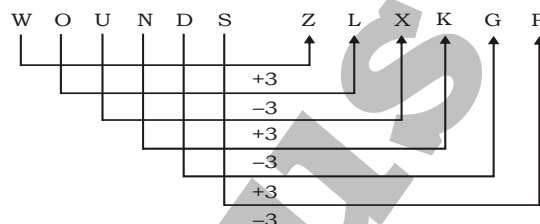
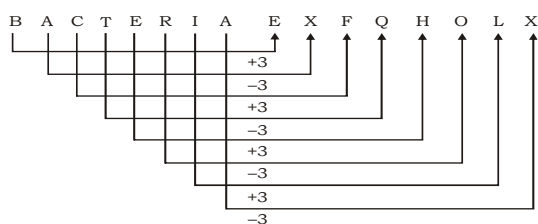


SSC MOCK TEST - 450 (SOLUTION)

1. (3) Second is the antonym of first.

2. (1) As,

Similarly,



3. (2) Except Weight, others are related to each other.

4. (2) Except option (2), second number is divisible by first number.

5. (4) As, $24^2 + (24 \div 2) = 588$

And, $30^2 + (30 \div 2) = 915$

Similarly, $28^2 + (28 \div 2) = \mathbf{798}$

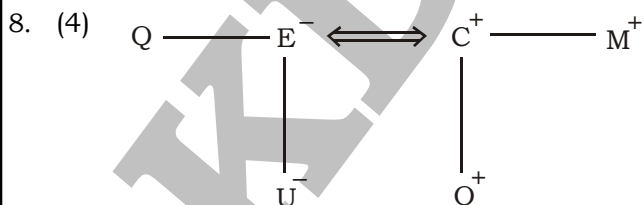
6. (3)

7. (1) $24 \times \frac{3}{2} = 36$

$$36 \times \frac{3}{2} = 54$$

$$54 \times \frac{3}{2} = 81$$

$$81 \times \frac{3}{2} = \frac{\mathbf{243}}{2}$$



Hence, O is the Nephew of Q.

9. (2) As, $7 \times 12 = 84$

$$7 \times 11 = 77$$

$$7 \times 10 = 70$$

Similarly, $9 \times 10 = 90$

$$9 \times 9 = 81$$

$$9 \times 8 = 72$$

10. (3) Number of days from 10th March to 25th September = 21 + 30 + 31 + 30 + 31 + 31 + 25 = 199
 Number of odd days = $199 \div 7 = 3$

$\therefore$ Required day = Friday + 3 = Monday

11. (3)

12. (4) **In the first row,**

$$981 - 436 = 545$$

In the second row,

$$768 - 134 = 634$$

In the third row,

$$459 - 435 = 24$$

13. (3) $42 * 7 * 64 * 11 * 6 * 4$

Put the signs,

$$42 \div 7 + 64 - 11 \times 6 = 4$$

$$6 + 64 - 66 = 4$$

$$70 - 66 = 4$$

$$4 = 4$$

14. (4) 2. Recede $\rightarrow$ 4. Recliner $\rightarrow$ 6. Recognition $\rightarrow$ 5. Reconcile $\rightarrow$ 3. Recorder $\rightarrow$ 1. Recreation

15. (4) Let the total number of players be $3x$.

$$\text{Hostel X} = 3x \times \frac{1}{3} = x$$

$$\text{Hostel Y} = 2x$$

$$\text{Now, Hostel X} = x + 20$$

$$\text{Hostel Y} = 2x - 20$$

ATQ,

$$(x + 20) = 3x \times \frac{50}{100}$$

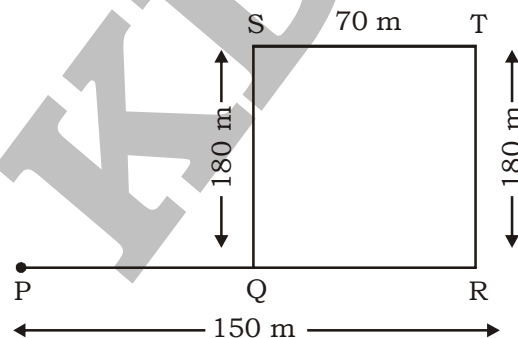
$$x + 20 = \frac{3x}{2}$$

$$2x + 40 = 3x$$

$$x = 40$$

$$\therefore \text{Required \%} = \left(\frac{20}{120} \times 100 \right) \% = 16.67\%$$

16. (2)



$$PQ = 150 - 70$$

$$PQ = 80 \text{ m}$$

Hence, Riya is 80 m far from her starting position to East.

