

SSC MOCK TEST - 326 (SOLUTION)

1. (B) As, $179 \Rightarrow 1^2 + 7^2 + 9^2 = 131$

Similarly, $245 \Rightarrow 2^2 + 4^2 + 5^2 = 45$

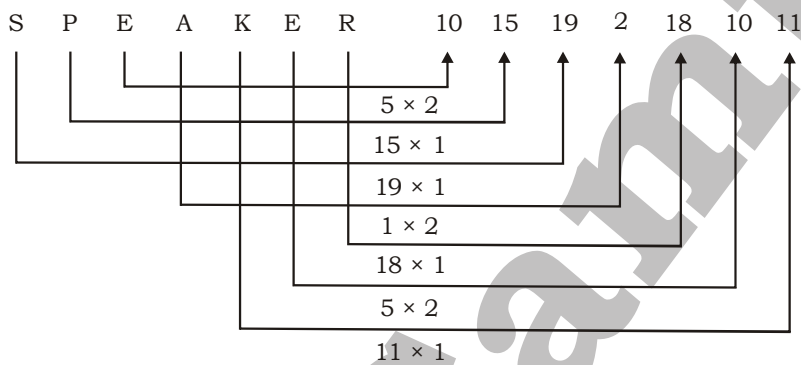
2. (B) Hepatitis is caused by Virus, while Tuberculosis is caused by Bacteria.

3. (B) Except 1895, others are divisible by 13.

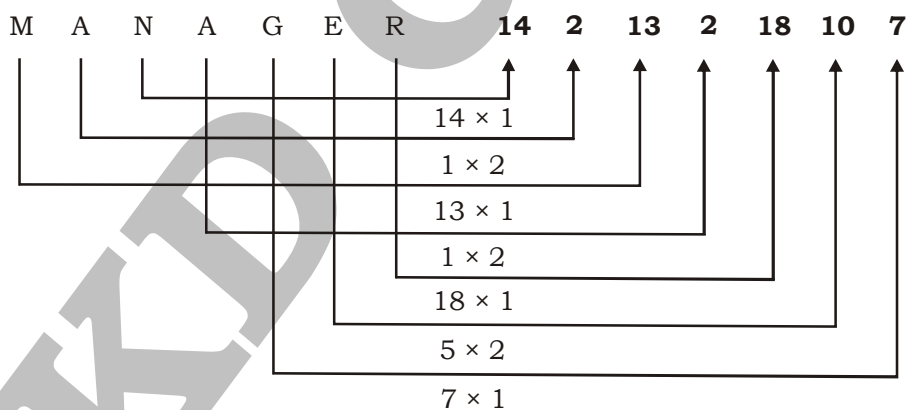
4. (A) (A) $\begin{matrix} J & N & R & V \\ \downarrow & \uparrow & \downarrow & \uparrow \\ & +4 & & +4 \end{matrix}$ (B) $\begin{matrix} F & K & O & R \\ \downarrow & \uparrow & \downarrow & \uparrow \\ & +5 & & +3 \end{matrix}$

(C) $\begin{matrix} R & W & A & D \\ \downarrow & \uparrow & \downarrow & \uparrow \\ & +5 & & +3 \end{matrix}$ (D) $\begin{matrix} L & Q & U & X \\ \downarrow & \uparrow & \downarrow & \uparrow \\ & +5 & & +3 \end{matrix}$

5. (A) As,



Similarly,



6. (B) $187 + (2^2 + 1) = 192$

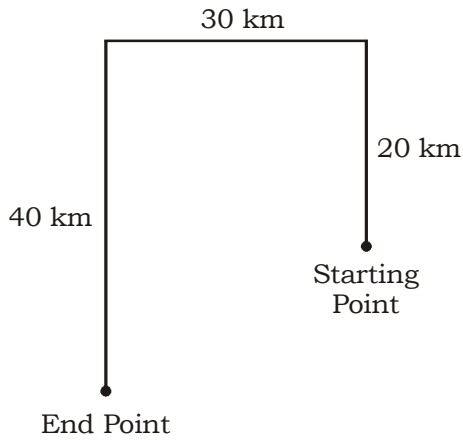
$192 + (3^2 + 2) = 203$

$203 + (4^2 + 3) = 222$

$222 + (5^2 + 4) = 251$

7. (C) $\begin{matrix} M & O & R & V & A \\ \downarrow & \uparrow & \downarrow & \uparrow & \downarrow & \uparrow \\ & +2 & & +3 & & +4 & & +5 \end{matrix}$

8. (C)



Kavita is in South-West.

