



SSC CGL - 180502 GRAND TEST
HINTS AND SOLUTIONS

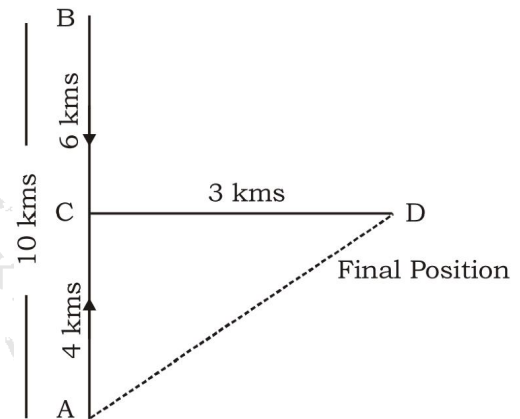
1	(2)	26	(1)	51	(4)	76	(3)
2	(2)	27	(4)	52	(2)	77	(3)
3	(2)	28	(3)	53	(1)	78	(2)
4	(3)	29	(3)	54	(1)	79	(2)
5	(2)	30	(3)	55	(1)	80	(4)
6	(2)	31	(4)	56	(1)	81	(3)
7	(4)	32	(1)	57	(2)	82	(1)
8	(2)	33	(2)	58	(3)	83	(1)
9	(3)	34	(1)	59	(3)	84	(4)
10	(3)	35	(2)	60	(2)	85	(3)
11	(2)	36	(4)	61	(2)	86	(1)
12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

- (2) Second is the act of cutting the first.
- (2) Second denotes the activity of the first.
- (2) $294 = 7^2 \times (7 - 1)$
 $1584 = 12^2 \times (12 - 1)$
- (3) Second is the specialist doctor of first.
- (2) $12 \times 8 = 96$ REVERSE 69
 $16 \times 3 = 48$ REVERSE 84.
- (2) As all other three gives a sense of words (AIR, ASK and TRUE) by arranging the letters but the word 'BTD' does not have such meaning after arranging the letters.
- (4) $2348 = 8 \times 2 + 3 \times 4 = 28$
 $3426 = 6 \times 3 + 4 \times 2 = 26$
 $3524 = 4 \times 3 + 5 \times 2 = 22$
 $4352 = 4 \times 2 + 3 \times 5 = 23 \neq 26$
- (2) All except 'RICE' are Kharif crops.
- (3) $\frac{54}{32} = (5 + 4) - (3 + 2) = 4$
 $\frac{36}{42} = (3 + 6) - (4 + 2) = 3$
 $\frac{92}{22} = (9 + 2) - (2 + 2) = 7$

$$\frac{28}{33} = (2 + 8) - (3 + 3) = 4$$

- (3) Arrange in increasing order
Small bowl → Big glass → Mug → Bucket →
(4) (5) (2) (3)
Water tank
(1)
- (2) Watch covers 3 min in 60 hrs
Watch covers 1 min in $\frac{60}{3}$ hrs = 20 hrs
So, 1 pm on Tuesday + 20 hrs = 9 am on Wednesday, it was showing the correct time.

12. (2)



Initial Position

$$AB = 10 \text{ kms}$$

$$AC = 10 - 6 = 4$$

$$CD = 3 \text{ kms}$$

$$AD^2 = AC^2 + CD^2$$

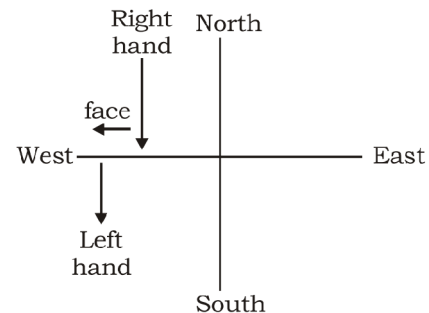
$$AD^2 = 3^2 + 4^2$$

$$AD = \sqrt{25} = 5 \text{ kms}$$

D is in north-east direction with respect to A.

