

SSC MOCK TEST - 373 (SOLUTION)

1. (2) As,

$$N \rightarrow \frac{14}{2} = 7 \rightarrow (7)^2 = 49$$

$$B \rightarrow \frac{2}{2} = 1 \rightarrow (1)^2 = 1$$

$$P \rightarrow \frac{16}{2} = 8 \rightarrow (8)^2 = 64$$

$$D \rightarrow \frac{4}{2} = 2 \rightarrow (2)^2 = 4$$

Similarly,

$$R \rightarrow \frac{18}{2} = 9 \rightarrow (9)^2 = 81$$

$$F \rightarrow \frac{6}{2} = 3 \rightarrow (3)^2 = 9$$

$$T \rightarrow \frac{20}{2} = 10 \rightarrow (10)^2 = 100$$

$$H \rightarrow \frac{8}{2} = 4 \rightarrow (4)^2 = 16$$

2. (4) As,

$$\begin{array}{ccc} 1 & 5 & 3 \\ \downarrow & \downarrow & \downarrow \\ 1^2 + 5^2 - 3 \times 2 = 26 - 6 = 20 \end{array}$$

Similarly,

$$\begin{array}{ccc} 4 & 5 & 4 \\ \downarrow & \downarrow & \downarrow \\ (4)^2 + (5)^2 - 4 \times 2 = 41 - 8 = 33 \end{array}$$

3. (4) Fork, Knife and Bin are used in kitchen, while Sword is used in battle.

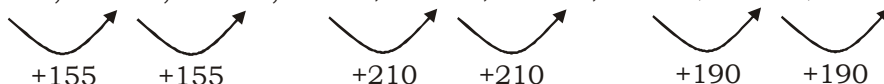
4. (3) Krone, Rial and Peso is a currency of Denmark, Iran and Argentina respectively, while 'Quito' is the capital of 'Ecuador'.

5. (3) As, $(8 + 7) \times (8 - 7) = 15$

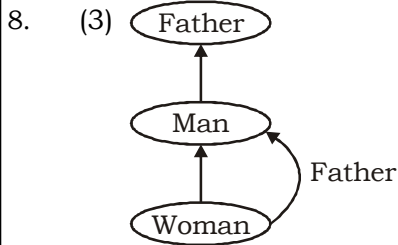
And, $(24 + 17) \times (24 - 17) = 287$

Similarly, $(11 + 8) \times (11 - 8) = 57$

6. (2) 3125, 3280, 3435, 5220, 5430, 5640, 3320, 3510, 3700



7. (3) L I G F, P M K J, S P N M,
 $\begin{matrix} \swarrow & \searrow & \swarrow & \searrow & \swarrow & \searrow & \swarrow & \searrow \\ -3 & -2 & -1 & -3 & -2 & -1 & -3 & -2 & -1 \end{matrix}$



Hence the women is daughter of that man.

9. (3) It was Saturday on 31 December 2005.
 Number of odd days from 2006 to 2010 = $1 + 1 + 2 + 1 + 1 = 6$
 It was Saturday + 6 = Friday on 31 December 2010.
 Hence, it was Sunday on 2 January 2011.

10. (3) HEMA/HEMZ/HEMY/HEMX

11. (3)

C $\xleftrightarrow[Consonant]{+1}$ D	P $\xleftrightarrow[Consonant]{+1}$ Q
O $\xleftrightarrow[Vowel]{Opposite}$ L	A $\xleftrightarrow[Vowel]{Opposite}$ Z
U $\xleftrightarrow[Vowel]{Opposite}$ F	R $\xleftrightarrow[Consonant]{+2}$ T
R $\xleftrightarrow[Consonant]{+2}$ T	E $\xleftrightarrow[Vowel]{Opposite}$ V
I $\xleftrightarrow[Vowel]{Opposite}$ R	N $\xleftrightarrow[Consonant]{+3}$ Q
E $\xleftrightarrow[Vowel]{Opposite}$ V	T $\xleftrightarrow[Consonant]{+4}$ X
R $\xleftrightarrow[Consonant]{+3}$ U	

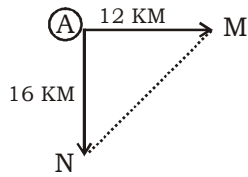
12. (4)