9. (C) As, $261 - 189 = 72$
 $261 + (7 \times 2) = 275$
 Similarly, $173 - 97 = 76$
 $173 + (7 \times 6) = 215$

10. (C) aldrmk/aldrmk/aldrmk

11. (C)

12. (B) **In the first column,**

$$29 - \sqrt{36} = 23$$

In the second column,

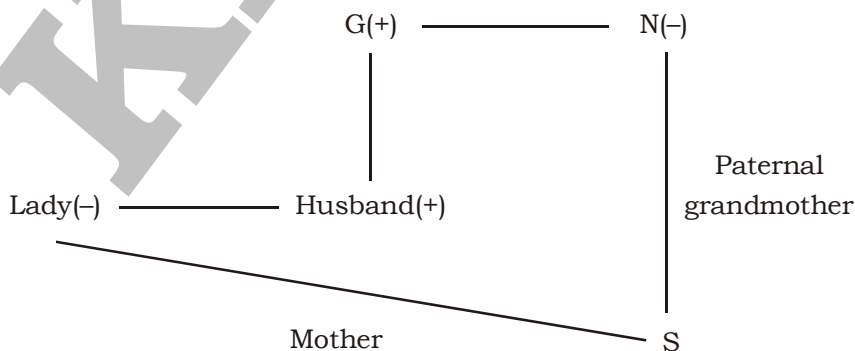
$$38 - \sqrt{100} = 28$$

In the third column,

$$57 - \sqrt{225} = 42$$

13. (A) $85 \div 5 - 4 \times 17 + 19 = 4$
 After changing 5 and 17,
 $85 \div 17 - 4 \times 5 + 19 = 4$
 $5 - 4 \times 5 + 19 = 4$
 $5 + 19 - 20 = 4$
 $24 - 20 = 4$
 $4 = 4$

14. (C)



15. (D) 2. Kinder Garten → 1. Primary → 4. Secondary → 5. Higher Secondary → 3. University

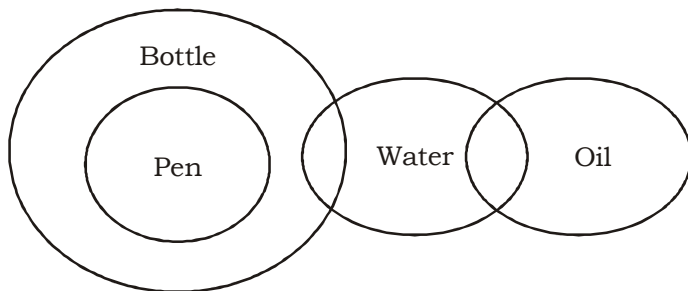
16. (A) As the watch was set right at 9 AM, it was showing the accurate time. Again we are asked to tell the time being displayed by the watch when the correct time is 9 PM. So, the real-time elapsed between the two measurements is 12 hours.

The watch gains 4 seconds in 5 minutes, i.e., 48 seconds in 1 hour.

So, the time gained by it in 12 hours = $48 \times 12 = 576$ seconds = 9 minutes and 36 seconds.

So, when the correct time is 9 PM, the watch would show 9 : 9 : 36 PM

17. (B)



I. False II. False III. True

Hence, only conclusion III follows.

18. (C) 19. (C)

20. (A) As, $87 + (8 + 7) \times 3 = 132$

$$132 \Rightarrow (1 + 3 + 2) \times 3 = 18$$

Similarly, $44 + (4 + 4) \times 3 = 68$

$$68 \Rightarrow (6 + 8) \times 3 = 42$$

21. (B) $A : B = 3_{\times 5} : 4_{\times 5}$

$$B : C = 5_{\times 4} : 6_{\times 4}$$

$$\therefore A : B : C = 15 : 20 : 24$$

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

27. (B) The Egyptian scripts is known as Hieroglyphic which means 'sacred writing'. It consisted of 24 signs, each of which stood for a single consonant. Vowels were not written. Later the Egyptian started using symbols for ideas and the total number of signs rose to about 500. The writers, who constituted an important section of society, wrote with reed pens on the leaves of a plant called 'papyrus' from which we get the word 'paper'.

