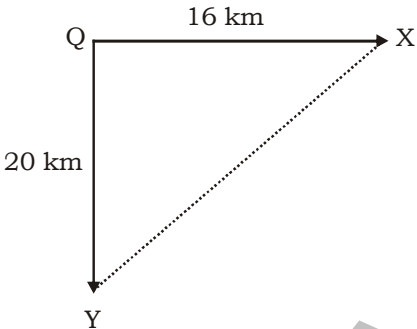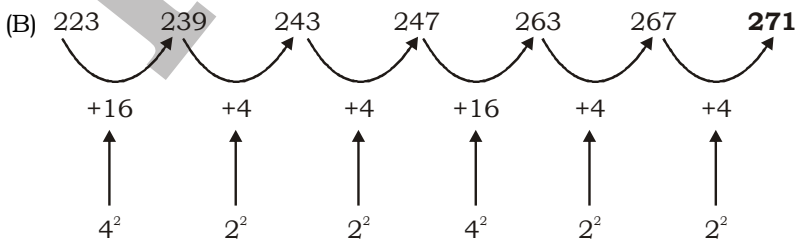## SSC MOCK TEST - 366 (SOLUTION)

1. (B) As Sachin Tendulkar is related to Cricket, similarly Karnam Malleswari is related to Weightlifting.

2. (C) As,   Similarly,

    $B \xrightarrow{-3} Y$ $Q \xrightarrow{-3} N$

    $P \xrightarrow{-4} L$ $D \xrightarrow{-4} Z$

    $T \xrightarrow{-5} O$ $J \xrightarrow{-5} E$

    $U \xrightarrow{-6} O$ $C \xrightarrow{-6} W$

3. (A) Except option (A), all the digits of given option (B), (C) and (D) are prime number.

4. (A) Except option (A), all are name of different disease, but Harmone is not a disease.
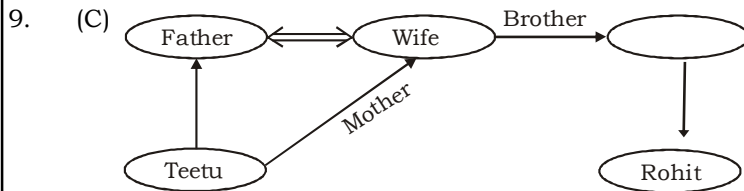
5. (B)

$$\therefore YX = \sqrt{(QX)^2 + (QY)^2}$$

$$= \sqrt{(16)^2 + (20)^2} = \sqrt{256 + 400} = \sqrt{656}$$

$$= \sqrt{2 \times 2 \times 2 \times 2 \times 41} = 4\sqrt{41} \text{ km}$$

6. (C) Total people in a queue = 70

    Raghav position from left end = 20th

    Vikash position from right end = 33rd

    Total number of people between Raghav and Vikash = 70 – 20 – 33 = 17

    Shalini is between Raghav and Vikash = 9

    $\therefore$ Shalini standing at 9 + 33 = 42nd position.

7. (B) 223   239   243   247   263   267   **271**

    +16   +4   +4   +16   +4   +4

    4^2 2^2 2^2 4^2 2^2 2^2

8. (C) $C \xrightarrow{+6} I \xrightarrow{+3} L \xrightarrow{+6} \boxed{R}$

$F \xrightarrow{+6} L \xrightarrow{+3} O \xrightarrow{+6} \boxed{U}$

$I \xrightarrow{+6} O \xrightarrow{+3} R \xrightarrow{+6} \boxed{X}$

9. (C)

Rohit is cousin of Teetu.

10. (B) u**k d**r/pkq **r**/ukd**r**/pk**q**r/**u** kdr/**p**k**q**r

11. (A) As, $(4 \times 4) + (6 \times 5) = 46$

And $(5 \times 9) + (2 \times 8) = 61$

Similarly, $(6 \times 8) + (1 \times 9) = $ **57**

12. (B)

13. (C) $24 + 4 \div 5 - 28 \times 2 = 30$

After changing the signs, we have

$24 + 4 \times 5 - 28 \div 2 = 30$

$24 + 20 - 14 = 30$

$44 - 14 = 30$

$30 = 30$

14. (A) As, $\underset{7\,3\,5\,4\,1}{\text{DELHI}}$ and $\underset{8\,2\,5\,8\,9\,6\,6\,2}{\text{CALCUTTA}}$ Similarly, $\underset{\textbf{8\,2\,5\,1\,8\,9\,6}}{\text{CALICUT}}$

15. (A) Let A, B and C has ₹x, ₹y and ₹z respectively.

