

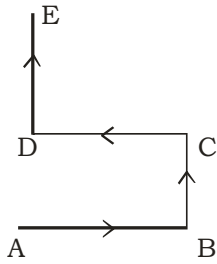
**SSC MOCK TEST - 446 (SOLUTION)**

1. (2) Elephant breathe through Trunk and Fish breathe through his Gill. Similarly, Kangaroo breathe through his pouch.
2. (1) As,  $23 \times (2^2 + 3^2) = 299$   
Similarly,  $45 \times (4^2 + 5^2) = \mathbf{1845}$
3. (1) Except Lawyer, others are related to politics.
4. (1) Except 593, the sum of digits of other number is 13.
5. (3) As, RETAILER  $\Rightarrow 18 + 5 + 20 + 1 + 9 + 12 + 5 + 18 = 88 \Rightarrow 88 - 8 = 80$  (No. of letters)  
And, MANAGER  $\Rightarrow 13 + 1 + 14 + 1 + 7 + 5 + 18 = 59 \Rightarrow 59 - 7 = 52$  (No. of letters)  
Similarly, PERMISSION  $\Rightarrow 16 + 5 + 18 + 13 + 9 + 19 + 19 + 9 + 15 + 14 = 137$   
 $\Rightarrow 137 - 10 = 127$  (No. of letters)
6. (1)

1295	1405	1537	1693	1875
↑	↑	↑	↑	↑
+11 <sup>2</sup> - 11		+12 <sup>2</sup> - 12		+13 <sup>2</sup> - 13
+14 <sup>2</sup> - 14				
7. (2)

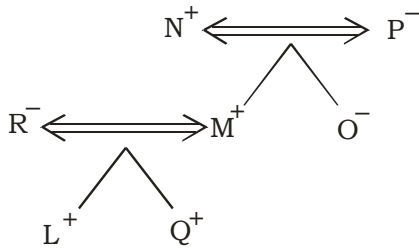
D	K	F	N	H	Q	J	T	L	W
↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
+2		+2		+2		+2			
+3			+3			+3			
8. (4) As,  $217 + (2 \times 1 \times 7) = 231$   
 $231 + (2 \times 3 \times 1) = 237$   
Similarly,  $935 + (9 \times 3 \times 5) = 1070$   
 $1070 + (1 \times 0 \times 7 \times 0) = 1070$
9. (3) xumlv/xvnlv/xwolv/xxplv
10. (1) After 6 years, sum of ages of A, B and C will be 62 years.  
Thus, at present sum of their ages =  $62 - (6 \times 3) = 44$  years  
Before 3 years, sum of ages of B and C = 19 years  
At present sum of their ages =  $19 + (3 \times 2) = 25$  years  
Thus, present age pf A =  $44 - 25 = 19$  years
11. (4)
12. (3) **In the first row,**  
 $(17 + 42) - 25 = 34 \Rightarrow 3 \times 4 = 12$   
**In the second row,**  
 $(19 + 61) - 44 = 36 \Rightarrow 3 \times 6 = 18$   
**In the third row,**  
 $(27 + 63) - 35 = 55 \Rightarrow 5 \times 5 = 25$
13. (1)  $156 \div 13 + 12 - 14 \times 25 = 350$   
Change + and -,  
 $156 \div 13 - 12 + 14 \times 25 = 350$   
 $12 - 12 + 14 \times 25 = 350$   
 $0 + 350 = 350$   
 $350 = 350$
14. (1) 1. Story  $\rightarrow$  5. Shooting  $\rightarrow$  2. Telecast  $\rightarrow$  3. Viewers  $\rightarrow$  4. Feedback

15. (3)



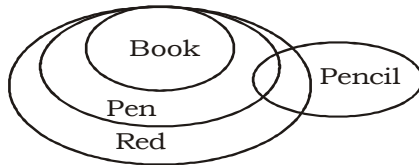
Hence, Anil is in North direction.

16. (2)



Hence, Q is the grandson of P.

17. (2)



I. True                      II. True

Hence, both the conclusions follow.