30. (D) Sankardeva was a religious reformer of Assam. He was monotheist and worshipped Krishna. He is called Chaitanya of Assam. He founded Mahapurushya Dharma and his concept of Bhakti is known as EK Sharan Sapradaaya. He popularised Satra, a sitting during which people of all classes assembled for religious as well as social purpose.

31. (A) Mercury is the smallest planet in our solar system - only slightly larger than Earth's Moon.

32. (B) The policy of laissez-faire received strong support in classical economics as it developed in Great Britain under the influence of the philosopher and economist Adam Smith.

33. (B) The forward momentum of the engine is equal to the momentum of the speeding exhaust gases at the rear. Therefore (B) is correct.

34. (D) Hydrogen (H), a colourless, odourless, tasteless, flammable gaseous substance that is the simplest member of the family of chemical elements. ... Under ordinary conditions, hydrogen gas is a loose aggregation of hydrogen molecules, each consisting of a pair of atoms, a diatomic molecule, H₂.

35. (B) The UK government has launched a new initiative named 'Better Health Smoke-Free' campaign, which highlights the impact of adult smokers on younger people.

37. (B) Abhinav Bharat Society (Young India Society) was an Indian Independence secret society founded by Vinayak Damodar Savarkar and his brother Ganesh Damodar Savarkar in 1904.
38. (B) In 1783, the Treaty of Paris was signed by the British and the representatives of the colonies to recognise the independence of the 13 American colonies.
39. (A) The shape of Earth is best described as a 'geoid' meaning Earth-shaped.
40. (A) Graphite has loosely held electrons between layers of hexagonally bonded rings of carbon. These electrons make graphite a good conductor of electricity.
43. (D) As per the Child Labour (Prohibition & Regulation) Act, 1986 "child" means a person who has not completed is 14th year of age. The Act prohibits employment of children in 13 occupations and 57 processes contained in Part A & B of the Schedule to the Act (Section 3).
44. (D) It is often said that English surgeon Edward Jenner discovered vaccination and that Pasteur invented vaccines. Indeed, almost 90 years after Jenner initiated immunization against smallpox, Pasteur developed another vaccine-the first vaccine against rabies.
45. (D) In this modulation method, the information (audio waves or digital data) is transmitted in variations in the amplitude of the carrier wave. The amplitude is the height or strength of the radio waves. That's a result of the varying amplitude. FM stands for frequency modulation.
46. (A) The Security Council has 15 members out of which five are permanent members (China, France, Russia, the UK and the USA) and 10 non-permanent members. The non-permanent members are elected for two years by two-thirds majority of the General Assembly. Retiring members are not eligible to immediate re-election. The Security Council is located in New York, USA. Each of the 15 members has one vote each, however, the permanent members have the power of veto to stop discussion on any subject or action (negative vote).
48. (C) This infection mainly occurs in children. The spreading of typhoid involves the contamination of infected individuals or bacteria-contaminated food and water. The symptoms of typhoid involve pain in the stomach, headache, fever, diarrhea, etc. So typhoid is not caused by viruses.
49. (B) The most common configuration has a case that houses the power supply, motherboard (a printed circuit board with a microprocessor as the central processing unit, memory, bus, certain peripherals and other electronic components), disk storage (usually one or more hard disk drives, solid state drives, optical disc drives ...
50. (B) 'Financial Stability Report (FSR)' is a half-yearly report released by the 'Reserve Bank of India'. The recent edition of the report was released by RBI.
51. (A) Let the capacity of tank = 72 litres

$$\text{Liquid A filled by } P_1 \text{ in 4 minutes} = \frac{72}{12} \times 4 = 24 \text{ litres}$$

$$\text{Liquid A filled by } P_2 \text{ in 4 minutes} = \frac{72}{18} \times 4 = 16 \text{ litres}$$

$$\text{Liquid C filled by } P_3 \text{ in 4 minutes} = \frac{72}{24} \times 4 = 12 \text{ litres}$$

$$\therefore \text{ The proportion of liquid A in the tank in 4 minutes} = \frac{24}{24+16+12} = \frac{24}{52} = \frac{6}{13}$$

