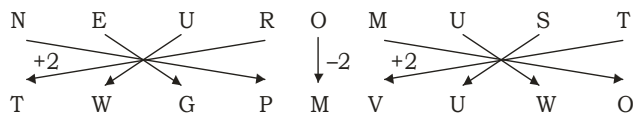
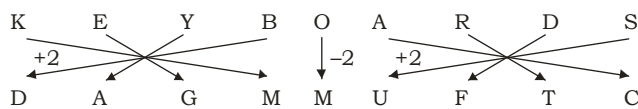


SSC MOCK TEST - 404 (SOLUTION)

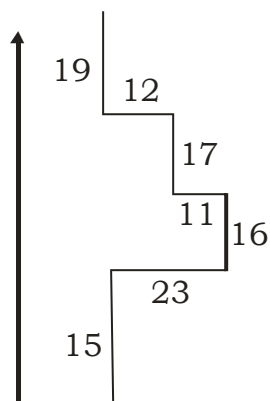
1. (3) Water of River Flows, whereas water of Pool is Stagnant.
2. (1) As, $(8 + 7) \times 2 = 30 \Rightarrow (30)^2 = 900$
And, $(3 + 2) \times 4 = 20 \Rightarrow (20)^2 = 400$
Similarly, $(7 + 5) \times 3 = 36 \Rightarrow (36)^2 = 1296$
3. (2) Except Stamen, others are female reproductive part of flower.
4. (4) (1) $I + K + T = 9 + 11 + 20 = 40$
(2) $H + L + T = 8 + 12 + 20 = 40$
(3) $O + L + M = 15 + 12 + 13 = 40$
(4) $V + T + Q = 22 + 20 + 17 = 59 \neq 40$
5. (3) As,



Similarly,



6. (2) $471 + (4 \times 7 \times 1) = 499$
 $499 + (4 \times 9 \times 9) = 823$
 $823 + (8 \times 2 \times 3) = 871$
 $871 + (8 \times 7 \times 1) = \mathbf{927}$
7. (2) $L(12) + 12 = X$
 $X(24) + 24 = V$
 $V(22) + 22 = R$
 $R(18) + 18 = J$
 $J(10) + 10 = T$
8. (3) mdlkr/mkdlr/mlkdr
9. (2)



So, total distance = $15 + 16 + 11 + 19 = 67$ m
Hence, 67 m north from the starting point.

27. (4) Abu Rayhan Beruni or Alberonius was a Persian Scholar, wrote this book Tahqiq-i-hind. He travelled to South Asia in 1017 and authored a study of Indian culture (Tahqiqma li-l-hind...) after exploring the Brahmanical traditions and Hinduism practiced in India during those days.
29. (2) It covers regions from the Bering Sea to the East China Sea, it is the largest and largest fishing area in the world.
30. (4) Aravalli mountains are the oldest according to geological history. It is 8 billion years old. At this time there would have been a fold mountain range made up of crumpled up Aravalli Supergroup rocks.
32. (3) The image formed at the retina of the human eye is real and inverted. It is due to the presence of a convex lens in the eye.
34. (2) A female with one affected X chromosome is a "carrier" of hemophilia. Sometimes a female who is a carrier can have symptoms of hemophilia. In addition, she can pass the affected X chromosome with the clotting factor gene mutation on to her children. Learn more about the inheritance pattern for hemophilia.
35. (2) ISRO was formed on August 15, 1969 and superseded INCOSPAR with an expanded role to harness space technology.
36. (2) The Union Education Ministry has constituted an expert committee to revisit its regulations and guidelines on anti-discrimination with respect to the Scheduled Caste, Scheduled Tribe, Other Backward Classes, Persons with Disabilities, and other minorities in higher educational institutions.
37. (4) Semiconductor memory is a digital electronic data storage device, often used as computer memory, implemented with semiconductor electronic devices on an integrated circuit.
38. (2) The Security Council has five permanent members—the United States, China, France, Russia, and the United Kingdom—collectively known as the P5. Any one of them can veto a resolution. The Security Council's ten elected members, which serve two-year, nonconsecutive terms, are not afforded veto power.
39. (2) Bhimsen Joshi was an Indian vocalist from Karnataka in the Hindustani classical tradition. He is known for the khayal form of singing, as well as for his popular renditions of devotional music.
40. (1) The Oscar Award is cinema's most prestigious award, It is awarded to recognize the excellence of professionals including directors, actors, and writers in the film industry.
43. (2) Simla Agreement on Bilateral Relations between India and Pakistan signed by Prime Minister Indira Gandhi, and President of Pakistan, Z. A. Bhutto, in Simla on 2 July 1972.
44. (1) The Enlightenment – the great 'Age of Reason' – is defined as the period of rigorous scientific, political and philosophical discourse that characterised European society during the 'long' 18th century: from the late 17th century to the ending of the Napoleonic Wars in 1815.
46. (2) There are 12 Schedules in the Constitution of India. One of the first mentions of Schedules was made in the Government of India Act, 1935 where it included 10 Schedules. Later, when the Indian Constitution was adopted in 1949, it consisted of 8 Schedules.
47. (1) Thermostat, device to detect temperature changes for the purpose of maintaining the temperature of an enclosed area essentially constant. In a system including relays, valves, switches, etc., the thermostat generates signals, usually electrical, when the temperature exceeds or falls below the desired value.
48. (3) Pyrene is the commercial name of a fire extinguisher CCl4. It is the only organic compound which is non-inflammable and which is used to extinguish the fire.
49. (1) The urinary bladder is absent in Class Aves that comprises birds. They lack a urinary bladder because the waste product mostly contains uric acid that is, they are uricotelic and excrete the waste along with the feces.
50. (3) The gross GST revenue collected in the month of July, 2023 is ₹1.65 crore of which CGST is ₹29773 crore, SGST is ₹37623 crore, IGST is ₹85930 crore (including ₹41239 crore collected on import of goods) and cess is ₹11779 crore (including ₹840 crore collected on import of goods).

