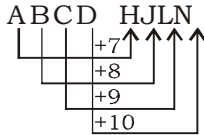


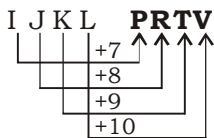
SSC MOCK TEST - 292 (SOLUTION)

1. (C) $37 : 1368 :: 49 : 2400$
 $\begin{array}{ccc} \boxed{37^2-1} & \uparrow & \boxed{49^2-1} \\ & & \uparrow \end{array}$

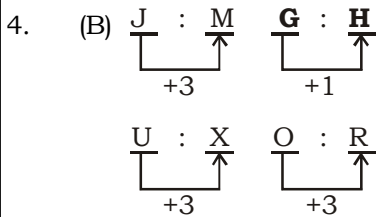
2. (B) As,



Similarly,



3. (D) Vitamin A found in Broccoli, while Vitamin C found in Orange.



5. (D) $285 \Rightarrow \frac{2+8}{5} = 2$

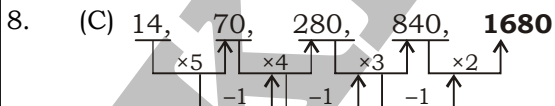
$687 \Rightarrow \frac{6+8}{7} = 2$

$978 \Rightarrow \frac{9+7}{8} = 2$

765 $\Rightarrow \frac{7+6}{5} \neq 2$

6. (D) Except Crab, others are reptiles.

7. (B) 2. Foraminiferans → 3. Forcefulnesses → 1. Forecast → 4. Foresail → 5. Formerly



10. (C) In first figure,

$5 \times 2 = 10 \div 2 = 5$

In second figure,

$7 \times 4 = 28 \div 2 = 14$

In third figure,

$9 \times 6 = 54 \div 2 = 27$

11. (C) **In first row,**

$$64 = (9 \times 8) - 8$$

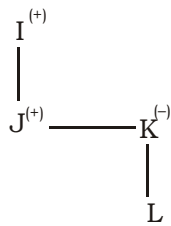
In second row,

$$70 = (15 \times 5) - 5$$

In third row,

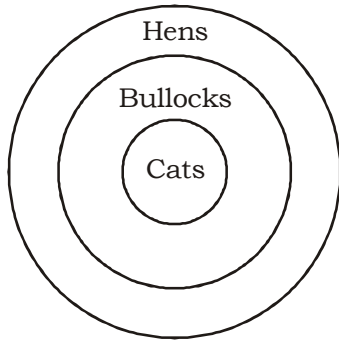
$$91 = (14 \times 7) - 7$$

12. (C) $I + J * K - L$



Hence J is the uncle of L

13. (A)



I. True II. False

Hence, conclusion I follows

14. (B) As,

D I A G R A M : M A R G A I D
1 2 3 4 5 6 7 7 6 5 4 3 2 1

Similarly,

L I T E R A C Y : Y C A R E T I L
1 2 3 4 5 6 7 8 : 8 7 6 5 4 3 2 1

15. (C)

16. (B) Gopal > Sonia > Tina > Priya > Swati

Hence, Swati has the least marks

17. (B) $6 \div 18 \times 54 + 6 - 12 = -4$

From Option (B),

$$6 \times 18 \div 54 + 6 - 12 = -4$$

$$6 \times \frac{1}{3} - 6 = -4$$

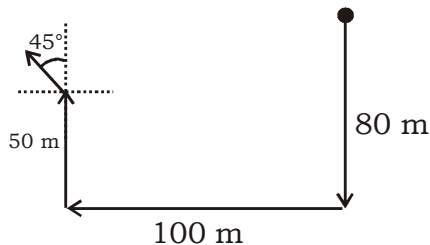
$$2 - 6 = -4$$

$$-4 = -4$$

18. (B) DAMES

19. (B)

20. (B)



21. (B) mrnrmn/mrnrmn

22. (D) 23. (C) 24. (C)

25. (C) **F R I E N D**

↓ ↓ ↓ ↓ ↓ ↓

8 7 2 3 7 9 2 1 7 8 2 0

27. (B) A Tangaliya Shawl is a handwoven, GI protected shawl and textile made by the Dangasia community in Gujarat, India. The 700-year-old indigenous craft is native to the Surendranagar district, of Saurashtra-region of the state.