52. (C) Let A be x.

$$\text{Then, } \frac{1}{6}C = x$$

$$C = x$$

$$\text{And } B = 2x$$

$$\text{Now, Average of A, B and C} = 24$$

$$\frac{x + 2x + 6x}{3} = 24$$

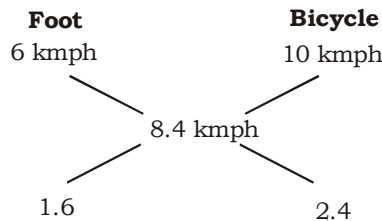
$$3x = 24$$

$$x = \frac{24}{3} = 8$$

$$\text{Now, difference between A and C} = 6x - x = 5x = 5 \times 8 = 40$$

53. (D) Average speed of man = $\frac{\text{distance}}{\text{time}} = \frac{42}{5} = 8.4 \text{ kmph}$

Speed of Man



$$\text{Ratio of time} = 2 : 3$$

$$\text{Time, the man travelled on foot} = 5 \times \frac{2}{5} = 2 \text{ hours}$$

$$\text{Therefore, Distance travelled on foot} = 2 \times 6 = 12 \text{ km}$$

54. (C) CP of 1 Apple = ₹ $\frac{6}{7}$ and SP of 1 apple = ₹ $\frac{7}{6}$

$$\text{Required Profit\%} = \left(\frac{\frac{7}{6} - \frac{6}{7}}{\frac{6}{7}} \times 100 \right) \% = \left(\frac{49 - 36}{36} \times 100 \right) \% = 36\frac{1}{9}\%$$

55. (C) Required Population = $\frac{22100}{85} \times 100 \times \frac{100}{130} = 20000$

56. (D) Let the two numbers are x and (25 - x).

LCM × HCF = Multiplication of two numbers

$$30 \times 5 = x \times (25 - x)$$

$$30 \times 5 = 25x - x^2$$

$$x^2 - 25x + 150 = 0$$

$$x^2 - 10x - 15x + 150 = 0$$

$$x(x - 10)(x - 15) = 0$$

$$x = 10 \text{ and } 15$$

$$\text{So, required difference} = 15 - 10 = 5$$

57. (D) $\frac{\tan \theta}{1 - \cot \theta} + \frac{\cot \theta}{1 - \tan \theta} = 1 + k$

On simplifying,

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

$$= \frac{(\tan \theta - \cot^2 \theta)}{(1 - \cot \theta)} = \frac{\left(\frac{1}{\cot \theta} - \cot^2 \theta\right)}{(1 - \cot \theta)}$$

$$= \frac{(1 - \cot^3 \theta)}{[\cot \theta(1 - \cot \theta)]} = \frac{[(1 - \cot \theta)(1 + \cot \theta + \cot^2 \theta)]}{[\cot \theta(1 - \cot \theta)]}$$

$$= \frac{(1 + \cot \theta + \cot^2 \theta)}{\cot \theta} = 1 + \cot \theta + \tan \theta$$

$$\therefore 1 + \cot \theta + \tan \theta = 1 + k$$

$$k = \cot \theta + \tan \theta$$

$$k = \frac{\cos \theta}{\sin \theta} + \frac{\sin \theta}{\cos \theta}$$

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

$$k = \operatorname{cosec} \theta \times \sec \theta$$

58. (B) Ratio of share of A : B = 7 : 12

Ratio of share of B : C = 8 : 5

Ratio of share of A : B : C

$$= (7 \times 8) : (12 \times 8) : (5 \times 12)$$

$$= 56 : 96 : 60$$

$$= 14 : 24 : 15$$

The value of x = $\frac{428}{1} \times 53 = ₹ 22684$

59. (A) C (6, -5) B (-2, 9)