17. (3)



I. False II. False

Hence, Neither conclusion I nor II follows.

18. (2)

21 Villagers are both Land-owners and Employment.

19. (1)

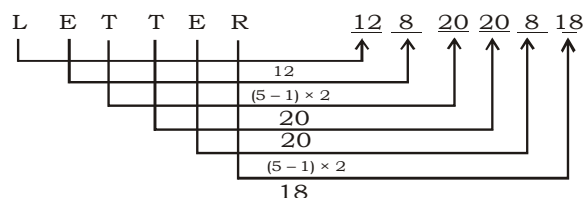
20. (2) As, $25 \times \frac{18}{2} = 225$

Similarly,

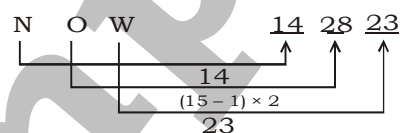
$24 \times \frac{22}{2} = 264$

21. (1)

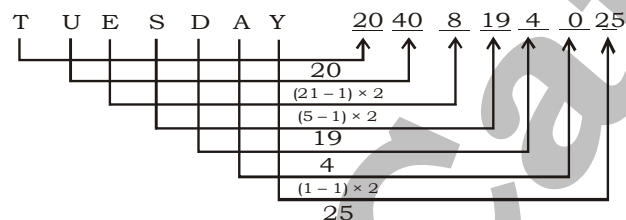
As,



And,



Similarly,



22. (1)

23. (1)

24. (3)

25. (2)

26. (2)

In the present-day state, you will find the Meguti temple in Karnataka.

28. (2)

Due to plate tectonics, the lithosphere move over the asthenosphere.

29. (2)

On 12 August 1765, the Mughal emperor appointed the East India Company as the Diwan of Bengal.

31. (2)

Yeast is single-celled microorganisms that are classified, along with moulds and mushrooms, as members of the Kingdom Fungi. It is also known as sugar eating fungus.

33. (1)

Dara Shikoh devoted much effort towards finding a common mystical language between Islam and Hinduism. Towards this goal he completed the translation of fifty Upanishads from their original Sanskrit into Persian in 1657 so that they could be studied by Muslim scholars.

36. (1)

Hamas political head Ismail Haniyeh was killed in an Israeli airstrike in Tehran on 31 July 2024. He was attacked after attending the swearing-in of Iran's new president, Dr. Masoud Pezeshkian. Hamas, a militant Palestinian group, aims to destroy Israel and establish an Islamic Palestinian state.

38. (2)

Thullal is a solo satiric dance form belonging to the state of Kerala.

39. (3)

Prophet Muhammad founded the faith of Islam in the seventh century.

40. (1)

The alkaline earth metals are six chemical elements in group 2 of the periodic table. They are beryllium (Be), magnesium (Mg), calcium (Ca), strontium (Sr), barium (Ba), and radium (Ra).

41. (4) Coral, a sessile animal, relies on its relationship with plant-like algae to build the largest structures of biological origin on Earth.
42. (4) Women performing the ghoomar folk dance, Rajasthan state, India.
43. (4) Stagflation is characterized by slow economic growth and relatively high unemployment-or economic stagnation-which is at the same time accompanied by rising prices.
44. (4) The International Olympic Committee (IOC) was formed, and the first Games were planned for 1896 in Athens, the capital of Greece. In Athens, 280 participants from 13 nations competed in 43 events, covering track-and-field, swimming, gymnastics, cycling, wrestling, weightlifting, fencing, shooting, and tennis.
48. (2) Unique Transaction Reference (UTR) number is a 22 character code used to uniquely identify a transaction in RTGS system.
49. (2) Charan Singh replaced Morarji Desai as the Prime Minister of India in 1979.
51. (4) Given expression = $3^{25} (1 + 3 + 3^2 + 3^3) = 3^{25} \times 40$
 $= (3^{24} \times 3) (4 \times 10)$
 $= (3^{24} \times 4) (3 \times 10)$, which is divisible by 30
52. (1) LCM of 6, 9 and 12 = 36
 Number is the form of $36p + 4$
 Since, the required number between 300 and 400
 So, the numbers will be 328 (when $p = 9$) and 364 (when $p = 10$)
 $\therefore$ Required sum = $328 + 364 = 692$
53. (2) Given,

$$\frac{a}{b} \times \frac{c}{d} = \frac{14}{15}$$
 And
$$\frac{a}{b} \div \frac{c}{d} = \frac{35}{24}$$