28. (A) The Dudhwa National Park is a national park in the Terai belt of marshy grasslands of northern Uttar Pradesh.

31. (D) The institute is situated in the heart of Shimla city, near Bemloe, which is approximately 4 km from Shimla bus stand and 6 km from Shimla railway station on the National Highway number 22.

33. (D) Katchatheevu is a 163-acre uninhabited island administered by Sri Lanka and was a disputed territory claimed by India until 1976. The island is located between Neduntheevu, Sri Lanka and Rameswaram, India and has been traditionally used by both Sri Lankan Tamil and Indian fishermen.

35. (A) The right pulmonary artery supplies the right lung while the left pulmonary artery supplies the left lung. The right pulmonary artery courses posterior to the ascending aorta and anterior to the descending aorta. It lies anterior to the right mainstem bronchus.

37. (D) Granite, coarse- or medium-grained intrusive igneous rock that is rich in quartz and feldspar; it is the most common plutonic rock of the Earth's crust, forming by the cooling of magma (silicate melt) at depth.

39. (B) Potassium diet is rarely the cause of potassium deficiency or hypokalemia.

41. (D) The Rovers Cup was an annual football tournament held in India.

43. (B) Article 75, the Council of Ministers is responsible collectively to the lower house of the Indian parliament, called the Lok Sabha (House of the People). When a bill introduced by a minister in the Lok Sabha is not approved by it, the entire council of ministers is responsible and not the minister.

44. (C) The Bahujan Samaj Party was founded on the birth anniversary of B. R. Ambedkar, 14 April 1984, by Kanshi Ram, who named former schoolteacher, Mayawati, as his successor of BSP in 2001.

45. (D) The Khajuraho group of monuments was built during the rule of the Chandela dynasty.

50. (C) As per the recent study by NASA and German Aerospace Center, some microbes are found on the Earth may survive in the Mars.

51. (A) Let $x = \sqrt{56 + \sqrt{56 + \sqrt{56 + \dots}}}$

Squaring both sides,

$$x^2 = (\sqrt{56 + x})^2$$

$$x^2 = 56 + x$$

$$x^2 - x - 56 = 0$$

$$x^2 - 8x + 7x - 56 = 0$$

$$x(x - 8) + 7(x - 8) = 0$$

$$(x + 7)(x - 8) = 0$$

$$x = -7, 8$$

$$\therefore x = 8$$

(Negative value of x is not possible)

52. (D) $2^{16} - 1 = (2^8)^2 - 1$

$$= (2^8 + 1)(2^8 - 1)$$

$$= (256 + 1)(256 - 1)$$

$$= 257 \times 255, \text{ which is exactly divisible by } 17.$$

53. (C) Marbles in the 50th box will be kept by 1st, 2nd, 5th, 10th, 25th and 90th persons.

$$\therefore \text{Number of marbles} = 1 + 2 + 5 + 10 + 25 + 50 = 93$$

54. (B) $\sqrt{0.014 \times 0.14x} = 0.014 \times 0.14\sqrt{y}$

Squaring both sides,

$$0.014 \times 0.14x = (0.014)^2 \times (0.14)^2 \times y$$

$$\therefore \frac{x}{y} = 0.014 \times 0.14 = 0.00196$$

55. (C) Weight of new student = $(50 + 25 \times 1) = 75$ kg

56. (A) $x \cos \theta - \sin \theta = 1$

Let $\theta = 0^\circ$

$$x \cos 0^\circ - \sin 0^\circ = 1$$

$$x \times 1 - 0 = 1$$

$$x = 1$$

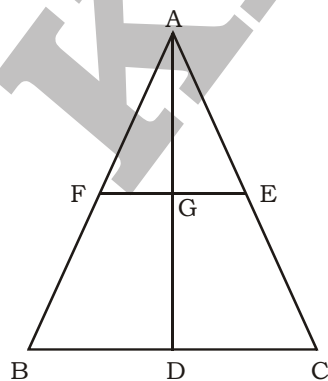
.....(i)

$$x^2 + (1 + x^2) \sin \theta = x^2 + (1 + x^2) \sin 0^\circ$$

$$= x^2 + (1 + x^2) \times 0$$

$$= x^2 = (1)^2 = 1$$

57. (B)