$$\text{Mid point} = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

$$= \left(\frac{6 - 2}{2}, \frac{-5 + 9}{2} \right) = (2, 2)$$

60. (B) $\tan^2\theta - 3\sec\theta + 3 = 0$

$$\frac{\sin^2\theta}{\cos^2\theta} - \frac{3}{\cos\theta} + 3 = 0$$

$$\sin^2\theta - 3\cos\theta + 3\cos^2\theta = 0$$

$$1 - 3\cos\theta + 2\cos^2\theta = 0$$

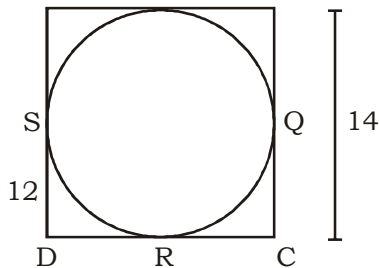
$$\cos\theta = 1 \text{ or } \frac{1}{2}$$

We take $\cos\theta = \frac{1}{2}$ because $0 < \theta < 90^\circ$

$$\theta = 60^\circ$$

$$\sin 60^\circ + \cot 60^\circ = \frac{\sqrt{3}}{2} + \frac{1}{\sqrt{3}} = \frac{5}{2\sqrt{3}} = \frac{5\sqrt{3}}{6}$$

61. (C) A P 8 B



Length of tangents drawn from common external point to a circle are equal.

Then,

$$SD = DR = 12 \text{ cm}$$

$$PB = QB = 8 \text{ cm}$$

$$QC = BC - QB = 14 - 8 = 6 \text{ cm}$$

$$RC = QC = 6 \text{ cm}$$

$$\therefore DC = DR + RC = 12 + 6 = 18 \text{ cm}$$

62. (D) $x^4 - 1 = 6x^2$

$$x^2 - \frac{1}{x^2} = 6$$

By taking cube both side we get,

$$x^6 - \frac{1}{x^6} - 3\left(x^2 - \frac{1}{x^2}\right) = 6^2$$

$$x^6 - \frac{1}{x^6} - 3x^2 + \frac{3}{x^2} = 216$$

To get the required equation we have to subtract $2\left(x^2 - \frac{1}{x^2}\right)$ and add 5 both side of above equation,

$$x^6 - \frac{1}{x^6} - 3x^2 + \frac{3}{x^2} - 2x^2 + \frac{2}{x^2} + 5$$

$$= 216 - 2 \times 6 + 5 = 209$$

63. (A) Area of triangle with side x = Area of triangle with sides 50 m, 70 m and 80 m.

$$s = \frac{a + b + c}{2} = \frac{50 + 70 + 80}{2} = 100$$

$$\frac{\sqrt{3}}{4} x^2 = \sqrt{100(100 - 50)(100 - 70)(100 - 80)}$$

$$\frac{\sqrt{3}}{4} x^2 = 1000\sqrt{3}$$

$$x^2 = 4000$$

$$x = 20\sqrt{10} \text{ m}$$

64. (C) $P = ₹ 16000$

$$R = 5\% \text{ half yearly}$$

$$T = 3 \text{ half yearly}$$

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

$$= 16000 \left(1 + \frac{5}{100} \right)^3$$

$$= 16000 \times \frac{105}{100} \times \frac{105}{100} \times \frac{105}{100} = ₹ 18522$$

65. (D) Amount of milk in 48 litres of mixture = $\frac{5}{5+x} \times 48 = \frac{240}{5+x}$ litres

$$\text{So, amount of water in 48 litres of mixture} = \frac{48x}{5+x} \text{ litres}$$

ATQ,

$$\frac{240}{5+x} : \left[\frac{48x}{5+x} + 12 \right] = 2 : 1$$

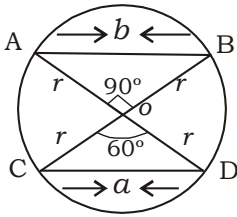
$$\frac{240}{5+x} = \left[\frac{96x}{5+x} + 24 \right]$$

$$240 = 96x + 120 + 24x$$

$$120x = 240 - 120 = 120$$

$$x = \frac{120}{120} = 1$$

66. (B)



$\triangle COD$ is an equilateral triangle.

$$a = r$$

$\therefore \triangle AOB$ is an isosceles triangle.