3	15	4	$3 \times 4 + 3 = 15$
7	38	5	$7 \times 5 + 3 = 38$
3	?	5	$3 \times 5 + 3 = 18$

13. (4)

		$\xrightarrow{+1}$		$\xrightarrow{+1}$	
49	5	64	6	81	7
\downarrow		\downarrow		\downarrow	
7^2		8^2		9^2	
\uparrow		\uparrow		\uparrow	
$+1$		$+1$		$+1$	

14. (3)



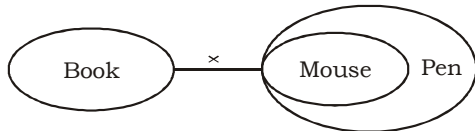
$$MN = \sqrt{(AM)^2 + (AN)^2} = \sqrt{(12)^2 + (16)^2} = \sqrt{144 + 256}$$

$$= \sqrt{400} = 20 \text{ km}$$

15. (4) 3. Karol Bagh → 1. Delhi → 4. North India → 2. India → 5. Asia

16. (3)

17. (1)



I. True II. False III. False

Hence, only conclusion I follows.

18. (4) 19. (2)

20. (1) Angle made by hour hand in $\frac{113}{12}$ hours = $\left(\frac{360}{12} \times \frac{113}{12}\right)^\circ = 282.5^\circ$

Angle made by minute hand in 25 minutes = $\left(\frac{360}{60} \times 25\right)^\circ = 150^\circ$

∴ Reflex angle = $360^\circ - (282.5^\circ - 150^\circ) = 360^\circ - 132.5^\circ = 227.5^\circ$

21. (2) 22. (3) 23. (1) 24. (3)

25. (1) $15 * 4 * 7 * 62 * 5$

After change the sign,

$$15 \times 4 + 7 - 62 = 5$$

$$60 + 7 - 62 = 5$$

$$67 - 62 = 5$$

$$5 = 5$$

26. (2) Monopoly is a market form in which the market is dominated by a single seller for goods and services which has no substitutes and there are barriers for entry of a new seller as he himself is the law and price maker.

27. (2) In boxing, bleeder means "a boxer who gets cut easily" or "A fighter who is vulnerable to cuts".

28. (1) **Herpetology:** It is the branch concerned with the study of amphibians.

Ethology: It is the science of animal behaviour.

Mammology: It is Specialised science that deals with the study of mammals.

Morphology: It is The study of forms of things.

29. (4) It is the Nylon thread, which is actually stronger than a steel wire.

30. (3) Isohyets lines are imaginary lines joining places with same level of rainfalls. Isohyets is derived from the Greek word where hyets means Rainfall.

31. (3) Right to Equality in the Indian Constitution includes abolition of untouchability.

32. (4) Static friction is the friction that exists between a stationary object and the surface on which it's resting. Sliding friction refers to the resistance created by any two objects when sliding against each other. This friction is also known as kinetic friction. The sliding friction is less than static friction because of the interlocking of irregularities in the two surfaces.
33. (1) Indian Mughal paintings originated during the rule of Mughal Emperor, Humayun (1530-1540).
35. (2) India's first official census operation was undertaken in 1881. It has been conducted after every 10 years and it has been conducted 15 times from then. It includes acquiring and recording information about the members of a given population.
37. (4) Bast fibre (also called phloem fibre or skin fibre) is plant fibre collected from the phloem (the "inner bark", sometimes called "skin") or bast surrounding the stem of certain dicotyledonous plants.
38. (1) A change in which no new substances are formed is called physical Change. A physical change involves a change in physical properties.
40. (2) Anti-defection law is mentioned under 10th schedule of the Indian Constitution and was a 52nd amendment.
41. (2) The ozone layer or ozone shield is a region of Earth's stratosphere that absorbs most of the Sun's ultraviolet radiation.
42. (2) Kolkata Port is the oldest operating port in India built by the British East India Company. It was established in 1870. It is a riverine port. In the 19th century, this Port was the premier port in British India.
47. (2) Plasma is a pale yellow colored fluid that remains after red blood cells, white blood cells and platelets are removed from the blood.
48. (2) The seven ancient wonders of the world include Great Pyramid at Giza, Egypt; Hanging Gardens of Babylon; Statue of Zeus at Olympia, Greece; Temple of Artemis at Ephesus; Mausoleum at Halicarnassus; Colossus of Rhodes and Lighthouse at Alexandria, Egypt; The Taj Mahal in India.
51. (2) Let the principal be ₹ 100.

