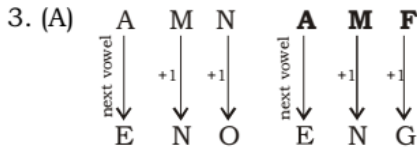


# SSC PRE MOCK TEST – 2 (SOLUTION)

1. (B)  $24 \Rightarrow 2^4 = 16$  and  $32 \Rightarrow 3^2 = 9$

2. (B)  $238 \Rightarrow 382$  and  $416 \Rightarrow 164$   
 abc bca abc bca



4. (D) Cow is **herbivorous** and Bear is omnivorous.

5. (D)  $3 + 8 + 5 + 6 = 22$  Divisible by 11

$2 + 4 + 2 + 3 = 11$  Divisible by 11

$3 + 6 + 9 + 4 = 22$  Divisible by 11

$2 + 5 + 1 + 7 = 15$  Not Divisible by 11

6. (C) 64 is the only number for which complete square root and cubic root is possible.

$\sqrt{36} = 6$ ,  $\sqrt{16} = 4$ ,  $\sqrt[3]{64} = 4$  and  $\sqrt{64} = 8$ ,

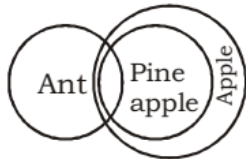
$\sqrt{144} = 12$

7. (C) Expect Vijaywada, other cities are in Madhya Pradesh.

8. (C) Except (C), in other options, the first number is divisible by the second number.

9. (B) COOL

10. (D)



I. ✗

II. ✓

11. (C)  $18+36 = 54$ ,  $36+12 = 48$ ,  $12+32 = 44$ ,

$42 + 32 = 74$ ,  $42 + 28 = 70$ ,  $28 + 18 = 46$

12. (A)  $12 + 18 + 26 + 24 = 80$

$15 + 35 + 30 = 80$

$42 + 38 = 80$

13. (B)  $\frac{8}{2} = 4$ ,  $\frac{4}{2} = 2$ ,  $\frac{9}{3} = 3$  and  $\frac{6}{2} = 3$

14. (B) 1 4 27 256 3125

↓   ↓   ↓   ↓   ↓  
 $1^1$   $2^2$   $3^3$   $4^4$   $5^5$

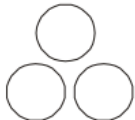
15. (B)  $x + x + 4 + \dots + x + 20 = 78$

$\Rightarrow 6x + 4(1 + 2 + 3 + 4 + 5) = 78$

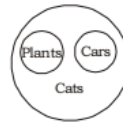
$\Rightarrow 6x = 78 - 60 = 18$

$\Rightarrow x = 3$  years

16. (D)



17. (B)



I. **False**

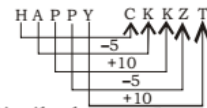
II. **False**

18. (C)

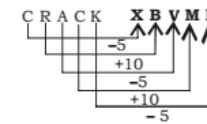
Letter → Word → Sentence → Paragraph

4                    1                    3                    2

19. (A) As,



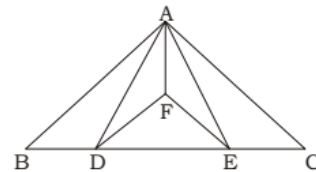
Similarly,



20. (C) ababcabcdabcde

21. (D)  $25 \div 5 - 10 \times 2 + 30 = 15$

22. (C)



$\Delta ABC$ ,  $\Delta ADB$ ,  $\Delta DEF$ ,  $\Delta ADF$ ,  $\Delta AFE$ ,  $\Delta ACE$ ,

$\Delta ADE$ ,  $\Delta ADC$ ,  $\Delta ABE$

23. (C)

24. (C) Obedience → Obedience → Obediencia → Obedient

25. (D)

51. (C) Let the present age of son =  $x$  years then, the present age of man =  $x + 24$

ATQ,

$(x + 24) + 2 = 2(x + 2)$

$\Rightarrow x + 26 = 2x + 4$

$\Rightarrow x = 22$

$\therefore$  Present age of son = **22 years**

52. (A) Given :-

Length =  $1.15 \times$  breadth.