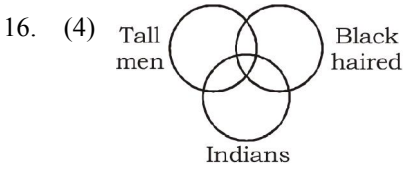
- (3) The day for any date advances one day per year, two days in leap years. For leap years, if we start in 1982 then the repeats are 1993, 1999, 2004, 2010. The pattern is 11, 6, 5, 6 (starting in 1982). Leap years repeat after every 28 years which means before 1982 the calendar was earlier used in 1954.

14. (2)



From the above figure, it is clear that his left hand will be in South direction.

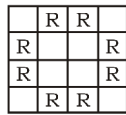
15. (3) The profit of lady will be the loss of shopkeeper. So, his total loss is ₹ 1000 as the lady has given a fake note of ₹ 1000.



I. ✗ II. ✗

17. (3) p t x p / pt x p / p txp/pt x
 18. (4) The sequence is B, C, E, A, D. So, D read the newspaper at last.

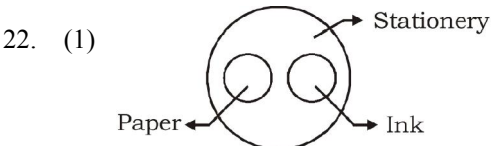
19. (3) Clearly, it is a $4 \times 4 \times 4$ cube. Below is a cross-section of the cube. Each edge has 2 cubes with 2 faces "RED". Hence, number of small cubes painted RED on 2 faces = number of edges $\times 2 = 12 \times 2 = 24$ cubes



Or we can use the direct formula: $(n - 2) \times 12$.
 (where n is the length of edge)
 $= (4 - 2) \times 12$ [Put n = 4]
 $= 2 \times 12 = 24$

20. (2) $18 \times 12 = 24 \times 9$
 $12 \times 16 = 24 \times 8$
 $16 \times 9 = 18 \times 8$

21. (2) As, the corner digits $6^2 = 36, 4^2 = 16, 5^2 = 25, 8^2 = 64$
 Also, we have
 $[36 - (4 \times 4) - 1] = 36 - 17 = 19 = S$
 $[16 - (7 \times 1) - 1] = 16 - 8 = 8 = H$
 $[64 - (10 \times 5) - 1] = 64 - 51 = 13 = M$
 In the same way
 $[25 - (5 \times 2) - 1] = 25 - 11 = 14 = N$



23. (2) Sanchit himself is the only child of his father. So, Sanchit's wife is Neha's mother.

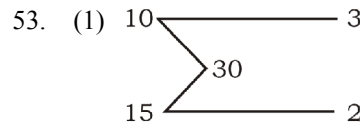
51. (4) $SP = 18000 + \frac{80}{100} = \text{Rs.} 14400$

$CP = \frac{14400}{96} \times 100 = \text{Rs.} 15000$

52. (2) Let the total no. of candidates = 100
 Total marks of 40 candidates = 40×74
 & total marks of 60 candidates = 60×77
 Hence, required average marks

$= \frac{40 \times 74 + 60 \times 77}{100} = \frac{2960 + 4620}{100}$

$= \frac{7580}{100} = 75.80$



Man came back after 6 minutes

\therefore efficiency of pipe C = $= \frac{10}{6}$ unit/min

\therefore Required time = $= \frac{30 \times 6}{10} = 18$ min.

54. (1) Volume of bucket

$= \frac{1}{3} \pi h (r_1^2 + r_2^2 + r_1 r_2)$

$= \frac{1}{3} \times \frac{22}{7} \times 45 (28^2 + 7^2 + 28 \times 7)$

$= \frac{1}{3} \times \frac{22}{7} \times 45 (784 + 49 + 196)$

$= \frac{1}{3} \times \frac{22}{7} \times 1029 = 48510$ cu. cm

55. (1) $\therefore xy = 1$

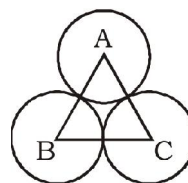
$\therefore y = \frac{1}{x}$

$x = 8 + 3\sqrt{7}$

$\therefore x + \frac{1}{x} = 16$

ATQ, $\frac{x^3 + y^3 + 3xy}{x^2 + y^2 - 2xy} = \frac{x^3 + \frac{1}{x^3} + 3}{x^2 + \frac{1}{x^2} - 2} = \frac{4051}{252}$

56. (1)