Amount = ₹ 160

SI = 160 - 100 = ₹ 60

$$\text{Rate} = \frac{60 \times 100}{100 \times 6} = 10\%$$

Now,

Principal = ₹ 16800

Time = 3 years

Rate = 10%

CI = ?

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

$$= 16800 \left(1 + \frac{10}{100} \right)^3 - 16800$$

$$= \left[16800 \times \frac{11}{10} \times \frac{11}{10} \times \frac{11}{10} \right] - 16800$$

$$= 22360.80 - 16800 = ₹ 5560.80$$

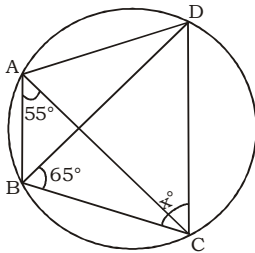
52. (3) Let the cost price be ₹ 100.

$$\text{Selling price} = 100 \times \frac{124}{100} = ₹ 124$$

$$\text{Marked price} = \frac{124}{80} \times 100 = ₹ 155$$

$$\therefore \text{Required \%} = \left(\frac{155 - 100}{100} \times 100 \right) \% = 55\%$$

53. (2)



$$\angle BAC = \angle BDC = 55^\circ \quad (\because \text{Angles in the same segment of a circle})$$

In $\triangle BCD$,

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

$$\angle BCD + 55^\circ + 65^\circ = 180^\circ$$

$$\angle BCD = 180^\circ - 120^\circ = 60^\circ$$

54. (1) $\frac{a}{3} = \frac{b}{5} = \frac{c}{7} = k$ (let)

$$a = 3k, b = 5k \text{ and } c = 7k$$

$$\therefore \frac{a + b + c}{b} = \frac{3k + 5k + 7k}{5k} = \frac{15k}{5k} = 3$$

55. (4) We know, the distance formula,

$$PQ^2 = (x - 3)^2 + (-6 - 6)^2$$

$$(15)^2 = x^2 + 9 - 6x + 144$$

$$x^2 + 9 - 6x = 225 - 144$$

$$x^2 - 6x - 72 = 0$$

$$x^2 - 12x + 6x - 72 = 0$$

$$x(x - 12) + 6(x - 12) = 0$$

$$(x + 6)(x - 12) = 0$$

$$x = 12, -6$$

The value of x is 12.

56. (3) Let the ratio of number of one rupee coins, 50 paise coins and 25 paise coins be $2x$, $3x$ and $10x$ respectively.

ATQ,

$$2x + \frac{3x}{2} + \frac{10x}{4} = ₹ 336$$

$$8x + 6x + 10x = 336 \times 4$$

$$24x = 336 \times 4$$

$$x = \frac{336 \times 4}{24} = 56$$

∴ Number of 50 paise coins = $56 \times 3 = 168$

57. (2) Let the CP of shirt be ₹ 100.

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

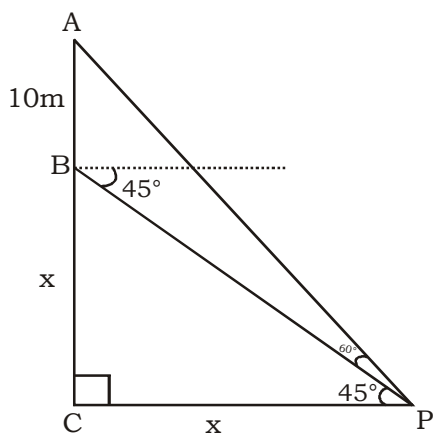
$$MP = \frac{120}{75} \times 100 = ₹ 160$$

$$\text{Profit} = 120 - 100 = ₹ 20$$

$$20 \text{ unit} \rightarrow 60$$

$$\therefore 100 \text{ unit} \rightarrow \frac{60}{20} \times 100 = ₹ 300$$

58. (2)



Let BC is a tower and its height is x and AB is a pole.