When A taxes ₹ 6 from C will have ₹(z – 6) which will be equal to y.

Also, x + y = 74 (Given)

y = 74 – x

We know that, y = x + 6

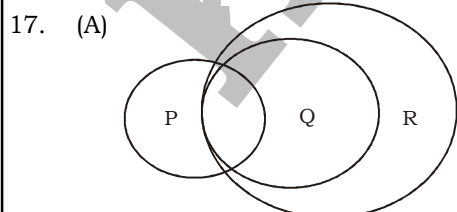So, x + 6 = 74 – x

2x = 68

x = 34

∴ B has = 74 – 34 = ₹ 40

16. (B) 3. Interaction → 4. Interjection → 2. Internship → 6. Interruption → 5. Intervene → 1. Introduce

17. (A)

I. True   II. False   III. False

Hence, conclusion I follows.

18. (B)   19. (B)

20. (A) As,   Similarly,

$M \xrightarrow{-4} I$	$T \xrightarrow{-4} P$
$A \xrightarrow{+4} E$	$H \xrightarrow{+4} L$
$R \xrightarrow{-3} O$	$E \xrightarrow{-3} B$
$K \xrightarrow{+3} N$	$R \xrightarrow{+3} U$
$E \xrightarrow{-2} C$	$M \xrightarrow{-2} K$
$T \xrightarrow{+2} V$	$O \xrightarrow{+2} Q$

21. (B)   22. (B)   23. (C)   24. (A)   25. (B)

26. (A) Rigveda contains the famous Gayatri Mantra. .

27. (C) Ashtadiggajas is the collective title given to the eight Telugu scholars and poets in the court of Emperor Krishnadevaraya who ruled the Vijayanagara Empire from 1509 until his death in 1529. During his reign, Telugu literature and culture reached its zenith.

28. (C) Mahatma Gandhi during the Champaran struggle was joined by Rajendra Prasad and Anugraha Narayan Sinha.

29. (A) In 1822, Champollion published his first breakthrough in the decipherment of the Rosetta hieroglyphs, showing that the Egyptian writing system was a combination of phonetic and ideographic signs - the first such script discovered.

30. (A) Addis Ababa, also spelled Addis Abeba, capital and largest city of Ethiopia. It is located on a well-watered plateau surrounded by hills and mountains in the geographic centre of the country.

31. (C) Articles-29 and 30 of the Constitution only recognise linguistic and religious minorities.

32. (D) Flows out of Newton's First Law of Motion.

33. (C) Oxygen mixture generally refers to gas blends containing between 50% and 95% oxygen. Oxygen - enriched air, nitrox , and enriched-air nitrox (EAN) are generally used synonymously in the diving industry since all refer to pressurized diving gas mixtures containing various oxygen concentrations greater than standard air.

36. (C) Brihat Samhita, another important contribution of Varahamihira is the encyclopedic Brihat-Samhita. Although the book is mostly about divination, it also includes a wide range of subjects other than divination.

39. (D) The prison contained only seven inmates at the time of its storming, but was seen by the revolutionaries as a symbol of the monarchy's abuse of power; its fall was the flashpoint of the French Revolution.

40. (D) Sidereal Month, Phases of the Moon and Synodic Month (Lunar Month): The moon, the only satellite of the earth, moves from west-to-east round the Earth in 27 i days (27 days, 7 hours, 43 minutes and 11.47 seconds).

41. (B) 38th parallel, popular name given to latitude 38° N that in East Asia roughly demarcates North Korea and South Korea.