$AB = 5 \text{ cm} = x + y$

$BC = 6 \text{ cm} = y + z$

$AC = 7 \text{ cm} = z + x$

$\therefore 2(x + y + z) = 5 + 6 + 7 = 18$

$\Rightarrow x + y + z = 9$

$\Rightarrow 5 + z = 9 \Rightarrow z = 4 \text{ cm}$

$\therefore x = 7 - z = 3 \text{ cm}$ and $y = 6 - z = 2 \text{ cm}$

$\therefore x = 3 \text{ cm}, y = 2 \text{ cm}, z = 4 \text{ cm}$

57. (2) Let the two numbers be x and y.

then, $x \times y = 24(x - y)$

The above equation is satisfied for $x = 8$ and $y = 6$.

$8 \times 6 = 24(8 - 6)$

$\Rightarrow x = 8, y = 6$

Larger no. = 8

58. (3) Let the number of wickets taken by the cricketer before the last match = x

$$\text{ATQ, } \frac{12.4x + 26}{x + 5} = 12.2$$

$$\Rightarrow 12.4x + 26 = 12.2x + 61$$

$$0.2x = 61 - 26 = 35$$

$$x = \frac{35}{0.2} = \frac{350}{2} = 175$$

59. (3) $2^{60} = (2^5)^{12} = (32)^{12}$

$$3^{48} = (3^4)^{12} = (81)^{12}$$

$$5^{24} = (5^2)^{12} = (25)^{12}$$

$$4^{36} = (4^3)^{12} = (64)^{12}$$

it's clear that 3^{48} is the greatest.

60. (2) 50% increase in 5 years = $1 + \frac{50}{100} = \frac{3}{2}$ times

$$\text{If 10 year} = \left(\frac{3}{2}\right)^2 \text{ times \& 15 years} = \left(\frac{3}{2}\right)^3 \text{ times}$$

$$\text{and in 20 years} = \left(\frac{3}{2}\right)^4 \text{ times}$$

$$\therefore x \left(\frac{3}{2}\right)^2 = y \left(\frac{3}{2}\right)^3 = z \left(\frac{3}{2}\right)^4 = K$$

$$x = \frac{4}{9}K, y = \frac{8}{27}K, z = \frac{16}{81}K$$

$$x : y : z = \frac{4}{9}K : \frac{8}{27}K : \frac{16}{81}K = 9 : 6 : 4$$

61. (2) Let the parts be x, y and $[5200 - (x + y)]$

$$\frac{x \times 4 \times 1}{100} = \frac{y \times 6 \times 1}{100}$$

$$= \frac{[5200 - (x + y)] \times 8 \times 1}{100}$$

$$\Rightarrow \frac{x}{y} = \frac{6}{4} = \frac{3}{2}$$

$$y = \frac{2}{3}x$$

$$\text{So, } \frac{x \times 4 \times 1}{100} = \frac{5200 - x + \frac{2}{3}x \times 8}{100}$$

$$\Rightarrow x = 2 \left[5200 - \frac{5}{3}x \right]$$

$$\Rightarrow x = 10400 - \frac{10}{3}x$$

$$\frac{13}{3}x = 10400 \Rightarrow x = \text{Rs.}2400$$

62. (1) $50\% = \frac{1}{2}, 15\% = \frac{3}{20}$

C.P	S.P	M.P
2×20		3×20
	17×3	20×3
40	51	60
₹ 11 profit		
	↓ $\times 15$	
	165	

\therefore Marked price of bicycle = $60 \times 15 = ₹ 900$

63. (3) $x + \frac{1}{x} = 6, \therefore x^3 + \frac{1}{x^3} = 198$

$$x^2 + \frac{1}{x^2} = 34$$

$$x^4 + \frac{1}{x^4} = 1154$$

\therefore Now

$$\left(x^4 + \frac{1}{x^4}\right) \left(x^3 + \frac{1}{x^3}\right) = 1154 \times 198$$