51. (3) A complete the work in $\frac{16}{2} \times 5 = 40$ days

Ratio of efficiency of A and B = $100 : 125 = 4 : 5$

Time taken by B to completes the work = $\frac{40}{5} \times 4 = 32$ days

C can completes the work in $(32 - 12) = 20$ days

Ratio of efficiency of C and D = $100 : 80 = 5 : 4$

Time taken by D to completes the work = $\frac{20}{4} \times 5 = 25$ days

Now, $(A + B + C + D)$'s + day work = $\left(\frac{1}{40} + \frac{1}{32} + \frac{1}{20} + \frac{1}{25}\right) = \frac{20 + 25 + 40 + 32}{800} = \frac{117}{800}$

\therefore A, B, C and D complete the total work in $\frac{800}{117}$ days = $6\frac{98}{117}$ days

52. (1) MP of and article = $\frac{432}{72} \times 100 = ₹600$

\therefore CP of an article = $\frac{600}{120} \times 100 = ₹500$

53. (2) Let LCM be $5x$.

HCF = x

ATQ,

$5x \times x = 845$

$5x^2 = 845$

$x^2 = 169$

$x = 13$

\therefore HCF = 13

54. (1) Tarun invested a sum of ₹25000 in two parts. He earned 11% p.a. simple interest on part 1 and 10% p.a. compound interest compounded annually on part B.

Let sum invested on simple interest = ₹ x

Sum invested on compound interest = ₹ $(25000 - x)$

ATQ,

$$\frac{x \times 11 \times 2}{100} + \left[(25000 - x) \left(1 + \frac{10}{100} \right)^2 - (25000 - x) \right] = 5650$$

$$\frac{22}{100}x + \left[(25000 - x) \left(\frac{121}{100} \right) - (25000 - x) \right] = 5650$$

$$\frac{22}{100}x + \left[\frac{25000 \times 121}{100} - \frac{121}{100}x - 25000 + x \right] = 5650$$

$$\frac{22}{100}x + \left[5250 - \frac{21x}{100} \right] = 5650$$

$$\frac{x}{100} = 5650 - 5250 = 400$$

$x = 40000$

Hence, Sum invested on simple interest = ₹40000

55. (4) Total of n numbers = 48n

$$\text{Total increase} = n \times \frac{3}{4} \times 6 - n \times \frac{1}{6} \times 6 = \frac{9n}{4} - \frac{3n}{2} = \frac{3n}{4}$$