43. (B) Sunspots are dark, planet-sized regions that appear on the "surface" of the Sun. Sunspots are "dark" because they are cooler than their surroundings. ... Sunspots are caused by disturbances in the Sun's magnetic field welling up to the photosphere, the Sun's visible "surface".

44. (A) The Polar Satellite Launch Vehicle (PSLV) is an expendable medium-lift launch vehicle designed and operated by the Indian Space Research Organisation (ISRO).

46. (B) The permanent members of the United Nations Security Council (also known as the Permanent Five, Big Five, or P5) are the five sovereign states to whom the UN Charter of 1945 grants a permanent seat on the UN Security Council: China, France, Russia, the United Kingdom, and the United States.

47. (B) In 75 years, the United Nations, its specialised agencies, related agencies, funds, programmes and staff were awarded the prestigious Nobel Peace Prize twelve times.

48. (A) Flint glasses contain 45-65% lead oxide - they are high-density, high-dispersion, high-refractive-index glasses. There are glasses which have barium oxide rather than lead oxide; they are called barium glasses.

49. (D) Param Yuva 2 is a supercomputer developed by India. Supercomputer Param Yuva-2 was rated first in India, 9th in the Asia Pacific Region and 44th in the world among the most Power-efficient computer system as per the Green 500 list.

51. (A) Let the total work be 120 units.

A's 1 day work = $\dfrac{120}{20}$ = 6 units

B's 1 day work = $\dfrac{120}{30}$ = 4 units

C's 1 day work = $\dfrac{120}{40}$ = 3 units

(A + B + C)'s 4 day work = (6 + 4 + 3) × 4 = 52 units
Remaining work = 120 – 52 = 68 units

∴ Required time to finish the 68 units work by A and B together = $\dfrac{68}{10} = 6\dfrac{4}{5}$ days

52. (C) Distance covered by walking = 6 × 4.5 = 27 km

∴ Time taken to cover 27 km on cycle = $\dfrac{27}{15} = \dfrac{9}{5}$ hours

53. (B) Fourth proportion = $\dfrac{18 \times 6}{9} = 12$

Third proportion = $\dfrac{6 \times 6}{4}$ = 9

∴ Required ratio = 12 : 9 = 4 : 3

54. (D) Rate of interest = 12%

Time = 73 days = $\dfrac{73}{365} = \dfrac{1}{5}$ year

P = ₹ 8500

SI = $\dfrac{8500 \times 12 \times 1}{100 \times 5}$ = ₹ 204

∴ A = 8500 + 204 = ₹ 8704

55. (A) Let the CP = ₹ 100
ATQ,

$100 \times \dfrac{110}{100} - 100 \times \dfrac{85}{100} \rightarrow ₹\,4$

$25 \rightarrow ₹\,4$

$100 \rightarrow \dfrac{4}{25} \times 100$ = ₹ 16

∴ SP of second condition = $16 \times \dfrac{110}{100}$ = ₹ 17.6

56. (B) Let the present age of Ravi be x years.

Ago of Priti = (60 – x) years

ATQ,

$$\frac{x - 4}{60 - x - 4} = \frac{7}{6}$$

6x – 24 = 420 – 28 – 7x

13x = 416

$$\therefore \quad x = \frac{416}{13} = 32 \text{ years}$$

57. (D) Let the B's salary be ₹ 100.

A's salary = $100 \times \dfrac{140}{100}$ = ₹ 140

$\therefore$ Required less% = $\left(\dfrac{140 - 100}{140} \times 100 \right)\% = 28\dfrac{4}{7}\%$

58. (B) Largest 4-digits number = 9999

LCM of 4, 5 and 6 = 60

When we divide 9999 by 60, we obtain 39 as a remainder.

Hence, required number = 9999 – 39 = 9960

59. (B) Let a be the quotient and b be the Remainder.