$$= \frac{a}{b} \times \frac{d}{c} = \frac{35}{24} \quad \left(\text{where } \frac{a}{b} \text{ is greater fraction}\right)$$
 Now multiplying both the equations

$$\frac{ac}{bd} \times \frac{ad}{bc} = \frac{14}{15} \times \frac{35}{24}$$

$$\frac{a^2}{b^2} = \frac{49}{36}$$

$$\frac{a}{b} = \frac{7}{6}$$
 The greater fraction is $\frac{7}{6}$.
54. (1) Let the present ages of mother and son be x years and $(45 - x)$ years respectively.
 Then,
 $(x - 5)(45 - x - 5) = 4(x - 5)$
 $45 - x - 5 = 4$
 $x = 36$
 $\therefore$ The present ages of mother and son are 36 years and 9 years respectively.

55. (1) Let the four parts into which 3150 is divided are a, b, c and d.

ATQ,

$$\frac{a}{2} = \frac{b}{3} = \frac{c}{4} = \frac{d}{12} = k$$

Then $a = 2k$, $b = 3k$, $c = 4k$ and $d = 12k$

As $a + b + c + d = 3150$

$$(2k + 3k + 4k + 12k) = 3150$$

$$21k = 3150$$

$$k = 150$$

Hence, the four parts are 300, 450, 600, 1800

So, the largest part is 1800.

56. (2) As each works for 3 hours.

$$\text{Sangeeta's work for 3 hours} = 3 \times \frac{1}{6} = \frac{1}{2} \text{ part}$$

$$\text{So, Sangeeta gets ₹} \left(\frac{1}{2} \times 320 \right) = ₹ 160$$

$$\text{Manisha's works for 3 hours} = 3 \times \frac{1}{8} = \frac{3}{8} \text{ part}$$

$$\text{So, Manisha gets ₹} \left(\frac{3}{8} \times 320 \right) = ₹ 120$$

$$\text{Rekha gets} = 320 - (160 + 120) = 320 - 280 = ₹ 40$$

57. (4) Cost price of article = ₹ x and selling price of article = ₹ y

$$y \times \frac{7}{100} = x \times \frac{8}{100}$$

$$y = \frac{8x}{7}$$

ATQ,

$$y \times \frac{9}{100} - x \times \frac{10}{100} = 1$$

$$\frac{8x}{7} \times \frac{9}{100} - \frac{x}{10} = 1$$

$$\frac{18x}{175} - \frac{x}{10} = 1$$

$$\frac{36x - 35x}{350} = 1$$

$$\therefore x = ₹ 350$$

58. (3) The part of field cultivated by A in 1 day = $\frac{2}{5 \times 6} = \frac{1}{15}$

The part of field cultivated by B in 1 day = $\frac{1}{3 \times 10} = \frac{1}{30}$

The part of field cultivated by A and B together in 1 day = $\frac{1}{15} + \frac{1}{30} = \frac{3}{30} = \frac{1}{10}$

$\therefore \frac{4}{5}$ part of field is cultivated by A and B together in 1 day = $\frac{4}{\frac{1}{10}} = \frac{4 \times 10}{1} = 40$ days

59. (2) $a - b, a, a + b$ are zeroes of $x^3 - 3x^2 + x + 1$

Sum of zeroes = $\frac{-(-3)}{1} = 3$

$a - b + a + a + b = 3$

$3a = 3$

$a = 1$

Product of zeroes = $\frac{-1}{1}$

$(a - b)(1)(a + b) = -1$

$(1 - b)(1)(1 + b) = -1$

$1 - b^2 = -1$

$2 = b^2$

$b = \sqrt{2}$

Hence, $a = 1$ and $b = \sqrt{2}$

60. (2) Let A and B are two friends.

Case I:

$A + 100 = 2(B - 100)$

$A - 2B = -300 \quad \dots (1)$

Case II:

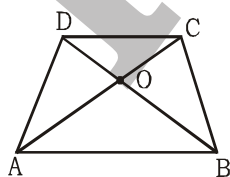
$B + 10 = 6(A - 10)$

$6A - B = 70 \quad \dots (2)$

On solving equation (1) and (2), we have

$A = ₹ 40$ and $B = ₹ 170$

61. (2)



