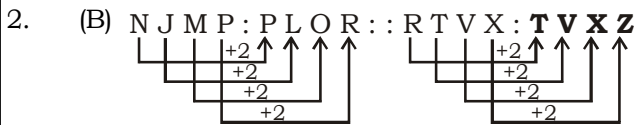
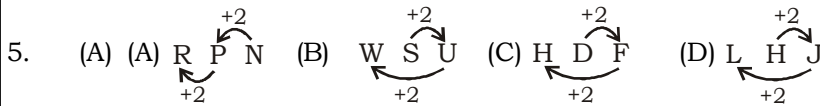


SSC MOCK TEST - 276 (SOLUTION)

1. (A) $63 : 9 :: 86 : 14$
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$
 $6+3=9 \uparrow \quad 8+6=14 \uparrow$



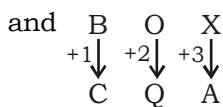
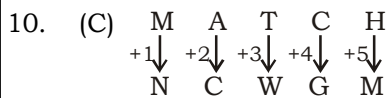
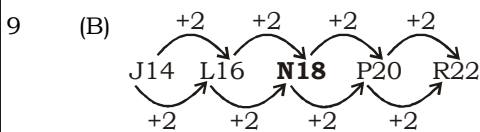
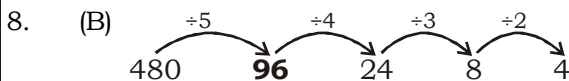
3. (D) Smoke cause pollution, while war cause destruction.
 4. (D) Except, (D) others are not mammal.



6. (A) Except option (A), first digit is divided by second digit.

7. (B)

<u>Catalogue</u>	<u>Catapult</u>	<u>Catastrophe</u>	<u>Catenation</u>	<u>Cathedral</u>
3	1	5	4	2



Similarly,



11. (A)
 12. (B) $144 (132) 121 \rightarrow \sqrt{144 \times 121} = 132$

$64 (80) 100 \rightarrow \sqrt{64 \times 100} = 80$

13. (B) **From column I,**
 $14 \times 4 - 12 \times 3 = 20$
From column II,
 $9 \times 9 - 13 \times 3 = 42$
From column III,
 $12 \times 8 - 7 \times 11 = 19$
From column IV,
 $20 \times 10 - 20 \times 8 = 40$

14. (D) GREGARIOUS can not be formed using the given letters.

15. (C) $175 - 25 \div 5 + 20 \times 3 + 10$
 After changing the sign,
 $= 175 \div 25 + 5 \times 20 - 3 \times 10$
 $= 7 + 100 - 30$
 $= 107 - 30 = 77$

16. (A) Time when the hands coincide = $\frac{60}{11} \times H$
 $= \frac{60}{11} \times 6 = \frac{360}{11} = 32\frac{8}{11}$ minute

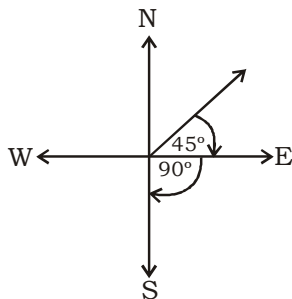
17. (C)

18. (C) Number of students who passed = $14 + 27 - 1 = 40$
 Number of students who fail = 6
 Total number of students = 46

19. (B) As,
 M A N = 28
 $13 + 1 + 14 = 28$
 Similarly,
 R A N
 $18 + 1 + 14 = 33$

20. (D)

21. (C)



He is facing south direction.

22. (C) 23. (B) 24. (C)

25. (C) S = **57**, 69, 76, 88, 95
 R = **02**, 14, 21, 34, 40
 P = **56**, 68, 75, 87, 99
 G = 04, 11, 23, **30**, 42

28. (B) The World Health Organization has announced that the body along with its leading partners to make available 120 million rapid-diagnostic tests for Covid-19.

29. (A) This area of the brain is responsible for fine motor movement, balance, and the brain's ability to determine limb position.

30. (D) Amylase enzyme is present in all members of the animal Kingdom excellent protozoa.

32. (B) A level of atmosphere which is composed partly of electrons and positive ions is called. Troposphere.

34. (C) In other words, after question hour, a Adjournment Motion is moved by a Member of Parliament to draw the attention of Executive for discussing a definite matter of public importance. It only allowed in Lok Sabha.