In $\triangle BCP$,

$$\tan 45^\circ = \frac{BC}{CP}$$

$$1 = \frac{x}{CP}$$

$$CP = x \text{ m}$$

In $\triangle ACP$,

$$\tan 60^\circ = \frac{AC}{CP}$$

$$\sqrt{3} = \frac{10+x}{x}$$

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

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

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

$$x = \frac{10}{\sqrt{3}-1} \times \frac{\sqrt{3}+1}{\sqrt{3}+1} = \frac{10(\sqrt{3}+1)}{2}$$

$$= 5(\sqrt{3}+1) = 5(1.732+1)$$

$$= 5 \times 2.732 = 13.66 \text{ m}$$

59. (4) $\frac{\sec^2 54^\circ - \cot^2 36^\circ}{\operatorname{cosec}^2 57^\circ - \tan^2 33^\circ} + 2 \sin^2 38^\circ \sec^2 52^\circ - \sin^2 45^\circ$

$$\frac{\sec^2 54^\circ - \cot^2 (90^\circ - 54^\circ)}{\operatorname{cosec}^2 57^\circ - \tan^2 (90^\circ - 57^\circ)} + 2 \sin^2 38^\circ \sec^2 (90^\circ - 38^\circ) - \sin^2 45^\circ$$

$$\frac{\sec^2 54^\circ - \tan^2 54^\circ}{\operatorname{cosec}^2 57^\circ - \cot^2 57^\circ} + 2 \sin^2 38^\circ \cdot \operatorname{cosec}^2 38^\circ - \sin^2 45^\circ$$

$$\frac{1}{1} + 2 - \left(\frac{1}{\sqrt{2}}\right)^2 = 3 - \frac{1}{2} = \frac{5}{2}$$

60. (2) Mean proportion of $\frac{a-b}{a+b}$ and $\frac{a^2b^2}{a^2-b^2} = \sqrt{\frac{a-b}{a+b} \times \frac{a^2b^2}{a^2-b^2}}$

$$= \sqrt{\frac{(a-b)a^2b^2}{(a+b)(a-b)}} = \frac{ab}{a+b}$$

61. (3) Speed of boat in still water, $x = 5 \text{ km/hr}$

Speed of stream, $y = 3 \text{ km/hr}$

According to question,

$$\frac{\text{Distance}}{8} + \frac{\text{Distance}}{2} = 3 \text{ hours}$$

$$\frac{D}{8} + \frac{D}{2} = 3$$

$$\frac{5D}{8} = 3$$

$$5D = 24$$

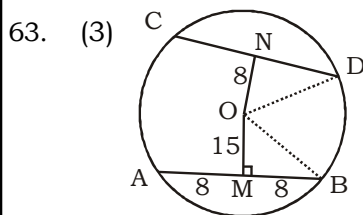
$$D = \frac{24}{5} = 4.8 \text{ km}$$

62. (4) $x = \frac{1 + \sin \theta}{\cos \theta}$

$$\frac{1}{x} = \frac{\cos \theta}{1 + \sin \theta}$$

$$= \frac{\cos \theta}{1 + \sin \theta} \times \frac{1 - \sin \theta}{1 - \sin \theta}$$

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



$$OB = \sqrt{15^2 + 8^2}$$

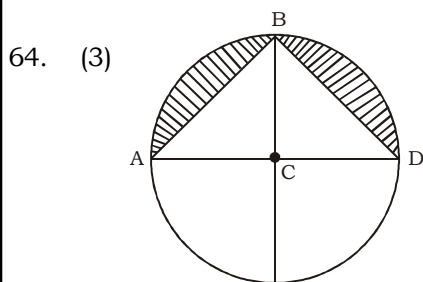
$$= \sqrt{225 + 64} = \sqrt{289} = 17 \text{ cm}$$

OB and OD are radius of circle.

$$DN = \sqrt{17^2 - 8^2}$$

$$= \sqrt{289 - 64} = \sqrt{225} = 15 \text{ cm}$$

$$CD = CN + DN = 15 + 15 = 30 \text{ cm}$$



Radius of circle = a units

$$\text{Area of semicircle} = \frac{\pi a^2}{2} \text{ sq. units}$$

Both triangles $\triangle ABC$ and $\triangle BCD$ are isosceles and equal.