It is given FE divides $\triangle ABC$ into two equal parts.

$$\text{Area of } \triangle ABC = 2 \times \triangle AFE$$

$$\frac{1}{2} \times BC \times AD = \frac{1}{2} \times FE \times AG \times 2$$

$$BC \times AD = 2 \times FE \times AG$$

$$\frac{BC}{FE} = \frac{2AG}{AD}$$

Also,

$$\text{Area of } \triangle AFE = \text{Area of trapezium BFEC}$$

$$\frac{1}{2} \times FE \times AG = \frac{1}{2} \times (BC + EF) \times DG$$

$$\frac{1}{2} \times FE \times AG = \frac{1}{2} \times BC \times DG + \frac{1}{2 \times EF \times DG}$$

$$1 = \frac{BC \times DG}{AG \times FE} + \frac{DG}{AG}$$

$$1 = \frac{2DG}{AD} + \frac{DG}{AG}$$

$$1 - \frac{DG}{AG} = \frac{2DG}{AD}$$

$$\frac{AD}{2DG} = \frac{1}{1 - \frac{DG}{AG}}$$

$$\frac{AG + GD}{2DG} = \frac{1}{1 - \frac{DG}{AG}}$$

$$\frac{AG}{DG} + 1 = \frac{2}{1 - \frac{DG}{AG}}$$

Let $\frac{DG}{AG}$ be x.

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

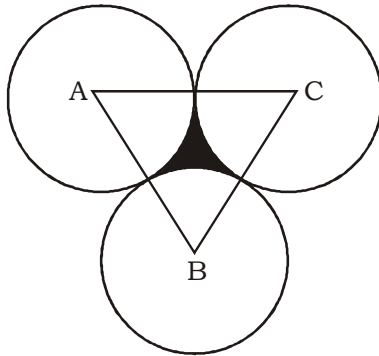
$$\frac{1 + x}{x} = \frac{2}{1 - x}$$

$$x^2 + 2x - 1 = 0$$

$$x = (\sqrt{2} - 1) : 1$$

$$\therefore GD : AG = (\sqrt{2} - 1) : 1$$

58. (D)



$$AB = BC = CA = 2a \text{ cm}$$

In $\triangle ABC$,

$$\angle BAC = \angle ACB = \angle ABC = 60^\circ$$

$$\text{Area of } \triangle ABC = \frac{\sqrt{3}}{4} \times (\text{side})^2 = \frac{\sqrt{3}}{4} \times (2a)^2 = \sqrt{3} a^2 \text{ sq. cm}$$

$$\text{Area of three sectors} = 3 \times \frac{60}{360} \times \pi \times a^2 = \frac{\pi a^2}{2} \text{ sq. cm}$$

$$\therefore \text{Area of the shaded region} = \sqrt{3} a^2 - \frac{\pi}{2} a^2 = \left(\frac{2\sqrt{3} - \pi}{2} \right) a^2 \text{ sq. cm}$$

59. (D) Total cost price = $(16 \times 25 + 25 \times 32) = 400 + 800 = ₹ 1200$

$$\text{Total selling price} = 28 \times (16 + 25) = 28 \times 41 = ₹ 1148$$

$$\text{Loss} = 1200 - 1148 = ₹ 52$$

$$\therefore \text{Loss\%} = \left(\frac{52 \times 100}{1200} \right) \% = 4\frac{1}{3} \%$$

60. (B) P = ₹ 18000

$$R = 15\%$$

$$A = 18000 \left(1 + \frac{15}{100} \right)^1 = 18000 \times \frac{115}{100} = ₹ 20700$$

$$\text{Principal for second year} = ₹ 20700$$

$$\text{Compound interest for second year} = 20700 \left(1 + \frac{15}{100} \right) - 20700$$

$$= 23805 - 20700 = ₹ 3105$$

$$\text{Principal for third year} = ₹ 23805$$

$$\text{Compound interest for third year} = 23805 \left(1 + \frac{15}{100} \right) - 23805$$