Divisor = 16a = 5b

$$a = \frac{5}{16} b = \frac{5}{16} \times 16 = 5$$

Divisor = 16a = 16 × 5 = 80

Dividend = Divisor × Quotient + Remainder
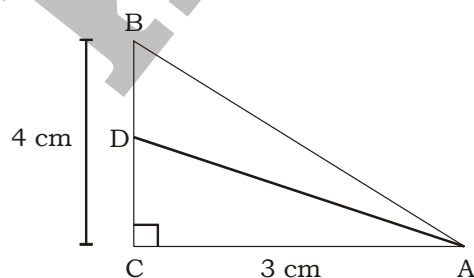
= 80 × 5 + 16 = 400 + 16 = 416

60. (C) $\left(6 \div 2 \text{ of } \dfrac{1}{2} \right) + \left(5\dfrac{1}{4} \div \dfrac{3}{7} \text{ of } \dfrac{1}{2} \right) \div \left(5\dfrac{1}{9} - 7\dfrac{7}{8} \div 9\dfrac{9}{20} \right) \times \dfrac{11}{21}$

$= \left(6 \div 1 \right) + \left(\dfrac{21}{4} \times \dfrac{14}{3} \right) \div \left(\dfrac{46}{9} - \dfrac{63}{8} \times \dfrac{20}{189} \right) \times \dfrac{11}{20}$

$= 6 + \left(\dfrac{49}{2} \right) \div \left(\dfrac{46}{9} - \dfrac{5}{6} \right) \times \dfrac{11}{21}$

$= 6 + \dfrac{49}{2} \times \dfrac{18}{77} \times \dfrac{11}{21} = 6 + 3 = 9$

61. (A)

In ΔABC,

$AB^2 = 3^2 + 4^2$

$AB = 5$ cm

Now, using angle bisector theorem, we can write

$$\frac{BD}{BA} = \frac{CD}{CA}$$

$$\frac{BD}{CD} = \frac{BA}{CA} = \frac{5}{3}$$

Hence, BD : CD = 5 : 3 and BC = 4 cm

$$CD = \frac{4}{8} \times 3 = \frac{3}{2} \text{ cm}$$

In ΔACD,

$$AD^2 = \left(\frac{3}{2}\right)^2 + \left(3\right)^2$$
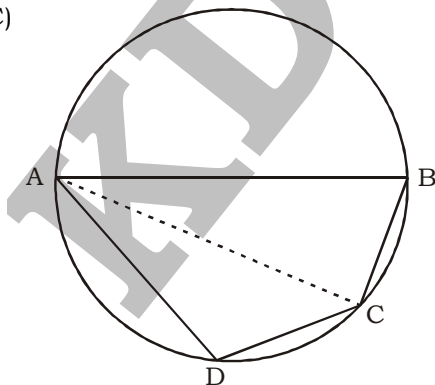
$$AD^2 = \frac{9}{4} + 9$$

$$AD^2 = \frac{45}{4}$$

$$AD = \frac{3\sqrt{5}}{2} \text{ cm}$$

62. (A) Sum of five numbers = $62 \times 5 = 310$

Ratio between first number and sum of last four numbers = 2 : 3

Sum of last four numbers = $\frac{310}{5} \times 3 = 186$

$\therefore$ Required average = $\frac{186}{4}$ = 46.5

63. (C)

$\angle ADC = 136°$

Since, ABCD is a cyclic quadrilateral.

So, $\angle ADC + \angle ABC = 180°$

$\angle ABC = 180° - 136° = 44°$

Since, AB is a diameter, so angle mode on circumference is 90°.

Here, $\angle BCA = 90°$

In $\triangle ABC$,

$\angle BCA + \angle BAC + \angle ABC = 180°$

$44° + \angle BAC + 90° = 180°$

$\therefore \quad \angle BAC = 180° - 134° = 46°$

64. (B) Given ; a = b

Rationalising a

$$\frac{c}{1 + \sin x} = \frac{2\sin x}{1 + \sin x + \cos x} \times \frac{1 + \sin x - \cos x}{1 + \sin x - \cos x}$$

$$\frac{c}{1 + \sin x} = \frac{2\sin x + 2\sin^2 x - 2\sin x \cos x}{1 + \sin^2 x + 2\sin x - \cos^2 x}$$

$$\frac{c}{1 + \sin x} = \frac{2\sin x + 2\sin^2 x - 2\sin x \cos x}{2\sin x (1 + \sin x)}$$