$$\text{Area of each triangle} = \frac{1}{2} a^2$$

$$\text{Area of both triangles} = 2 \times \frac{1}{2} a^2$$

$$= a^2 \text{ sq. units}$$

\therefore Area of shaded region

$$= \frac{\pi a^2}{2} - a^2 = a^2 \left(\frac{\pi}{2} - 1 \right) \text{ sq. units}$$

65. (2) Investment ratio in terms of one month or of their equivalent capitals, A : B : C

$$= \left\{ (60000 \times 4) + \left(\frac{60000}{2} \times 8 \right) \right\} : \left\{ (35000 \times 8) + \left(\frac{35000}{2} \times 4 \right) \right\} : (80000 \times 4)$$

$$= 480000 : 350000 : 320000$$

$$= 48 : 35 : 32$$

66. (4) Let the opponent got x votes then winner got $x + 200$ votes.

ATQ,

$$\begin{array}{ccccccc} 70\% - 150 & = & x + 400 & + & x & & \\ 70\% & & = x + 400 & & & + & x + 150 \\ & & \downarrow & & & & \downarrow \\ & & 36\% & & & & 34\% \\ & & \underbrace{\hspace{10em}}_{2\%} & & & & \end{array}$$

$$2\% \text{ of total votes} = 400 - 150 = 250$$

$$\text{Total votes} = 12500$$

$$\text{Votes, for the losing candidate} = \frac{34}{100} \times 12500 - 150 = 4100$$

$$\text{Total votes cast} = 12500 \times \frac{70}{100} = 8750$$

$$\text{Required\%} = \frac{4100}{8750} \times 100 = 46.85\%$$

67. (2) $[(7^{-1} - 8^{-1})^{-1} - (3^{-1} - 4^{-1})^{-1}]$

$$= \left[\left(\frac{1}{7} - \frac{1}{8} \right)^{-1} - \left(\frac{1}{3} - \frac{1}{4} \right)^{-1} \right] = \left[\left(\frac{8-7}{56} \right)^{-1} - \left(\frac{4-3}{12} \right)^{-1} \right]$$

$$= \left[\left(\frac{1}{56} \right)^{-1} - \left(\frac{1}{12} \right)^{-1} \right] = 56 - 12 = 44$$

68. (1) The equation the circle is $(x+1)(x+2) + (y-1)(y+3) = 0$

$$x^2 + 3x + 2 + y^2 + 2y - 3 = 0$$

$$x^2 + y^2 + 3x + 2y - 1 = 0$$

On comparing with the standard equation of circle,

$$x^2 + y^2 + 2gx + 2fy + c = 0$$

$$g = \frac{3}{2}, f = 1, c = -1$$

$$\text{Radius of the circle} = \sqrt{g^2 + f^2 - c}$$

$$= \sqrt{\left(\frac{3}{2}\right)^2 + 1^2 - (-1)} = \sqrt{\frac{9}{4} + 2} = \frac{\sqrt{17}}{2}$$

$$\text{Area of the circle} = \pi r^2$$

$$= \pi \times \left(\frac{\sqrt{17}}{2}\right)^2 = \frac{17}{4} \pi \text{ sq. unit}$$

69. (2) Let the length of each of the equal side of the ground be x metre.

Base of the playground = 24 m

$$\text{Area of ground} = \frac{15}{25} \times 100 = 60 \text{ m}^2$$

But the ground has isosceles shape

$$\text{Area of ground} = \frac{a}{4} \sqrt{4x^2 - a^2} \quad [\text{where } a = \text{base, } x = \text{each of the equal sides}]$$