18. (4)

19. (3)

20. (4)

2 January 2008 = Wednesday

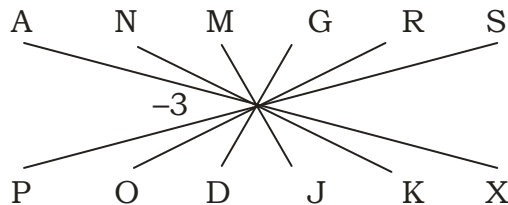
Odd days between 2008 and 2012 = 2 + 1 + 1 + 1 = 5

2 January 2012 = Wednesday + 5 = Monday

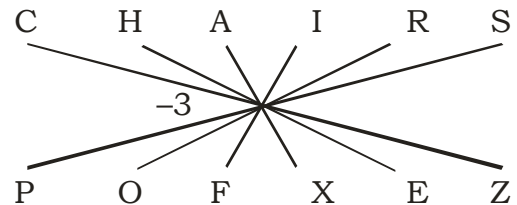
1 January 2012 = Monday - 1 = Sunday

21. (3)

As,



Similarly,



22. (1)

23. (1)

24. (1)

25. (2)

26. (1) The Rig Veda is the oldest among all the four Vedas.

27. (3) Kasturba Gandhi died in detention (in 1944) at Aga Khan palace, Poona, Bombay presidency, British India.

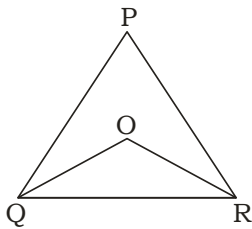
28. (3) Mars has almost the same duration of rotation about its own axis as that of Earth. Mars rotation is 24 hours, 39 minutes, and 35 seconds.

29. (3) Andes mountain ranges are the longest mountain ranges in the world having an approximate length of 7000km. They stretch from north to south through seven countries, along the west coast of the continent South America.
30. (3) The Garo, Khasi and Jaintia hills were formed in the same age as the Malwa Plateau. The Garo, Khasi and jaintia are part of the Peninsular India. The Peninsular plateau continues far eastward from Rajmahal hills into north-east as the Shillong plateau, the gap between them is known as the Rajmahal-Garo gap.
36. (1) Prime Minister Narendra Modi congratulated Dick Schoof on becoming the new Prime Minister of the Netherlands and expressed eagerness to strengthen India-Netherlands relations. Schoof, 67, a former head of the Dutch Secret Service, was sworn in by King Willem-Alexander.
37. (1) Analog computer, any of a class of devices in which continuously variable physical quantities, such as electrical potential, fluid pressure, or mechanical motion, are represented in a way analogous to the corresponding quantities in the problem to be solved.
40. (3) These Awards are conferred by the President of India at ceremonial functions which are held at Rashtrapati Bhawan usually around March/ April every year. For the year 2023, the President has approved conferment of 106 Padma Awards including 3 duo cases (in a duo case, the Award is counted as one) as per list below.
41. (4) Trophies related to lawn tennis are: Barna Bellack Cup, Davis Cup, Grand Prix, Jaylaxmi Cup (Women's), Rajendra Prasad Cup, Rajkumar Cup (Junior boys), Rajkumari Cup (Junior girls), Ramanujan Trophy, Thant Cup, Travancore Cup (Women's), Wightman Cup and Wimbledon Trophy.
43. (1) Environmental organizations recently urged the Forest department to maintain transparency in a project to extract Senna spectabilis from Wayanad Wildlife Sanctuary.
47. (2) Sound waves in air and any fluid medium are longitudinal waves because particles of the medium through which the sound is transported vibrate parallel to the direction that the sound waves moves.
48. (3) When ants bite, they inject formic acid into the muscle tissue. This formic acid is found in the mandible of ants.
50. (1) For the first time, the Taliban participated in the United Nations Conference on Afghanistan, held in Doha on 30 June and 1 July 2024.

51. (2) 
$$\frac{4 \cos(270^\circ + \theta) \sin^3(90^\circ - \theta) - 4 \cos(360^\circ + \theta) \cos^3(90^\circ + \theta)}{\cos(90^\circ + 4\theta)} = \frac{4 \sin \theta \cos^3 \theta - 4 \cos \theta \sin^3 \theta}{-\sin 4\theta}$$

$$= \frac{4 \cos \theta \sin \theta (\cos^2 \theta - \sin^2 \theta)}{2 \sin 2\theta \cos 2\theta} = \frac{2 \sin 2\theta \cos 2\theta}{2 \sin 2\theta \cos 2\theta} = -1$$

52. (1)