$\therefore$  Area =  $l \times b$

$\Rightarrow 460 = 1.15 b \times b$

$$\Rightarrow b^2 = \frac{460 \times 100}{115}$$

$$\Rightarrow b = \sqrt{400} = 20$$

$\therefore$  Required breadth = **20m**

53. (C) Average weight of 16 boys = 50.25  
 Total weight of 16 boys =  $50.25 \times 16$   
 Average weight of 8 boys = 45.15  
 Total weight of 8 boys =  $45.15 \times 8$   
 Total weight of 24 boys =  $(50.25 \times 16) + (45.15 \times 8)$   
 $\therefore$  Required average weight  
 =  $\frac{(50.25 \times 16) + (45.15 \times 8)}{24}$   
 = **48.55 kg**

54. (A) Speed upstream =  $\frac{8}{\frac{24}{60}} = 20$  km/hr

Speed of the stream = 4km/hr

$\therefore$  Speed of the boat in still water =  $(20+4)$   
 = **24km/hr**

55. (D) Meal for 200 children = Meal for 120 men  
 $\Rightarrow$  Meal for 150 children

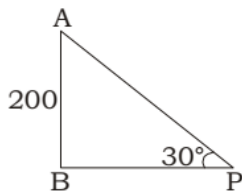
$$= \text{Meal for } \frac{120 \times 150}{200} \text{ men}$$

$$= \text{Meal for 90 men}$$

$\therefore$  Required number of men =  $120 - 90 =$  **30 men**

56. (B) Sum of decimal place =  $3 + 4 = 7$   
 As  $5 \times 8 = 40$  (digit at extreme right)  
 So, we have **6** significant digits to the right of decimal point

57. (B)



$$\tan 30^\circ = \frac{AB}{BP}$$

$$\Rightarrow \frac{1}{\sqrt{3}} = \frac{200}{BP}$$

$$\Rightarrow BP = 200\sqrt{3}$$

$\therefore$  Required distance

$$= 200\sqrt{3}$$

$$= 1.732 \times 200 = \mathbf{346.4m}$$

58. (C)

$$\begin{array}{ccc} & 7.2 & 5.7 \\ & \diagdown & \diagup \\ & 6.3 & \\ & \diagup & \diagdown \\ 5.7-6.3 & & 7.2-6.3 \\ = 0.6 & & = 0.9 \end{array}$$

$$\therefore \text{ Required Ratio} = \frac{0.6}{0.9} = \frac{2}{3}$$

59. (C) Let the profit be  $x$   
 As, 5% is for charity, so rest 95% is divided between A and B in the ratio 3 : 2

$$\text{A's profit} = 0.95x \times \frac{3}{5}$$

ATQ,

$$0.95x \times \frac{3}{5} = 855$$

$$\Rightarrow x = \frac{855 \times 5}{0.95 \times 3} = 1500$$

$\therefore$  Total Profit = **₹1500**

60. (C) Total votes =  $1136 + 7636 + 11628$   
 = 20400

$$\therefore \text{ Required Percentage} = \frac{11628}{20400} \times 100$$

$$= \frac{11628}{204} = \mathbf{57}$$

61. (B) Required time =  $\frac{12 \times 24}{12 + 24}$

$$= \frac{12 \times 24}{36} = \mathbf{8 \text{ minute}}$$

62. (D) ATQ,

$$\sqrt{\frac{1}{\sin^2 A} + \frac{1}{\cos^2 A}}$$

$$= \sqrt{\frac{1}{\sin^2 A} \times \frac{1}{\cos^2 A}}$$

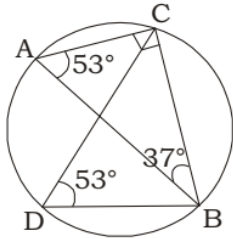
$$= \frac{1}{\sin A \cos A} = \frac{2}{2 \sin A \cos A} = \mathbf{2 \operatorname{cosec} 2A}$$

63. (B) ATQ,

$$1 + \sin A \cos A = \sin^2 A + \cos^2 A + \sin A \cos A$$

$$= \frac{(\sin^3 A - \cos^3 A)}{(\sin A - \cos A)}$$

64. (C) ATQ,



$\angle CAB = 90^\circ - 37^\circ = 53^\circ$   
 and  $\angle CAB = \angle CDB$  (angle made by  
 $\Rightarrow \angle CDB = 53^\circ$  same chord)