$$\frac{c}{1 + \sin x} = \frac{1 + \sin x - \cos x}{1 + \sin x}$$

$\therefore \quad c = 1 + \sin x - \cos x$

65. (B) x + y = 14 and xy = 33

$(x - y)^2 = (x + y)^2 - 4xy$

$(x - y)^2 = 14^2 - 4 \times 33$

$(x - y)^2 = 64$

$x - y = 8$

$(x + y)^2 = 196$

$x^2 + y^2 + 2xy = 196$

$x^2 + y^2 = 196 - 2 \times 33 = 130$

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

$= 8 \times (130 + 33) = 8 \times 163 = 1304$

66. (D) Relative speed of train with respect to man = 48 – 12 = 36 km/hr = $36 \times \dfrac{5}{18}$ = 10 m/s

Distance travelled in 20 seconds = 20 × 10 = 200 m

Let the speed of woman = x km/hr

Relative speed of train with respect to woman = (48 + x) km/hr

ATQ,

$$(48 + x) \times \frac{5}{18} \times 10 = 200$$

$$48 + x = \frac{200 \times 18}{50} = 72$$

$\therefore \quad$ x = 72 – 48 = 24 km/hr

67. **(C)** CP of two fruits = $\dfrac{100}{12} + \dfrac{100}{10} = ₹\ \dfrac{55}{3}$

SP of two fruits = $₹\ \dfrac{100}{11} \times 2 = ₹\ \dfrac{200}{11}$

Loss = $\dfrac{55}{3} - \dfrac{200}{11} = \dfrac{605 - 600}{33} = ₹\ \dfrac{5}{33}$

$\therefore$ Loss% = $\left(\dfrac{5}{33} \times \dfrac{3}{55} \times 100 \right)\% = 0.83\%$

68. **(A)** For divisibility by 88, number should be divisible by 11 and 8 both.

For divisible by 8 last 3 digit of the number $(5y^2)$ must be divisible by 8.

So, the value of y can be 1,5 and 9.

For divisibility by 11, difference of sum of digits at odd place and sum of digits at even place must be zero or divisible by 11.

So, $(11 + x) - (7 + y) = 0$ or multiple

For the smallest value of y, y = 1

$11 + x - 7 - 1 = 0$

$3 + x = 0$

So, only one value of x that is x = 8 will satisfy the equation.

By putting y = 1 and x = 8 (4x – y) = 31

69. **(B)** SI for 3 years = ₹ 9000

SI for 2 years = $\dfrac{9000}{3} \times 2 = ₹\ 6000$

CI for 2 years = ₹ 6180

We know that R% for 2 years = $\left[\dfrac{2(CI - SI)}{SI} \times 100 \right]\%$

$= 2\left[\dfrac{(6180 - 6000)}{6000} \times 100 \right]\% = \left(\dfrac{2 \times 180}{6000} \times 100 \right)\% = 6\%$

70. **(B)** Perimeter of a rectangle = 2(length + breadth) = 2(80 + 45) = 2 × 125 = 250 m

Poles are kept 10 m apart.

Number of poles = $\left(\dfrac{250}{10} \right)$ = 25 poles

$\therefore$ The number of poles needed is 25 poles

71. **(A)** Length of cuboid = (6 × 5) = 30 cm

Breadth of cuboid = 6 cm

Height of cuboid = 6 cm

Total surface area of cuboid = 2(lb + lh + bh)

= 2(30 × 6 + 30 × 6 + 6 × 6) cm²

= 2(180 + 180 + 36) cm² = 792 cm²

72. (A) Percentage of students in EC = 19%

Ratio = boys and girls = 9 : 10

Percentage of boys in EC = $\left(19 \times \dfrac{9}{19}\right)\% = 9\%$

Percentage of girls in EC = $\left(19 \times \dfrac{10}{19}\right)\% = 10\%$

Difference in percentage = $\left(\dfrac{10-9}{19} \times 100\right)\% = 5.26\%$

Percentage of students in CS = 18%

Ratio of boys and girls = 4 : 5

Percentage of boys in CS = $\left(18 \times \dfrac{4}{9}\right)\% = 8\%$

Percentage of girls in CS = $\left(18 \times \dfrac{5}{9}\right)\% = 10\%$

Difference in percentage = $\left(\dfrac{10-8}{18} \times 100\right)\% = 11.11\%$