$\angle QPR = 80^\circ$

$\angle QOR = 90^\circ + \frac{1}{2} \angle QPR = 90^\circ + 35^\circ = 125^\circ$

$$53. (1) \quad (3x + 1)^3 + (x - 3)^3 + (4 - 2x)^3 + 6(3x + 1)(x - 3)(x - 2) = 0$$

$$(3x + 1)^3 + (x - 3)^3 + (4 - 2x)^3 - 3(3x + 1)(x - 3)(4 - 2x) = 0$$

$$(3x + 1)^3 + (x - 3)^3 + (4 - 2x)^3 = 3(3x + 1)(x - 3)(4 - 2x)$$

We know,

$$a^3 + b^3 + c^3 = 3abc, \text{ if } (a + b + c) = 0$$

$$\text{Here, } (3x + 1) + (x - 3) + (4 - 2x) = 0$$

$$2x + 2 = 0$$

$$x = -1$$

$$54. (3) \quad \text{Let the area of the circle 'C' be } x^2.$$

$$\pi r^2 = x^2$$

$$r = \sqrt{\frac{x^2}{\pi}} = \frac{x}{\sqrt{\pi}}$$

Now, area of square 'S' =  $x^2$

$$(\text{Side})^2 = x^2$$

$$\text{Side} = \sqrt{x^2} = x$$

Now, ratio of perimeters of C and S

$$2\pi r = \frac{x}{\sqrt{\pi}} : 4x$$

$$\sqrt{\pi} : 2$$

By squaring,

$$\pi : 4 = \frac{22}{7} : 4$$

$$= 22 : 28 = 11 : 14$$

$$55. (4) \quad \text{We know that,}$$

Last term = First term +  $(n - 1)d$

Numbers which are divisible by 3 from 500 to 650

$$648 = 501 + (n - 1)3$$

$$648 - 501 = 3n - n$$

$$147 + 3 = 3n$$

$$n = \frac{150}{3} = 50$$

Numbers which are divisible by 7 from 500 to 650

$$644 = 504 + (n - 1)7$$

$$644 - 504 = 7n - 7$$

$$140 + 7 = 7n$$

$$n = \frac{147}{7}$$

$$n = 21$$

Numbers which are divisible by 21 from 500 to 650

$$630 = 504 + (n - 1)21$$

$$630 - 504 = 21n - 21$$

$$126 + 21 = 21n$$

$$n = \frac{147}{21}$$

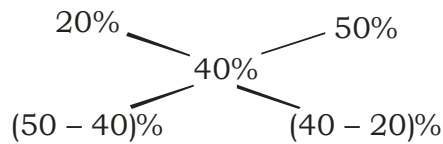
$$n = 7$$

Numbers which are divisible by 3 or 7 from 500 to 650 =  $50 + 21 - 7 = 64$

Total numbers from 500 to 650 =  $650 - 500 + 1 = 151$

Therefore, numbers which are neither divisible by 3 nor by 7 =  $151 - 64 = 87$

56. (1) **Solution A**                      **Solution B**



$$= 10\% : 20\%$$

∴ Required ratio = 1 : 2

57. (2) Total height of 120 persons =  $153.5 \times 120 = 18420$  cm

$$\text{Number of males} = \frac{120}{7+5} \times 7 = 70$$

$$\text{Number of females} = 120 - 70 = 50$$

$$\text{Total height of males} = 70 \times 1552 = 10864 \text{ cm}$$

$$\text{Total height of females} = 18420 - 10864 = 7556$$

$$\text{Now, average height of females} = \frac{7556}{50} = 151.72$$

∴ Value of x = 151.12

$$58. (4) \text{ SI in 1 year} = \frac{13250.50 - 857.1}{7.5 - 4} = \frac{4679.50}{3.50} = ₹ 1337$$

ATQ,

$$X + 1337 \times 4 = 8571$$

$$X = 8571 - 5348 = ₹ 3223$$

Now,

$$\text{SI} = \frac{P \times R \times T}{100}$$

$$1337 = \frac{3223 \times y \times 1}{100}$$

$$\therefore y = \frac{1337 \times 100}{3223} = 41.48\%$$

59. (2) Let the third proportion be x.