36. (D) Richard Bourke, the Earl of Mayo. He was made viceroy of India and was assassinated there in 1872.
40. (A) Karnataka-born Bezwada Wilson, a prolific campaigner for eradication of manual scavenging in India, and Carnatic singer T M Krishna from Chennai, were today chosen for the prestigious Ramon Magsaysay Award for 2016.
44. (A) Most serious air pollutant causing health hazard is Sulphur dioxide.
46. (D) Terylene is the product of condensation polymerisation, In this polymerisation repetitive condensation takes place between two bi-functional monomers known as ethylene glycol and Terephthalic acid and produces high molecular mass condensation polymers.
49. (A) The smallest island country in the Indian Ocean is Maldives.
50. (C) The chairperson is appointed by the Lok Sabha speaker. The term of office of the members is one year. At present, the 16th Lok Sabha has no designated leader of opposition, however the Indian National Congress (INC) being largest opposition party has gotten the responsibility of heading the PAC.

51. (B)

	Speed	Time
A	30	3
B	45	2

$\left. \begin{array}{l} 30 \\ 45 \end{array} \right\} 90$
 1 hour

If there is a difference of 1 hour, then distance = 90 km

If there is a difference of 2 hours, then distance = $90 \times 2 = 180$ km

52. (D)

	Speed	Time	Arrival Time
S ₁	10	3	1:00 PM
S ₂	15	2	11:00 AM

$\left. \begin{array}{l} 10 \\ 15 \end{array} \right\} 30$
 1 hour 2 hour

Original Distance = $\frac{30}{1} \times 2 = 60$ km

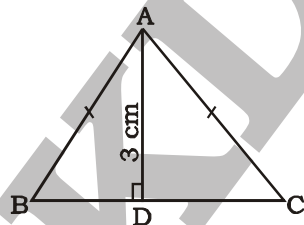
Original time of departure of man is 7 AM

New time of arrival is 12 noon.

∴ New time = 5 hours

So, New Speed = $\frac{60}{5} = 12$ km/hr.

53. (A)



Area of $\triangle ABC = \frac{1}{2} \times AD \times BC$

$\frac{1}{2} \times AD \times BC = 12$ [∵ Given]

$BC = \frac{12 \times 2}{3} = 8$ cm

$$BD = CD \quad [\because \text{Isosceles triangle}]$$

$$\text{So, } BD = \frac{8}{2} = 4 \text{ cm}$$

$$\Delta ABD \text{ becomes a right angle triangle} = \sqrt{BD^2 + AD^2}$$

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

$$AB = AC \quad [\because \text{Given}]$$

$$\text{Perimeter of } \Delta ABC = AB + AC + BC$$

$$= 5 + 5 + 8 = 18 \text{ cm}$$

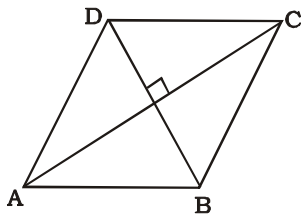
54. (D) Surface area of a cube = $6a^2$

$$6a^2 = 6 \quad [\because a \text{ is side of cube}]$$

$$a = 1 \text{ cm}$$

$$\text{Volume of cube} = a^3 = 1 \text{ cm}^3$$

55. (B)



$$AC = 4.8 \text{ cm, } BD = 1.4 \text{ cm}$$

$$AB = \sqrt{\left(\frac{4.8}{2}\right)^2 + \left(\frac{1.4}{2}\right)^2} = 2.5 \text{ cm}$$

$$\text{So, perimeter of rhombus} = 2.5 \times 4 = 10 \text{ cm}$$

56. (A) $\sin \theta + \cos \theta = \sqrt{3}$

Squaring on both sides,

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

$$\sin \theta \cos \theta = \frac{3-1}{2} = 1 \quad \dots (i)$$

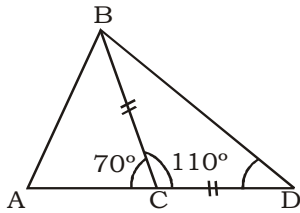
$$\tan \theta + \cot \theta = \frac{\sin \theta}{\cos \theta} + \frac{\cos \theta}{\sin \theta}$$

$$= \frac{\sin^2 \theta + \cos^2 \theta}{\sin \theta \cos \theta} = \frac{1}{1} = 1 \quad [\because \text{from equation (i)}]$$