$$\text{New sum of n numbers} = 48n + \frac{3n}{4} = \frac{195n}{4}$$

$$\therefore \text{Average} = \frac{195n}{4 \times n} = 48.75$$

$$56. (2) \frac{\cos(\pi - A) \cdot \cot\left(\frac{\pi}{2} + A\right) \cos(-A)}{\tan(\pi + A) \tan\left(\frac{3\pi}{2} + A\right) \sin(2\pi - A)} = \frac{-\cos(A) \cdot \tan(A) \cdot \cos(-A)}{\tan(A) \cdot \cot(A) \cdot -\sin(A)}$$

$$= \frac{\sin(A) \cdot \cos(A)}{\sin(A)} = \cos A$$

57. (3) Let the pure milk = 13x

$$\text{Water} = 4x$$

ATQ,

$$13x = 2(4x + 45)$$

$$13x - 8x = 90$$

$$5x = 90$$

$$x = 18$$

$$\therefore \text{Pure milk} = 13x = 13 \times 18 = 234 \text{ litres}$$

$$58. (1) \left(\frac{9}{16} \div \frac{1}{4} \text{ of } \frac{1}{5}\right) \times \frac{6}{5} - \frac{1}{4} \times \frac{8}{5} \div \frac{18}{25} + \frac{3}{4}$$

$$= \left(\frac{9}{16} \div \frac{1}{20}\right) \times \frac{6}{5} - \frac{1}{4} \times \frac{8}{5} \div \frac{18}{25} + \frac{3}{4}$$

$$= \frac{9}{16} \times \frac{20}{1} \times \frac{6}{5} - \frac{1}{4} \times \frac{8}{5} \times \frac{25}{18} + \frac{3}{4} = \frac{27}{2} - \frac{5}{9} + \frac{3}{4}$$

$$= \frac{57}{4} - \frac{5}{9} = \frac{513 - 20}{36} = \frac{493}{36}$$

59. (2) Let the ratio of ₹1, 50 paise and 25 paise coins be 2x, 4x and 5x respectively.

ATQ,

$$2x + \frac{4x}{2} + \frac{5x}{4} = 840$$

$$2x + 2x + 1.25x = 840$$

$$5.25x = 840$$

$$x = \frac{840}{5.25} = 160$$

$$\therefore \text{Number of 50 paise coins} = 160 \times 5 = 800$$

60. (3) Let the rise in water in the tank is x cm.

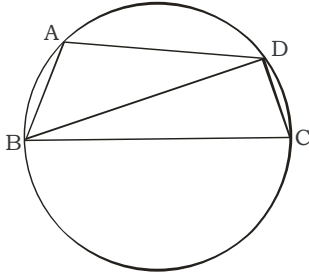
ATQ,

Total displacement of 260 articles = increase in level of water in tank

$$260 \times 5.5 \times 100 = 56 \times 52 \times x \quad (1 \text{ m} = 100 \text{ cm})$$

$$\therefore x = \frac{260 \times 5.5 \times 100}{56 \times 52} = 49.10 \text{ cm} \approx 49 \text{ cm}$$

61. (1)



$\angle BDC = 90^\circ$ (angle made by diameter on perimeter)

In, $\triangle BDC$

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

$$\angle BCD + 90^\circ + 35^\circ = 180^\circ$$

$$\angle BCD = 55^\circ$$

So,

$$\begin{aligned} \angle BAD &= 180^\circ - \angle BCD && \text{(Angle made by a chord on perimeter)} \\ &= 180^\circ - 55^\circ = 125^\circ \end{aligned}$$