$$= 27375.75 - 23805 = ₹ 3570.75$$

$$\therefore \text{Required difference} = 3570.75 - 3105 = ₹ 465.75$$

61. (A) Given that,

$$ab + bc + ca = 12$$

$$a^2 + b^2 + c^2 = 40$$

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

$$(a + b + c)^2 = 40 + 2 \times 12$$

$$(a + b + c)^2 = 40 + 24$$

$$a + b + c = \sqrt{64} = 8$$

$$\therefore \frac{1}{2}(a + b + c)[(a - b)^2 + (b - c)^2 + (c - a)^2]$$

$$= \frac{1}{2} \times 8 (a^2 + b^2 - 2ab + b^2 + c^2 - 2bc + c^2 + a^2 - 2ac)$$

$$= 4[2(a^2 + b^2 + c^2) - 2(ab + bc + ca)]$$

$$= 4[2 \times 40 - 2 \times 12] = 4 \times (80 - 24)$$

$$= 4 \times 56 = 224$$

62. (B) Let the income of B = ₹ 100

$$\text{Income of A} = 100 \times \frac{125}{100} = ₹ 140$$

$$\text{Income of A after increase of 25\%} = 140 \times \frac{125}{100} = ₹ 175$$

$$\text{Income of B after decrease of 20\%} = 100 \times \frac{80}{100} = ₹ 80$$

$$\text{Total income of A and B before} = 100 + 40 = ₹ 240$$

$$\text{Total income of A and B after} = 175 + 80 = ₹ 255$$

$$\text{Increased} = 255 - 240 = ₹ 15$$

$$\therefore \text{Increased \%} = \left(\frac{15}{240} \times 100 \right) \% = 6.25\%$$

63. (C) A can complete the $\frac{2}{3}$ work in 8 days.

$$\text{A can complete the whole work} = \frac{8}{\frac{2}{3}} \times 5 = 20 \text{ days}$$

B can complete the $\frac{3}{5}$ work in 9 days.

$$\text{B can complete the whole work} = \frac{9}{\frac{3}{5}} \times 5 = 15 \text{ days}$$

C can complete the 40% work in 4 days.

$$\text{C can complete the whole work} = \frac{4}{\frac{40}{100}} \times 100 = 10 \text{ days}$$

Let the total work = 60

$$(A + B + C)'s \text{ 1 day work} = \left(\frac{60}{20} + \frac{60}{15} + \frac{60}{10} \right) = 3 + 4 + 6 = 13$$

$$\therefore \text{Number of days taken by A, B and C together to complete the work} = \frac{60}{13} = 4 \frac{8}{13} \text{ days}$$

64. (C) A's speed = $\frac{2000}{5} = 400$ m/minute

B's speed = $\frac{2000}{8} = 250$ m/minute

C's speed = $\frac{2000}{10} = 200$ m/minute

Distance covered by C in 2 minutes = $200 \times 2 = 400$ m

Distance covered by B in 1 minute = 250 m

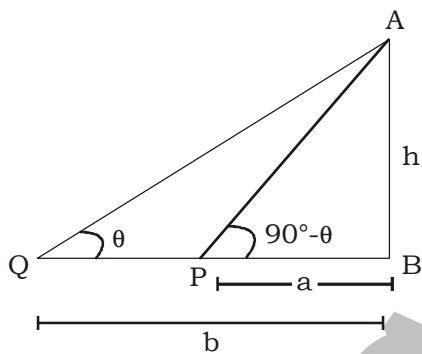
Relative speed of A with respect to C = 200 m

Time = $\frac{400}{200} = 2$ minutes

Relative speed of A with respect to B = 150 m

Time = $\frac{250}{150} = \frac{5}{3}$ minutes

65. (A)



Let AB is tower.

AB = h unit (Let)

$\angle AQB = \theta$ and $\angle APB = 90^\circ - \theta$

PB = a and BQ = b

In $\triangle AQB$,

$$\tan \theta = \frac{AB}{BQ}$$

$$\tan \theta = \frac{h}{b} \quad \dots\dots(i)$$

In $\triangle APB$,

$$\tan(90^\circ - \theta) = \frac{AB}{PB}$$

$$\cot \theta = \frac{h}{a} \quad \dots\dots(ii)$$

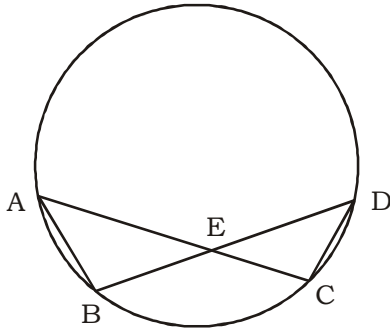
Multiplying equation (i) and (ii), we get