57. (A) $\frac{4 \sin \theta - \cos \theta}{4 \sin \theta + \cos \theta} = \frac{4 \frac{\sin \theta}{\cos \theta} - \frac{\cos \theta}{\cos \theta}}{4 \frac{\sin \theta}{\cos \theta} + \frac{\cos \theta}{\cos \theta}}$

$$= \frac{4 \tan \theta - 1}{4 \tan \theta + 1} = \frac{3-1}{3+1} = \frac{1}{2}$$

58. (D)



$$\angle ACB + \angle BCD = 180^\circ$$

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

In $\triangle BCD$,

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

$$110^\circ + 2\angle BDC = 180^\circ$$

$$[\because BC = CD]$$

$$\angle BDC = \frac{180^\circ - 110^\circ}{2} = 35^\circ$$

59. (B) $(a - b) + (b - c) + (c - a) = 0$

$$\therefore (a - b)^3 + (b - c)^3 + (c - a)^3 = 3(a - b)(b - c)(c - a)$$

Now,

$$= \frac{(a - b)^3 + (b - c)^3 + (c - a)^3}{(a - b)(b - c)(c - a)}$$

$$= \frac{3(a - b)(b - c)(c - a)}{(a - b)(b - c)(c - a)} = 3$$

60. (D) $x - \frac{1}{x} = \sqrt{5}$

$$\left(x + \frac{1}{x}\right)^2 = \left(x - \frac{1}{x}\right)^2 + 4$$

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

$$x + \frac{1}{x} = 3$$

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

61. (A) Total students in class = 45

Students who can speak Hindi only = 22

Students who can speak English only = 12

Number of students who can speak both the languages = $45 - (22 + 12) = 11$

62. (C) Let initial expense = ₹ 100

New expense = ₹ 120

Expected expense = ₹ 110

$$\text{Percentage reduction} = \left(\frac{120 - 110}{120} \times 100\right)\% = 8\frac{1}{3}\%$$

63. (B) $LCM \times HCF = \text{Product of numbers}$

$$A \times B = 12 \times 72 = 864$$

$$A + B = 60 \quad [\text{Given}]$$

$$A - B = \sqrt{(A+B)^2 - 4A \times B}$$

$$A - B = \sqrt{(60)^2 - 4 \times 864}$$

$$A - B = 12$$

$$A = 36 \text{ and } B = 24$$

\therefore Required number = 24

64. (A) $10^1 + 10^2 + \dots + 10^{10}$

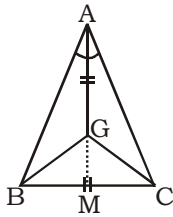
Given series is in GP.

$$\text{Sum} = \frac{a[r^n - 1]}{r - 1} = \frac{10[10^{10} - 1]}{10 - 1}$$

$$= \frac{10[10000000000 - 1]}{10 - 1} = 10(1111111111)$$

Number of zeroes = 1

65. (D)



$$AG = BC \text{ (Given)}$$

$$\text{and } GM = \frac{AG}{2} \quad (\text{as we know})$$

$$BM = \frac{BC}{2} = \frac{AG}{2}$$

In $\triangle BMG$,

$$\angle BGM = \angle GBM$$

Similarly,

$$\angle CGM = \angle GCM$$

In $\triangle BGC$,

$$\angle BGC + \angle GCM + \angle GBM = 180^\circ$$

$$\angle BGC + \angle CGM + \angle BGM = 180^\circ$$

$$2 \times \angle BGC = 180^\circ$$

$$\angle BGC = 90^\circ$$

66. (A) Ratio of milk and water = 3 : 2.

After mixture is drawn off, the new ratio = 3 : 2

After adding water (equal to mixture drawn) = 1 : 1

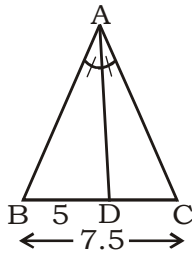
$$\text{Water added} = \frac{1}{2} - \frac{2}{5} = \frac{1}{5}$$

$$\text{So, mixture withdrawn} = \frac{1}{5}$$

$$\text{Original mixture added} = \frac{5}{5} + \frac{1}{5} = \frac{6}{5}$$

$$\text{Fraction of water added} = \frac{\frac{1}{5}}{\frac{6}{5}} = \frac{1}{6} \text{ th part}$$

67. (D)



$BD = 5 \text{ cm}$ and $BC = 7.5 \text{ cm}$ [Given]
 $CD = 7.5 - 5 = 2.5 \text{ cm}$

$$\frac{AB}{AC} = \frac{BD}{DC} \quad (\text{interior angle bisector property of a } \Delta)$$

So, $\frac{AB}{AC} = \frac{5}{2.5} = 2 : 1$

$AC : AB = 1 : 2$

68. (B) Required number is HCF of $(690 - 10)$ and $(875 - 25)$.
 So, HCF of 680 and 850 is 170.