ATQ,

$$12 : 48 : 48 : x$$

$$\frac{12}{48} = \frac{48}{x}$$

$$\therefore x = \frac{48 \times 48}{12} = 192$$

60. (3) Speed of Train A = 42 m/s

Distance travelled by A in 8 seconds =  $42 \times 8 = 336$  m

Relative speed of Train A and B =  $46 - 42 = 4$  m/s

Time taken by Train B to caught Train A =  $\frac{336}{4} = 84$  sec

$\therefore$  Distance travelled by Train B to before Train A is caught by Train B =  $84 \times 46 = 3864$  m

61. (4) P = ₹4800

A = ₹5520

T = 3 years

SI =  $5520 - 4800 = ₹720$

$$R = \frac{720 \times 100}{4800 \times 3} = 5\%$$

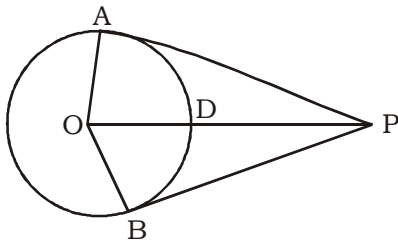
Now, A = ₹ 12000

R = 5%

T = 5 years

$$\therefore P = \frac{A \times 100}{100 + (R \times T)} = \frac{12000 \times 100}{100 + 25} = ₹9600$$

62. (2)



$$OA = OB = r$$

$$OP = 2r$$

$$AP = PB = \sqrt{4r^2 - r^2} = \sqrt{3}r$$

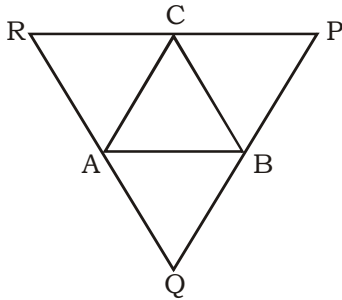
$$\sin \angle APO = \frac{OA}{OP} = \frac{r}{2r} = \frac{1}{2}$$

$$\sin \angle APO = \sin 30^\circ$$

$$\angle APO = 30^\circ$$

$$\therefore \angle APB = 60^\circ$$

63. (4)



AQ || CB and AC || QB

AQBC is a parallelogram.

BC = AQ

Again, AR || BC and AB || RC

ARCB is a parallelogram.

BC = AR

AQ = AR

$$AQ = AR = \frac{1}{2} QR$$

Similarly,  $AB = \frac{1}{2} PR$  and  $AC = \frac{1}{2} PQ$

∴ Required ratio =  $(PQ + QR + PR) : (AB + BC + AC) = 2 : 1$

64. (2)

$$\left[ \left( \sqrt[5]{x \cdot \frac{3}{5}} \right)^{-\frac{5}{3}} \right]^5$$

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

65. (3) Let the numbers be  $7x$  and  $7y$ .

Where  $x$  and  $y$  are co-primes.

Now, LCM of  $7x$  and  $7y = 7xy$

$$7xy = 140$$

$$xy = \frac{140}{7} = 20$$

Now, required values of  $x$  and  $y$ , whose product is 50 and are co-prime will be 4 and 5.

Numbers are 28 and 35, which lie between 20 and 45.

∴ Required sum =  $28 + 35 = 69$

66. (4) Original rate = ₹x per lemon

$$\text{New rate} = x \times \frac{120}{100} = ₹ \frac{6x}{5}$$

ATQ,

$$\frac{48}{x} - \frac{48 \times 5}{6x} = 4$$

$$\frac{48}{x} - \frac{40}{x} = 4$$

$$\frac{8}{x} = 4$$

$$x = 2$$

$$\text{New rate} = \frac{6 \times 2}{5} = ₹ \frac{12}{5} \text{ per lemon}$$

$$\therefore \text{Rate of lemon per dozen} = \frac{12}{5} \times 12 = ₹28.80$$

67. (1) Volume of the hemispherical ditch =  $\frac{2}{3}\pi r^3 = \frac{2}{3}\pi \times (15)^3 = 2250\pi \text{ m}^3$

$$\text{Volume of the cylindrical ditch} = \text{Volume of each dug out} = \pi r^2 h = \pi \times 8^2 \times 4 = 256\pi \text{ m}^3$$

So, extraction of hemispherical ditch by the earth dug out from the cylindrical ditch

$$= \frac{256\pi}{2250\pi} = \frac{128}{1125}$$

68. (2)  $\sin 17^\circ = \frac{x}{y}$

$$\cos 17^\circ = \sqrt{1 - \sin^2 17^\circ} = \sqrt{1 - \frac{x^2}{y^2}} = \sqrt{\frac{y^2 - x^2}{y^2}} = \frac{\sqrt{y^2 - x^2}}{y} = \sec 17^\circ = \frac{y}{\sqrt{y^2 - x^2}}$$

$$\sin 73^\circ = \sin(90^\circ - 17^\circ) = \cos 17^\circ$$

$$\therefore \sec 17^\circ - \sin 73^\circ = \frac{y}{\sqrt{y^2 - x^2}} - \frac{\sqrt{y^2 - x^2}}{y} = \frac{y^2 - y^2 + x^2}{\sqrt{y^2 - x^2}} = \frac{x^2}{\sqrt{y^2 - x^2}}$$

69. (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.