$$\frac{24}{4} \sqrt{4x^2 - (24)^2} = 60$$

$$4x - (24)^2 = (10)^2$$

$$4x^2 - 576 = 100$$

$$4x^2 - 676$$

$$x^2 = \frac{676}{4} = 169$$

$$x = 13$$

\therefore Length of each of the equal side = 13 m

70. (4) Let the rate of interest = $R\%$ per annum

ATQ,

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

$$2420 = P \left(1 + \frac{R}{100} \right)^2 \dots(i)$$

$$2662 = P \left(1 + \frac{R}{100} \right)^3 \dots(ii)$$

Equation (ii) divided by (i),

$$1 + \frac{R}{100} = \frac{2662}{2420}$$

$$\frac{R}{100} = \frac{2662}{2420} - 1$$

$$\frac{R}{100} = \frac{2662 - 2420}{2420} = \frac{242}{2420} = \frac{1}{10}$$

$$R = \frac{1}{10} \times 100 = 10\%$$

71. (2) Number of Computer sold in H = $36000 \times \frac{40}{100} = 14400$

\therefore Required ratio = 5000 : 14400

$$= 25 : 72$$



Campus

K D Campus Pvt. Ltd

1997, GROUND FLOOR OPPOSITE MUKHERJEE NAGAR POLICE STATION, OUTRAM LINES, GTB NAGAR, NEW DELHI – 09

72. (1) Number of Computer sold in:

$$\mathbf{A} = 5000 \times \frac{35}{100} = 1750$$

$$\mathbf{B} = 15000 \times \frac{40}{100} = 6000$$

$$\mathbf{E} = 32500 \times \frac{35}{100} = 11375$$

$$\mathbf{G} = 24000 \times \frac{35}{100} = 8400$$

Required answer is A

73. (4) Number of Computer sold in F = $40000 \times \frac{25}{100} = 10000$

$$\text{Number of Computer sold in G} = 24000 \times \frac{35}{100} = 8400$$

$$\therefore \text{Required \%} = \left[\frac{(10000 - 8400)}{10000} \times 100 \right] \% = 16\%$$

74. (2) Required average

$$= \frac{24000 \times \frac{35}{100} + 36000 \times \frac{40}{100}}{2} = 11400$$

75. (1) Number of Computer sold in C = $25000 \times \frac{30}{100} = 7500$

$$\text{Number of Computer sold in B} = 15000 \times \frac{40}{100} = 6000$$

$$\text{Required \%} = \left(\frac{7500}{6000} \times 100 \right) \% = 125\%$$

MEANINGS IN ALPHABETICAL ORDER

Assorted	of various sorts put together; miscellaneous	मिश्रित
Dirge	a lament for the dead, especially one forming part of a funeral rite	शोकगीत
Disparate	essentially different in kind; not allowing comparison	मुक्तलिफ
Docile	ready to accept control or instruction; submissive	विनम्र
Effete	(of a person) affected, overrefined, and ineffectual	अशक्त
Epicure	a person who takes particular pleasure in fine food and drink	रसिया
Felony	a crime, typically one involving violence	घोर अपराध
Grime	dirt ingrained on the surface of something	जमी हुई कीट
Homogenous	of the same kind; alike	सजातीय
Incursion	an invasion or attack, especially a sudden or brief one	चढ़ाई
Infallible	incapable of making mistakes or being wrong	अचूक
Irrevocable	not able to be changed, reversed, or recovered; final	स्थिर
Kaleidoscopic	having complex patterns of colors; multicolored	जल्दी जल्दी बदलता हुआ
Motley	incongruously varied in appearance or character; disparate	पंचमेल
Retreat	(of an army) withdraw from enemy forces as a result of their superior power or after a defeat	पीछे हटना
Rotund	(of a person) plump	गोल
Spine	the backbone	रीढ़ की हड्डी
Supple	bending and moving easily and gracefully; flexible	कोमल
Venial	denoting a sin that is not regarded as depriving the soul of divine grace	क्षम्य
Vertebrae	each of the series of small bones forming the backbone	कशेरुका
Violation	the action of violating someone or something	उल्लंघन

SSC MOCK TEST - 373 (ANSWER KEY)

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

76. (3) A sentence starting with 'unless' doesn't take negative form.
77. (2) Replace 'about' by 'for'.
86. (1) The correct Indirect speech of the Past Indefinite Tense should be in Past Perfect Tense.
87. (3) 'Obviously' is an adverb of manner meaning 'clearly apparent'. An adverb is a word that modifies an adjective, verb (i.e. that had obviously been built, here, in this sentence) or adverb.
90. (4) The correct spelling of 'Legitemacy' is 'Legitimacy', 'Suprimacy' is 'Supremacy' and 'Idiosy' is 'Idiocy'.
91. (1) The correct spelling of 'Grivence' is 'Grievance', 'Resemblence' is 'Resemblance' and 'Allowence' is 'Allowance'.