$AB \parallel CD$

$\triangle AOB \sim \triangle COD$ (By AA Similarity)

$$\frac{\text{ar}(\triangle AOB)}{\text{ar}(\triangle COD)}$$

$$= \frac{AB^2}{CD^2} = \frac{(2CD)^2}{CD^2} \quad [\because AB = 2CD]$$

$$\therefore \text{ar}(\triangle AOB) : \text{ar}(\triangle COD) = 4 : 1$$

62. (2) Curved surface of tomb = $\pi r l = \frac{22}{7} \times 14 \times 50 = 2200 \text{ m}^2$

$$\therefore \text{Cost of white washing} = 2200 \times 0.80 = ₹ 1760$$

63. (2) Total surface area of the closed cylindrical petrol tank = $2\pi r (h + r)$

$$= 2 \times \frac{22}{7} \times 2.1(4.5 + 2.1) = 2 \times 22 \times 0.3 \times 6.6 = 87.12 \text{ m}^2$$

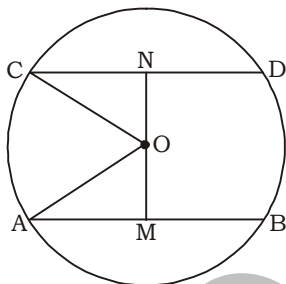
$$\frac{1}{12} \text{ of the total steel wasted away}$$

$$\frac{11}{12} \text{ of the total steel was used to make the tank.}$$

$$\frac{11}{12} \text{ of total steel} = 87.12$$

$$\text{Total steel} = \frac{87.12 \times 12}{11} = 95.04 \text{ m}^2$$

64. (1)



$$MN = 15 \text{ cm}$$

$$\text{Let } OM = x \text{ cm}$$

$$ON = (15 - x) \text{ cm}$$

In $\triangle OAM$,

$$OA^2 = x^2 + 6^2 \quad \dots(i)$$

In $\triangle OCN$,

$$OC^2 = (15 - x)^2 + 9^2 \quad \dots(ii)$$

From (i) and (ii),

$$x^2 + 36 = 225 + x^2 - 30x + 81$$

$$30x = 270$$

$$x = 9 \text{ cm}$$

Put the value of x in (i),

$$OA^2 = 81 + 36$$

$$OA = \sqrt{117} = 3\sqrt{13} \text{ cm}$$

65. (4) Ratio of their profit between Keshav, Sumeet and Thomas
 $= 2 \times 5 : 3 \times 6 : 4 \times 9 = 10 : 18 : 36 = 5 : 9 : 18$

$$80\% \text{ of the profit} = \frac{7264}{4} \times 32 = ₹ 58112$$

$$\therefore \text{Total profit} = \frac{58112}{80} \times 100 = ₹ 72640$$

66. (4) $x = 3 \cos A + 4 \sin A$
 $x^2 = 9 \cos^2 A + 16 \sin^2 A + 24 \cos A \sin A \dots\dots(i)$
 $y = 3 \sin A - 4 \cos A$

$$y^2 = 9 \sin^2 A + 16 \cos^2 A - 24 \cos A \sin A \dots\dots(ii)$$

Adding equation (i) and (ii), we get

$$x^2 + y^2 = 9 \cos^2 A + 16 \sin^2 A + 24 \cos A \sin A + 9 \sin^2 A + 16 \cos^2 A - 24 \cos A \sin A$$

$$x^2 + y^2 = 9(\cos^2 A + \sin^2 A) + 16(\cos^2 A + \sin^2 A)$$

$$x^2 + y^2 = 9 + 16$$

$$\therefore x^2 + y^2 = 25$$

67. (1) $a + b + c = 0$

$$\frac{(b+c)^2}{bc} + \frac{(c+a)^2}{ca} + \frac{(a+b)^2}{ab}$$

$$= \frac{(-a)^2}{bc} + \frac{(-b)^2}{ca} + \frac{(-c)^2}{ab}$$

$$= \frac{a^3 + b^3 + c^3}{abc} \quad (\because a^3 + b^3 + c^3 = 0)$$

$$= \frac{3abc}{abc} = 3$$

68. (4) Let the distance from starting point be x .
 Speed of man downstream = $5 + 1.5 = 6.5 \text{ km/hr}$
 Speed of man upstream = $5 - 1.5 = 3.5 \text{ km/hr}$
 Then, we have

$$\frac{x}{6.5} + \frac{x}{3.5} = 1$$

$$10x = 6.5 \times 3.5$$

$$\therefore x = \frac{22.75}{10} = 2.275 \text{ km}$$

69. (2) Number 538xy is divisible by 3, 7 and 11.

First of all LCM of 3, 7 and 11 = 231

Largest possible value of 538xy is 53899.

When we divided 53899 by 231, then we obtain 76 as remainder.