So, $\angle OBA = 45^\circ$

$$\sin 45^\circ = \frac{r}{b}$$

$$\frac{1}{\sqrt{2}} = \frac{r}{b}$$

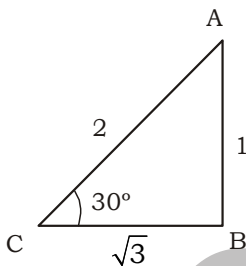
$$b = \sqrt{2} r \text{ or } \sqrt{2} a$$

67. (B) Arithmetic mean of first n natural number = $\frac{n+1}{2}$

68. (A) One side of cube = $\frac{20}{4}$ cm = 5 cm

$$\text{Area of cube} = 5^3 \text{ cm}^3 = 125 \text{ cm}^3$$

69. (C)



ATQ,

$$\sqrt{3} \text{ units} = 129$$

$$1 \text{ unit} = \frac{129}{\sqrt{3}} = 43\sqrt{3}$$

\therefore Height of the cliff = $43\sqrt{3}$

70. (C) ATQ,

$$\frac{22}{7} \times (81 - r^2) \times 14 = 748$$

$$(81 - r^2) \times 4 = 68$$

$$81 - r^2 = 17$$

$$r^2 = 81 - 17$$

$$r^2 = 8$$

\therefore Thickness = $9 - 8 = 1$ cm

71. (C) $\tan \theta = \frac{8}{15}$

$$\sin \theta = \frac{8}{\sqrt{15^2 + 8^2}} = \frac{8}{17}$$

$$\therefore \frac{\sqrt{1 - \sin \theta}}{\sqrt{1 + \sin \theta}} = \frac{\sqrt{1 - \frac{8}{17}}}{\sqrt{1 + \frac{8}{17}}} = \sqrt{\frac{9}{25}} = \frac{3}{5}$$

72. (B) Difference = $540 - 120 = 420$

73. (C) Average production = $\frac{1800}{6} = 300$

74. (C) Required ratio = $1160 : 640 = 29 : 16$

75. (B) Required number of fans = $400 - 300 = 100$

MEANINGS IN ALPHABETICAL ORDER

Abundance	a very large quantity of something	प्रचुरता
Ameliorate	make (something bad or unsatisfactory) better	सुधारना
Arid	(of land or a climate) having little or no rain; too dry or barren to support vegetation	शुष्क
Avarice	extreme greed for wealth or material gain	लोभ
Crematorium	another term for crematory	श्मशान
Disastrous	causing great damage	विनाशकारी
Envy	a feeling of discontented or resentful longing aroused by someone else's possessions, qualities, or luck	ईर्ष्या
Famine	extreme scarcity of food	अकाल
Generosity	the quality of being kind and generous	उदारता
Hedonist	a person who believes that the pursuit of pleasure is the most important thing in life; a pleasure-seeker	सुखवादी
Marshy	characteristic of or resembling a marsh; waterlogged	धंसाऊ
Misanthrope	a person who dislikes humankind and avoids human society	मानवद्वेषी
Monastery	a building or buildings occupied by a community of monks living under religious vows	मठ
Mortuary	a funeral home or morgue	शवगृह
Murderous	capable of or intending to murder; dangerously violent	घातक
Onerous	(of a task, duty, or responsibility) involving an amount of effort and difficulty that is oppressively burdensome	कष्टदायक
Penetrate	succeed in forcing a way into or through (a thing)	घुसना
Pessimist	a person who tends to see the worst aspect of things or believe that the worst will happen	निराशावादी
Philistine	a person who is hostile or indifferent to culture and the arts, or who has no understanding of them	अशिक्षित
Preposterous	contrary to reason or common sense; utterly absurd or ridiculous	निरर्थक
Sanatorium	an establishment for the medical treatment of people who are convalescing or have a chronic illness	सेहतगाह
Scarce	(especially of food, money, or some other resource) insufficient for the demand	अपर्याप्त
Stain	mark (something) with colored patches or dirty marks that are not easily removed	दाग
Zealot	a person who is fanatical and uncompromising in pursuit of their religious, political, or other ideals	कट्टरपंथी

SSC MOCK TEST - 326 (ANSWER KEY)

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