62. (2) $x^4 + \frac{1}{x^4} = 727$

By adding 2 to both sides,

$$\left(x^2\right)^2 + \left(\frac{1}{x^2}\right)^2 + 2 = 727 + 2$$

$$x^2 + \frac{1}{x^2} = \sqrt{729}$$

By adding 2 to both sides,

$$x^2 + \frac{1}{x^2} + 2 = 27 + 2$$

$$\left(x + \frac{1}{x}\right)^2 = 29$$

Now,

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

$$x - \frac{1}{x} = \sqrt{(29 - 4)}$$

$$x - \frac{1}{x} = \sqrt{25} = 5$$

63. (2) We know that,

$$\frac{\text{Speed A}}{\text{Speed B}} = \sqrt{\frac{T_B}{T_A}}$$

$$\frac{45}{\text{Speed}_B} = \sqrt{\frac{9}{64}}$$

$$\frac{45}{\text{Speed}_B} = \sqrt{\frac{81}{64}}$$

$$\frac{45}{\text{Speed}_B} = \frac{9}{8}$$

$$\therefore \text{Speed of B} = \frac{45 \times 8}{9} = 40 \text{ km/hr}$$

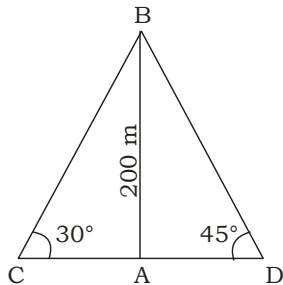
64. (1) A received = $7500 \times \frac{70}{100} = ₹750$

$$\text{Balance} = 7500 - 750 = ₹6750$$

$$\text{Ratio of their profit} = 7500 \times 6 : 9400 \times 5 : 11000 \times 3 = 45 : 47 : 33$$

$$\therefore \text{Profit of B} = \frac{6750}{125} \times 47 = ₹ 2538$$

65. (1)



Let AB be the lighthouse and C and D be the positions of the ships.

Then, $AB = 200 \text{ m}$,

$$\angle ACB = 30^\circ, \angle ADB = 45^\circ$$

$$\frac{AB}{AD} = \tan 45^\circ = \frac{1}{\sqrt{3}}$$

$$AC = AB \times \sqrt{3} = 200\sqrt{3} \text{ m}$$

$$\frac{AB}{AD} = \tan 45^\circ = 1$$

$$AD = AB = 200 \text{ m}$$

$$CD = (AC + AD) = (200\sqrt{3} + 200) \text{ m} = 200(\sqrt{3} + 1) \text{ m}$$

$$= 200(2.73) \text{ m} = 546 \text{ m}$$

66. (1) Nine-digit number $87605x31y$ is divisible by 72

A number is divisible by 72 if it is divisible by 8 and 9 both.

Divisibility by 8: A number is divisible by 8 if the number formed by last three digits of that number is divisible by 8.

Consider: $87605x31y$

Number formed by last three digits = $31y$

As 312 is divisible by 8 therefore $y = 2$

Now, Resultant number = $87605x312$

Divisibility by 9: A number is divisible by 9 if sum of digits of that number divisible by 9.

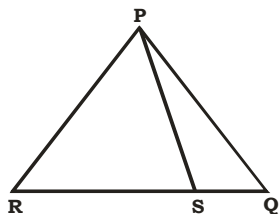
Sum of digits of $87605x312 = 8 + 7 + 6 + 0 + 5 + x + 3 + 1 + 2 = 32 + x$

If $87605x312$ is divisible by 9 therefore $(32 + x)$ must be divisible by 9.

Hence, $x = 4$

Now, $3x - 2y = 3(4) - 2(2) = 12 - 4 = 8$

67. (2)



$PQ = PR$

So,

$$\angle PQR = \angle PRQ = \frac{180^\circ - \angle QPR}{2} = \frac{180^\circ - 132^\circ}{2} = 24^\circ$$

In $\triangle PQS$,

$$\angle PQS + \angle QSP + \angle SPQ = 180^\circ$$

$$24^\circ + 96^\circ + \angle SPQ + \angle SPQ = 180^\circ$$

$$2\angle SPQ = 30^\circ$$

$$\text{So, } \angle PSR = \angle SPQ + \angle PQS = 30^\circ + 24^\circ = 54^\circ$$

68. (3) $mx^m - nx^n = 0$

$$mx^m = nx^n$$

$$\frac{x^m}{x^n} = \frac{n}{m}$$

$$\frac{1}{x^m + x^n} - \frac{1}{x^m - x^n} = \frac{1}{x^n \left(\frac{x^m}{x^n} + 1 \right)} + \frac{1}{x^n \left(\frac{x^m}{x^n} - 1 \right)}$$

$$= \frac{1}{x^n} \left(\frac{1}{\frac{n}{m} + 1} + \frac{1}{\frac{n}{m} - 1} \right) = \frac{1}{x^n} \left(\frac{1}{\frac{n+m}{m}} + \frac{1}{\frac{n-m}{m}} \right)$$

$$= \frac{m}{x^n} \left(\frac{n-m + n+m}{n^2 - m^2} \right) = \frac{2mn}{x^n (n^2 - m^2)}$$