$\therefore$  Slope of the line parallel to the line having slope -1 = -1

70. (4) Given, Investment of P = ₹28000

Duration of P = 8 months

Hence, Total investment amount of P = ₹28000 × 8

Investment of Q = ₹42000

Duration of Q = 12 months

Hence, Total investment amount of Q = ₹42000 × 12

Ratio of profits = Ratio of investments = 28000 × 8 : 42000 × 12 = 4 : 9

Given, Total profit = ₹21125

$$\therefore \text{Profit of A} = \frac{4}{13} \times 21125 = ₹6500$$



71. (3) Side of the square =  $\sqrt{196} = 14$  cm

Radius of circle =  $2 \times 14 = 28$  cm

Length of rectangle =  $2 \times 2 \times 28 = 112$  cm

Breadth =  $\frac{112}{2} = 56$  cm

Perimeter =  $2(112 + 56) = (2 \times 168) = 336$  cm

72. (4) Let the ninth person spent ₹  $x$ .

Then, average of all the nine =  $\frac{12 \times 8 + x}{9} = \frac{96 + x}{9}$

Given,  $x = \frac{96 + x}{9} + 8$

$9x = 96 + x + 72$

$8x = 168$

$x = 21$

Hence, total money was spent by all of them =  $96 + 21 = ₹117$

73. (3) Total number of diabetic men in 2014 =  $66000 \times \frac{35}{100} = 23100$

Total number of diabetic women in 2014 =  $54000 \times \frac{25}{100} = 13500$

Total number of diabetic children in 2014 =  $16000 \times \frac{12.5}{100} = 2000$

Required average =  $\frac{23100 + 13500 + 2000}{3} \approx 12867$

74. (1) Required% =  $\left(\frac{37.5}{62.5} \times 100\right)\% = 60\%$

75. (1) Required average =  $\frac{3.34 + 5.83 + 1.69}{3} = 3.62$  Lac

**MEANINGS IN ALPHABETICAL ORDER**

Benediction	the utterance or bestowing of a blessing, especially at the end of a religious service	आशीर्वाद
Benevolence	the quality of being well meaning; kindness	भलाई
Besmirch	damage the reputation of (someone or something) in the opinion of others	गंदा करना
Commemorate	recall and show respect for (someone or something)	मनाना
Complicity	the state of being involved with others in an illegal activity or wrongdoing	सहापराध
Condemnation	the expression of very strong disapproval; censure	निंदा
Derision	contemptuous ridicule or mockery	उपहास
Dispassionate	not influenced by strong emotion, and so able to be rational and impartial	आवेगहीन
Enduring	continuing or long-lasting	टिकाऊ
Ethnology	the study of the characteristics of various peoples and the differences and relationships between them	मानव जाति विज्ञान
Fervent	having or displaying a passionate intensity	उत्सुक
Genealogy	a line of descent traced continuously from an ancestor	वंशावली
Impudent	not showing due respect for another person; impertinent	दिलेर
Manoeuvre	a movement or series of moves requiring skill and care	पैंतरेबाजी
Stratagem	a plan or scheme, especially one used to outwit an opponent or achieve an end	कपट
Subdued	(of a person or their manner) quiet and rather reflective or depressed	मातहत
Subterfuge	deceit used in order to achieve one's goal	छल
Trite	(of a remark, opinion, or idea) overused and consequently of little import; lacking originality or freshness	घिसे-पिटे
Vagueness	lack of certainty or distinctness	अस्पष्टता

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## SSC MOCK TEST - 446 (ANSWER KEY)

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

76. (2) If two events happen to be in past one after another, the first action is written in Past Perfect Tense. Change 'have' into 'had'.
77. (2) Replace 'so' by 'as'. 'As ..... as' is a correct phrase.
86. (4) The subject of the sentence, a highly improved variety is singular.
87. (1) 'Ask' is used to ask for an answer, explanations, etc.