65. (A) ATQ,

$$x = 17 + 12\sqrt{2}$$

Taking square root on both side.

$$\sqrt{x} = \sqrt{(8+9+3 \times 2\sqrt{2} \times 2)}$$

$$\sqrt{x} = (3 + 2\sqrt{2}) \quad \text{and}$$

$$\frac{1}{\sqrt{x}} = 3 - 2\sqrt{2}$$

$$\text{then, } \sqrt{x} + \frac{1}{\sqrt{x}} = 3 + 2\sqrt{2} + 3 - 2\sqrt{2} = 6$$

66. (B) ATQ,

$$\frac{1+x}{\sqrt{x} + \frac{1}{\sqrt{x}}} - \frac{\sqrt{x} + \frac{1}{\sqrt{x}}}{1+x} + \frac{1}{\sqrt{x}}$$

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

67. (B) ATQ,

$$\frac{1}{a^{m-n} + 1} + \frac{1}{a^{-(m-n)} + 1}$$

$$= \frac{1}{a^{m-n} + 1} + \frac{a^{m-n}}{1 + a^{m-n}} = \frac{1 + a^{m-n}}{1 + a^{m-n}} = 1$$

68. (B) ATQ,

$$\frac{p}{q} = \frac{a+4}{a-4}$$

Squaring on both sides

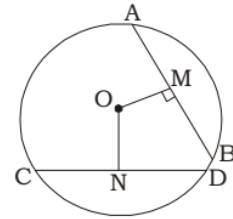
$$= \frac{p^2}{q^2} = \frac{(a+4)^2}{(a-4)^2}$$

Apply componendo and dividendo rule

$$\frac{p^2 + q^2}{p^2 - q^2} = \frac{(a+4)^2 + (a-4)^2}{(a+4)^2 - (a-4)^2} = \frac{2(a^2 + 4^2)}{4 \times a \times 4}$$

$$= \frac{a^2 + 16}{8a}$$

69. (B) ATQ,



$$\text{radius} = \sqrt{ON^2 + \left(\frac{CD}{2}\right)^2} = \sqrt{OM^2 + \left(\frac{AB}{2}\right)^2}$$

$$\Rightarrow ON^2 + 64 = 64 + (17)^2$$

Square root on both sides

$$\Rightarrow ON = 17, -17$$

Hence,  $ON = 17 \text{ cm}$  (-ve value of side is neglected)

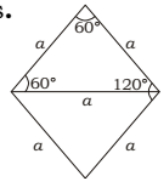
70. (C) ATQ,  $\frac{h_1}{h_2} = \sqrt{\frac{\text{Area of 1st triangle}}{\text{Area 2nd triangle}}}$

$$\Rightarrow \left(\frac{\sqrt[3]{7}}{\sqrt[3]{5}}\right)^2 = \frac{\text{Area of 1st triangle}}{\text{Area 2nd triangle}}$$

$$\Rightarrow \frac{(7)^{\frac{2}{3}}}{(5)^{\frac{2}{3}}} = \frac{\text{Area of 1st triangle}}{\text{Area 2nd triangle}}$$

71. (B) ATQ,

Angles are  $60^\circ, 120^\circ, 60^\circ$  and  $120^\circ$   
 opposite angles are equal so it is a  
 parallelogram but these angles full fill  
 the conditions of a rhombus.



Hence, it is a **rhombus**

72. (B) ATQ,

Required average

$$\frac{152 + 35 + 14 + 138 + 34 + 40 + 35 + 150 + 63 + 68 + 112 + 73 + 196}{13} = 85$$

73. (D) ATQ,

Required amount

$$= (152 + 35 + 14 + 138 + 34 + 40 + 35 + 150 + 63 + 68 + 112 + 73 + 196) \times 50$$

$$= 1110 \times 50 = \text{₹}55500$$

74. (A) See the solution of question no. 72

75. (C) ATQ,

$$\text{Option A} = \frac{(138 - 34)}{138} \times 100 = 75.36\%$$

$$\text{Option B} = \frac{(150 - 63)}{150} \times 100 = 58\%$$

$$\text{Option C} = \frac{(138 - 14)}{138} \times 100 = 90\%$$

$$\text{Option D} = \frac{(196 - 73)}{196} \times 100 = 62.75\%$$

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