69. (1) Ratio of present ages of A and B is 7 : 8

Let present age of A = 7x

Present age of B = 8x

After 6 years,

Age of A = 7x + 6

Age of B = 8x + 6

ATQ,

$$\frac{7x + 6}{8x + 6} = \frac{7}{8}$$

$$63x + 54 = 64x + 48$$

$$x = 6$$

Now, C's present age is 10 years more than present age of A

Therefore, Present age of C = 7(6) + 10 = 42 + 10 = 52 years

70. (1) Let the given points be

$$P(-3, -14) = (x_1, y_1)$$

$$Q(a, -5) = (x_2, y_2)$$

Using the distance formula,

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$PQ = \sqrt{(a + 3)^2 + (-5 + 14)^2}$$

$$\sqrt{(a + 3)^2 + 81} = 9 \text{ (From the given)}$$

Squaring on both sides,

$$(a + 3)^2 + 81 = 81$$

$$(a + 3)^2 = 0$$

$$a + 3 = 0$$

$$a = -3$$

71. (3) Percentage of children visiting Mall E = 100 - 48 - 40 = 12%

$$\text{Now, } 46\% \text{ of } 36750 + 60\% \text{ of } 32450 + 4170 \times \frac{48}{12}$$

Solving by breaking method, we get

$$40\% \text{ of } 36750 + 6\% \text{ of } 36750 + \frac{3}{5} \times 32450 + 4170 \times 4 = 14700 + 2205 + 19470 + 16680 = 53055$$

72. (4) The number of men who visited Mall B = 32005 - 36750 × $\frac{46}{100}$ = 32005 - 16905 = 15100

$$\text{The total number of persons who visited Mall B} = \frac{15100}{(100 - 42 - 18)} \times 100$$

$$= 15100 \times \frac{5}{2} = 37750$$

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73. (4) Required average = $\frac{327 \times 55 + 367.5 \times 46 + 324.50 \times 60}{3}$

$$= \frac{17985 + 16905 + 19470}{3} = \frac{54360}{3} = 18120$$

74. (2) Required difference = $36750 \times \frac{44}{100} - \frac{6795}{18} \times 40 = 16170 - 15100 = 1070$

75. (1) Required% = $\frac{16680 \times \frac{12}{48}}{32700 \times \frac{10}{100}} \times 100 = \frac{16680}{3270} \times 100 = \frac{4170}{3270} \times 100 = 127.52\% \approx 128\%$

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MEANINGS IN ALPHABETICAL ORDER

Battalion	a large body of troops ready for battle, especially an infantry unit forming part of a brigade typically commanded by a lieutenant colonel	बटालियन
Contemporary	living or occurring at the same time	समकालीन
Determination	firmness of purpose; resoluteness	दृढ़ निश्चय
Devout	having or showing deep religious feeling or commitment	धार्मिक
Instability	lack of stability; the state of being unstable	अस्थिरता
Motive	a reason for doing something, especially one that is hidden or not obvious	प्रेरणा
Passive	accepting or allowing what happens or what others do, without active response or resistance	निष्क्रिय
Perseverance	persistence in doing something despite difficulty or delay in achieving success	दृढ़ता
Persistence	firm or obstinate continuance in a course of action in spite of difficulty or opposition	हठ
Pleased	feeling or showing pleasure and satisfaction, especially at an event or a situation	प्रसन्न
Proficient	competent or skilled in doing or using something	प्रवीण
Profound	(of a state, quality, or emotion) very great or intense	गहन
Reluctant	unwilling and hesitant; disinclined	अनिच्छुक
Scanty	small or insufficient in quantity or amount	अल्प
Steady	firmly fixed, supported, or balanced; not shaking or moving	नियमित
Trivial	of little value or importance	तुच्छ

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SSC MOCK TEST - 404 (ANSWER KEY)

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

76. (3) 'to be performed' (passive) replace 'to perform' (Active)
77. (1) 'to make' replace with 'make'.
90. (2) The correct spelling is 'Contemporary'.
91. (1) The correct spelling is 'Battalion'.