$$\tan \theta \cdot \cot \theta = \frac{h}{b} \times \frac{h}{a}$$

$$h^2 = ab$$

$$h = \sqrt{ab}$$

66. (D)



$$\angle BEC = 130^\circ$$

$$\angle DEC = 180^\circ - 130^\circ = 50^\circ \text{ (straight line)}$$

In $\triangle DEC$,

$$\angle ECD + \angle DEC + \angle EDC = 180^\circ$$

$$20^\circ + 50^\circ + \angle EDC = 180^\circ$$

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

$$\angle BAC = \angle EDC$$

(Angles made on the same arc)

$$\therefore \angle BAC = 110^\circ$$

67. (A) Volume of cylinder = Volume of sphere

$$\pi r^2 h = \frac{4}{3} \pi r^3$$

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

$$\therefore \frac{\text{Total surface area of cylinder}}{\text{Surface area of sphere}} = \frac{2\pi rh + 2\pi r^2}{4\pi r^2}$$

$$= \frac{2\pi rh}{4\pi r^2} + \frac{2\pi r^2}{4\pi r^2} = \frac{h}{2r} + \frac{1}{2}$$

$$= \frac{4}{6} + \frac{1}{2} = \frac{7}{6} = 7 : 6$$

68. (B) Selling price = ₹ 1162

Discount = 17%

$$\text{Marked price} = \frac{1162}{83} \times 100 = ₹ 1400$$

It discount is not given, then selling price = ₹ 1400

Now, profit = 40%

$$\therefore \text{Cost price of an article} = \frac{1400}{140} \times 100 = ₹ 1000$$

69. (A) Total number of students in a class = 180

$$\text{Number of students in class A} = 180 \times \frac{60}{100} = 108$$

$$\text{Number of students in class B} = 180 - 108 = 72$$

Let the average score of students from village A = x

$$\text{The average score of students from village B} = x \times \frac{125}{100} = 1.25x$$

ATQ,

$$108 \times x + 72 \times 1.25x = 180 \times 44$$

$$108x + 90x = 7920$$

$$198x = 7920$$

$$x = \frac{7920}{198} = 40$$

$$\therefore \text{Average score of students from village B} = 40 \times 1.25 = 50$$

$$70. (D) \frac{(\sec \theta + \tan \theta)(1 - \sin \theta)}{\operatorname{cosec} \theta (1 + \cos \theta)(\operatorname{cosec} \theta - \cot \theta)} = \frac{\left(\frac{1}{\cos \theta} + \frac{\sin \theta}{\cos \theta}\right)(1 - \sin \theta)}{\frac{1}{\sin \theta} (1 + \cos \theta) \left(\frac{1}{\sin \theta} - \frac{\cos \theta}{\sin \theta}\right)}$$

$$= \frac{(1 + \sin \theta) \times (1 - \sin \theta)}{\cos \theta} = \frac{(1 - \sin^2 \theta)}{\cos \theta}$$

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

$$= \frac{\cos^2 \theta}{\sin^2 \theta} = \cos \theta$$

71. (A) Total number of marks obtained by A in all the subjects together

$$= 150 \times \frac{90}{100} + 130 \times \frac{50}{100} + 120 \times \frac{90}{100} + 100 \times \frac{60}{100} + 60 \times \frac{70}{100} + 40 \times \frac{80}{100}$$

$$= 135 + 65 + 108 + 60 + 42 + 32 = 442$$

72. (C) Marks obtained by all the students together in Chemistry

$$= \frac{130}{100} \times (50 + 80 + 60 + 65 + 65 + 75 + 35)$$

$$= \frac{130}{100} \times 430 = 559$$

Marks obtained by all the students together in Computer science

$$= \frac{40}{100} \times (80 + 70 + 70 + 60 + 90 + 60 + 80)$$

$$= \frac{40}{100} \times 510 = 204$$

$$\therefore \text{Required ratio} = 559 : 204$$

73. (A) Means obtained in all the subjects together by

$$B = 150 \times \frac{100}{100} + 130 \times \frac{80}{100} + 120 \times \frac{80}{100} + 100 \times \frac{40}{100} + 60 \times \frac{80}{100} + 40 \times \frac{70}{100}$$

