert | not openly acknowledged or displayed | गुप्त |
| Enormous | very large in size, quantity, or extent | विशाल |
| Etymology | the study of the origin of words | शब्द-व्युत्पत्ति |
| Expand | become or make larger or more extensive | बढ़ाना |
| Impertinent | not showing proper respect | अशिष्ट |
| Laconic | (of a person, speech, or style of writing) using very few words | संक्षिप्त |
| Manly | having those good qualities traditionally associated with men | मर्दाना |
| Misfortunes | bad luck | दुर्भाग्य |
| Perspective | a point of view | दृष्टिकोण |
| Pompous | affectedly and irritatingly grand, solemn, or self-important | आडम्बरपूर्ण |
| Pursuits | the action of following or pursuing someone or something | लक्ष्य |
| Revere | feel deep respect or admiration for (something) | आदर करना |
| Tyrants | a cruel and oppressive ruler | तानाशाह |

SSC MOCK TEST - 337 (ANSWER KEY)

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

76. (D) Replace 'manly' by 'manfully', as we need an adverb here, not an adjective.
77. (A) Replace 'youths' by 'youth', as it refers to the young people of a society
86. (A) 'Advice' means 'guidance or recommendations (सलाह)', whereas 'Advise' means 'offer suggestions (सलाह देना)
87. (C) The verb 'absent' takes a reflexive pronoun.
90. (C) The correct spelling is 'Definite'.
91. (A) The correct spelling is 'Commemorate'.