69. (B) $\sin \frac{\pi}{6} + \cos \frac{\pi}{3} - \tan^2 \frac{\pi}{4}$
 $= \sin 30^\circ + \cos 60^\circ - \tan^2 45^\circ$
 $= \frac{1}{2} + \frac{1}{2} - 1 = 0$

70. (C) A pipe can fill a tank = 8 hours
 Time taken to fill half the tank = 4 hours
 $5 = (1 + 4)$ pipes of similar kind will fill half the tank in = $\frac{4}{5}$ hours
 = 48 minutes
 So, total time taken to fill the tank = 4 hours 48 minutes

71. (B)

A	12 (↑)	_____	+5
B	15 (↑)	60	+4
C	20 (↓)	_____	-3
			<u>6</u>

Work done by B and C in 1 hour = $(4 - 3) = 1$
 As tank gets filled in 20 hours so work done by A = $60 - 20(1) = 40$

Pipe A should be closed after = $\frac{40}{5} = 8$ hours

72. (C) Let the average score of batsman = x
 Total score till 54th innings = $54 \times x = 54x$
 ATQ,
 $54x + 0 = 55(x - 2)$
 $x = 110$
 Average score after 55th inning = $110 - 2 = 108$
73. (D) Total number of students passed out during 2000 to 2003
 = $(6000 + 10000 + 8000 + 12000) = 36000$
 Total number of students admitted during 2000 to 2003
 = $(4000 + 8000 + 6000 + 1000) = 26000$
 Required ratio = $36000 : 26000 = 18 : 13$
74. (B) In 2000, pass percentage = $\left(\frac{4}{6} \times 100\right)\% = \frac{200}{3}\% = 66\frac{2}{3}\%$

 In 2001, pass percentage = $\left(\frac{6}{10} \times 100\right)\% = 60\%$

 In 2002, pass percentage = $\left(\frac{6}{8} \times 100\right)\% = 75\%$

 In 2003, pass percentage = $\left(\frac{8}{12} \times 100\right)\% = \frac{200}{3}\% = 66\frac{2}{3}\%$

 In 2004, pass percentage = $\left(\frac{8}{12} \times 100\right)\% = \frac{200}{3}\% = 66\frac{2}{3}\%$

 The required years are = 2000 & 2001
75. (B) Total number of students passed out in the year 2003 and 2004 together
 = $8000 + 8000 = 16000$
 Required ratio = $8000 : 16000 = 1 : 2$

MEANINGS IN ALPHABETICAL ORDER

Adhere	stick fast to (a surface or substance)	पालन करना
Apiary	a place where bees are kept; a collection of beehives	मधुमक्खियों के पालने का स्थान
Arsenal	a collection of weapons and military equipment stored by a country, person, or group	शस्त्रागार
Aviary	a large cage, building, or enclosure for keeping birds in	पक्षीकाल
Confiscate	(of property) taken or seized with authority	जब्त कर लेना
Dubious	hesitating or doubting	संदिग्ध
Enrage	make very angry	क्रुद्ध
Ensue	happen or occur afterward or as a result	पीछा करना
Entail	involve (something) as a necessary or inevitable part or consequence	मिलना
Entice	attract or tempt by offering pleasure or advantage	फुसलाना
Entrap	catch (someone or something) in or as in a trap	फंसे में फसना
Fishy	relating to or resembling fish or a fish	मछली का बना हुआ
Illuminate	make (something) visible or bright by shining light on it; light up	रौशान
Orchard	a piece of land planted with fruit trees	फलवाटिका
Steady	firmly fixed, supported, or balanced; not shaking or moving	नियमित

SSC MOCK TEST - 276 (ANSWER KEY)

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

76. (A) Replace 'based' by 'having'.

77. (D) No error.

90. (C) The correct spelling of 'Restaurent' is 'Restaurant', 'Meazure' is 'Measure' and 'Roberry' is 'Robbery'.

91. (D) The correct spelling is 'Quiet'.

KD