So, required number = $53899 - 76 = 53823$

Hence, $x = 2$ and $y = 3$

$$\therefore x^2 + y^2 = 2^2 + 3^2 = 13$$

70. (2) $x + \frac{1}{x} = \sqrt{5}$

Cubing both the sides,

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

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

$$x^3 + \frac{1}{x^3} = 2\sqrt{5}$$

71. (2) Slope of line passing through points (4, -2) and (-3, 5) = $\frac{5+2}{-3-4} = \frac{7}{-7} = -1$

Slope of two parallel lines is always equal.

Slope of the line parallel to the line having slope -1 = -1

72. (2) Cost price of item D = ₹ 350

Marked price of item D = ₹ 350

Discount offered = 20%

Selling price of item D = ₹ 280

$$\text{Loss\%} = \frac{\text{C.P} - \text{S.P}}{\text{C.P}} \times 100 = \frac{350 - 280}{350} \times 100 = \frac{70}{350} \times 100 = 20\%$$

73. (1) Cost price of item A = ₹ 100

Cost price of item B = ₹ 100

$$\text{Marked price of item B} = 100 \times \frac{107}{100} = ₹ 107$$

For no loss or profit :

Selling price of item B = ₹ 100

Discount offered for no loss or profit

$$= \frac{\text{M.P} - \text{S.P}}{\text{M.P}} \times 100 = \frac{107 - 100}{107} \times 100 = 6.54\%$$

74. (4) Cost price of item D = ₹ 350

Profit = 40%

$$\text{Selling price of item D} = 350 \times \frac{140}{100} = ₹ 490$$

Discount offered = 20%

$$\text{Marked price} \times \frac{80}{100} = \text{Selling price}$$

$$\text{Marked price} = \frac{490 \times 100}{80} = ₹ 612.5$$



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75. (4) Marked price of item E = ₹ 620

Cost price of item E = ₹ 310

Discount offered = 25%

$$\text{Selling price of item E} = 620 \times \frac{75}{100} = ₹ 465$$

$$\text{Profit\%} = \frac{\text{S.P} - \text{C.P}}{\text{C.P}} \times 100 = \frac{465 - 310}{310} \times 100 = 50\%$$

KD Campus

MEANINGS IN ALPHABETICAL ORDER

Alimony	a husband's or wife's court-ordered provision for a spouse after separation or divorce	गुजारा-भत्ता
Aromatic	having a pleasant and distinctive smell	सुगन्धित
Assassin	a murderer of an important person in a surprise attack for political or religious reasons	हत्यारा
Befit	be appropriate for	के अनुकूल
Clad	clothed	कपड़े पहने हुए
Commensurate	corresponding in size or degree; in proportion	(किसी वस्तु) के अनुरूप
Condole	express sympathy for (someone)	दुःख में हमदर्दी दिखाना
Console	comfort (someone) at a time of grief or disappointment	सांत्वना देना
Fable	a short story, typically with animals as characters, conveying a moral	जानवरों के किरदारों वाली एक नीति कथा
Fiasco	a complete failure	असफलता
Kleptomaniac	a person who cannot control their desire to steal things, usually because of a medical condition	वह व्यक्ति जो आमतौर पर अपनी चिकित्सीय स्थिति के कारण चीजों को चोरी करने की अपनी इच्छा को नियंत्रित नहीं कर सकता हो
Optometrist	A person who has a profession of examining the eyes for visual defects and prescribing corrective lenses	आँखों के लिए लेंस बनाने वाला
Pantheist	one who practice a doctrine that equates God with the forces and laws of the universe	वह ब्रह्मांड की शक्तियों और उसके को भगवान मानता है
Parsimony	extreme unwillingness to spend money or use resources	मितव्ययिता
Pedantic	showing much knowledge	पांडित्य पूर्ण
Perennial	lasting or existing for a long or apparently infinite time	चिरस्थायी
Philanderer	a man who readily or frequently enters into casual sexual relationships with women	स्त्री लोलुप
Rhetoric	the art of effective or persuasive speaking or writing	वाकपटु
Tart	sharp or acid in taste	खट्टा
Verbatim	in exactly the same words	शब्दशः



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SSC MOCK TEST - 450 (ANSWER KEY)

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

76. (4) No error

77. (1) 'Bacteria' is a plural noun, hence it is followed by a plural verb. Change 'is' into 'are'.

86. (3) Verb 'prefer' is followed by 'to'.

87. (3) No improvement. 'Taxes' is Third Person Plural Noun, therefore, 'they' should be used for it.

90. (2) The correct spelling of 'Optomatrist' is 'Optometrist'.

91. (2) The correct spelling of 'Perenial' is 'Perennial'.