$$x^7 + \frac{1}{x^7} = 198 \times 1154 - 6 = 228486$$

64. (1) Let total voters be 100%

$$\text{Vote cast} = 100\% - 10\% = 90\%$$

$$\text{Valid votes} = 90\% \times \frac{80}{100} = 72\%$$

$$\text{Winner} = 40\%$$

$$\text{Losser} = 72\% - 40\% = 32\%$$

$$8\% = 3600$$

$$100\% = \frac{3600}{8} \times 100 = 450 \times 100 = 45000$$

65. (3) $2 + x\sqrt{3} = \frac{1}{2 + \sqrt{3}}$

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

$$\Rightarrow 2 + x\sqrt{3} = \frac{2 - \sqrt{3}}{2^2 - (\sqrt{3})^2}$$

$$\Rightarrow 2 + x\sqrt{3} = \frac{2 - \sqrt{3}}{4 - 3}$$

$$\Rightarrow 2 + x\sqrt{3} = 2 - \sqrt{3}$$

$$\text{So, } x = -1$$

66. (1) Rest part of milk = $1 - \frac{40}{400} = \frac{9}{10}$

Required pure milk = $40 \times \left(\frac{9}{10}\right)^6$

$$= 40 \times \frac{9}{10} \times \frac{9}{10} \times \frac{9}{10} \times \frac{9}{10} \times \frac{9}{10} \times \frac{9}{10}$$

$$= 21.2576 \text{ l} = 21.25 \text{ l}$$

67. (4) Let the cost of rice = Rs. x/kg

Discount = $\frac{x \times 40}{100} = \text{Rs. } \frac{2x}{5}$

New cost = $x - \frac{2x}{5} = \frac{3x}{5}$

ATQ,

$$\frac{45}{\frac{3x}{5}} - \frac{45}{x} = 60 \Rightarrow \frac{75}{x} - \frac{45}{x} = 60$$

$$x = \frac{30}{60} = \text{Rs. } 0.5 \text{ or } 50 \text{ paise}$$

then reduced price = $\frac{3 \times 50}{5} = 30 \text{ paise}$

68. (1) Area of path = $x(l + b - x)$
 $= 5(60 + 40 - 5) = 5 \times 95 = 475 \text{ m}^2$

\therefore Total cost = $475 \times \frac{60}{100} = ₹ 285$

69. (1) Let the age of father and son be 50 x and 20 x years.

ATQ,

$$50x \times 20x = 1000 \Rightarrow x = 1$$

\therefore Age of father after 10 years will be

$$50 + 10 = 60 \text{ years}$$

70. (1) S. I. for 2 years = 8%
 C. I. for 2 years = 8.16% \rightarrow Diff = .16

\therefore Required sum = $\frac{800}{16} \times 100 = \text{Rs. } 5000$

71. (1) Single equivalent discount

$$= \left| 5 + 5 - \frac{25}{100} \right| \% = 9 \frac{3}{4} = \frac{39}{4} \%$$

\therefore S.P. = $80 \times \frac{361}{400} = \text{Rs. } 72.2$

72. (1) H.C.F of $\frac{35}{12}, \frac{49}{30}, \frac{21}{20}$

$$= \frac{\text{H.C.F. of } 35, 49 \text{ and } 21}{\text{L.C.M. of } 12, 30 \text{ and } 20} = \frac{7}{60}$$

73. (2) Required answer = $\frac{9}{12} = \frac{3}{4} = 0.75$

74. (3) Total production of state B = $12 + 18 + 18 = 48$ lakh bales

Total production of state A = $6 + 14 + 21 = 41$ lakh bales

75. (2) Average production in 1992-93

$$= \frac{6 + 12 + 5 + 16 + 8}{5} = 9.4 \text{ lakh bales}$$

Average production in 1993-94

$$= \frac{14 + 18 + 9 + 9 + 14}{5} = \frac{64}{5} = 12.8 \text{ lakh bales}$$

Two states A & E showed below average production in 1992-93 that showed above average production in 1993-94.

76. (3) We need an adverb before an adjective (cardinal). Thus, replace 'approximate' by 'approximately'.

77. (3) We need an adjective before the noun i.e., 'listening'. Thus, replace 'patiently' by 'patient'.

78. (2) We need a main verb here. Thus, change 'comprising' into 'comprises'.

86. (1) The correct spelt word is 'indigenous'.

90. (3) 'Unique' starts with consonant sound 'Yu' hence it will take article 'a'.

92. (2) 'The better the higher' is the correct formation. Both part will take comparative degree preceded by article 'the'. 'More higher' is superfluous.