$$= 150 + 104 + 96 + 40 + 48 + 28 = 466$$

$$D = 150 \times \frac{80}{100} + 130 \times \frac{65}{100} + 120 \times \frac{80}{100} + 100 \times \frac{80}{100} + 60 \times \frac{60}{100} + 40 \times \frac{60}{100}$$

$$= 120 + 84.5 + 96 + 80 + 36 + 24 = 440.5$$

$$F = 150 \times \frac{70}{100} + 130 \times \frac{75}{100} + 120 \times \frac{65}{100} + 100 \times \frac{85}{100} + 60 \times \frac{40}{100} + 40 \times \frac{60}{100}$$

$$= 105 + 97.5 + 78 + 85 + 24 + 24 = 413.5$$

$$G = 150 \times \frac{65}{100} + 130 \times \frac{35}{100} + 120 \times \frac{50}{100} + 100 \times \frac{77}{100} + 60 \times \frac{80}{100} + 40 \times \frac{80}{100}$$

$$= 97.5 + 45.5 + 60 + 77 + 48 + 32 = 360$$

∴ B gets maximum marks.

74. (C) Total marks obtained by A, B and C together in History = $\frac{60}{100} \times (70 + 80 + 90)$

$$= \frac{60}{100} \times 240 = 144$$

Total marks obtained by E, F and G together in Maths = $\frac{150}{100} \times (80 + 70 + 65)$

$$= \frac{150}{100} \times 215 = 107.5$$

$$\therefore \text{Required more\%} = \left(\frac{144 - 107.5}{107.5} \times 100 \right) \% = 33.95\% \approx 34\%$$

75. (B) Total marks obtained by all the students together in Geography

$$= 60 + 40 + 70 + 80 + 95 + 85 + 77 = 507$$

$$\therefore \text{Required average} = \frac{507}{7} = 72 \frac{3}{7}$$

MEANINGS IN ALPHABETICAL ORDER

Agriculturist	Cultivator, Farmer	किसान
Ambiguous	(of language) open to more than one interpretation; having a double meaning	अस्पष्ट
Botanist	an expert in or student of the scientific study of plants	वनस्पति-विज्ञानिक
Cartographer	a person who draws or produces maps	मानचित्रकार
Climax	the most intense, exciting, or important point of something; a culmination or apex	उत्कर्ष
Commemorate	recall and show respect for (someone or something)	मनाना
Culmination	the highest or climactic point of something, especially as attained after a long time	परिणति
Decisive	settling an issue; producing a definite result	निर्णयात्मक
Directory	a book listing individuals or organizations alphabetically or thematically with details such as names, addresses, and phone numbers	निर्देशिका
Draftsman	a person who makes detailed technical plans or drawings	नक्शानवीस
Epilogue	a section or speech at the end of a book or play that serves as a comment on or a conclusion to what has happened	उपसंहार
Florist	a person who sells and arranges plants and cut flowers	फूलवाला
Handbook	a book giving information such as facts on a particular subject or instructions for operating a machine	पुस्तिका
Manual	relating to or done with the hands	नियमावली
Nutritionist	a person who studies or is an expert in nutrition	पोषण
Preface	an introduction to a book, typically stating its subject, scope, or aims	प्रस्तावना
Prologue	a separate introductory section of a literary or musical work	प्रस्ताव
Reeked	smell strongly and unpleasantly; stink	धूँआ देना
Thesaurus	a book that lists words in groups of synonyms and related concepts	शब्दकोश
Trace	find or discover by investigation	निशान
Undeniable	unable to be denied or disputed	निर्विवाद

SSC MOCK TEST - 292 (ANSWER KEY)

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

76. (B) Replace 'amusing' with 'amused'. Amused at/by something- thinking that someone or something is interesting, so that you smile or laugh.
77. (B) Replace 'on' with 'up'.
Pick on- to harass or bother.
Pick up- to grasp something (as with one's hands).
90. (D) The correct spelling is 'Manageable'.
91. (B) The correct spelling is 'Commemorate'.