Percentage of students in IT = 21%

Ratio of boys and girls = 3 : 4

Percentage of boys in IT = $\left(21 \times \dfrac{3}{7}\right)\% = 9\%$

Percentage of girls in IT = $\left(21 \times \dfrac{4}{7}\right)\% = 12\%$

Difference in percentage = $\left(\dfrac{12-9}{21} \times 100\right)\% = 14.28\%$

Percentage of students in ME = 22%

Ratio of boys and girls = 6 : 5

Percentage of boys in ME = $\left(22 \times \dfrac{6}{6+5}\right)\% = 12\%$

Percentage of girls in ME = $\left(22 \times \dfrac{5}{6+5}\right)\% = 10\%$

Difference in percentage = $\left(\dfrac{12-10}{22} \times 100\right)\% = 9.09\%$

Hence difference in the percentage of boys and girls in EC is minimum.

73. (C) **From above solution:**

Percentage of boys in EC = 9%

Percentage of girls in EC = 10%

Percentage of boys in CS = 8%

Percentage of girls in CS = 10%

Percentage of boys in IT = 9%

Percentage of girls in IT = 12%

Percentage of boys in ME = 12%

Percentage of girls in ME = 10%

Percentage of boys in CE = $20\% \times \dfrac{3}{3+2} = 12\%$

Percentage of girls in CE = 20% – 12% = 8%

Total percentage of boys in college = 9% + 8% + 9% + 12% + 12% = 50%

Total percentage of girls in college = (100 - 50)% = 50%

Required ratio = 50% : 50% = 1 : 1

74. (C) **From above solution:**

Percentage of girls in college = 50%

Percentage of girls in ME = 10%

Required central angle = $\left(\dfrac{10\%}{50\%} \times 360° \right) = 72°$

75. (C) Percentage of students studying in CS = 18%

Percentage of students studying in IT = 21%

∴ Ratio of student studying CS and IT = 18% : 21% = 6 : 7

MEANINGS IN ALPHABETICAL ORDER

Ancestry	one's family or ethnic descent	वंशावली
Bounteous	generously given or giving; bountiful	विपुल
Cowardice	lack of bravery	कायरता
DELEGATE	a person sent or authorized to represent others, in particular an elected representative sent to a conference	प्रतिनिधि
Diffidence	modesty or shyness resulting from a lack of self-confidence	संशय
Dynasty	a line of hereditary rulers of a country	राजवंश
Eloquent	fluent or persuasive in speaking or writing	भाषणपटु
Eminent	(of a person) famous and respected within a particular sphere or profession	प्रख्यात
Exuberant	filled with or characterized by a lively energy and excitement	विपुल
Glitch	a sudden, usually temporary malfunction or irregularity of equipment	गड़बड़
Lineage	lineal descent from an ancestor; ancestry or pedigree	वंशावली
Misty	full of, covered with, or accompanied by mist	धुंधला
OPAQUE	not able to be seen through; not transparent	अस्पष्ट
Persuasion	the action or fact of persuading someone or of being persuaded to do or believe something	प्रोत्साहन
Progeny	a descendant or the descendants of a person, animal, or plant; offspring	संतति
Rejuvenate	give new energy or vigor to; revitalize	फिर से युवा करना
Reprimand	a rebuke, especially an official one	डांटना
Scare	cause great fear or nervousness in; frighten	डराना
Sculptor	an artist who makes sculptures	संगतराश
Sever	divide by cutting or slicing, especially suddenly and forcibly	तोड़
Severe	(of something bad or undesirable) very great; intense	गंभीर
Sewer	an underground conduit for carrying off drainage water and waste matter	गंदा नाला
Sow	plant (seed) by scattering it on or in the earth	बीज बोना

SSC MOCK TEST - 366 (ANSWER KEY)

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