SSC CGL - 210002 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)

1. (2) Second is the act of cutting the first.
2. (2) Second denotes the activity of the first.
3. (2) $294 = 7^2 \times (7 - 1)$
   $1584 = 12^2 \times (12 - 1)$
4. (3) Second is the specialist doctor of first.
5. (2) $12 \times 8 = 96$ REVERSE 69
   $16 \times 3 = 48$ REVERSE 84.
6. (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.
7. (4) $2348 = 8 \times 2 + 3 \times 4 = 28$
   $3426 = 6 \times 3 + 4 \times 2 = 26$
   $3524 = 4 \times 3 + 5 \times 2 = 22$
   $4352 = 4 \times 2 + 3 \times 5 = 23 \neq 26$
8. (2) All except 'RICE' are Kharif crops.
9. (3) $\frac{54}{32} = (5 + 4) - (3 + 2) = 4$

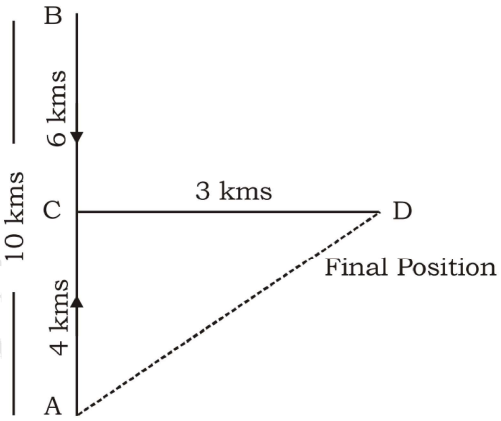
   $\frac{36}{42} = (3 + 6) - (4 + 2) = 3$

   $\frac{92}{22} = (9 + 2) - (2 + 2) = 7$

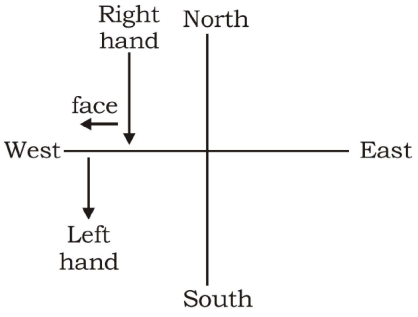
   $\frac{28}{33} = (2 + 8) - (3 + 3) = 4$
10. (3) Arrange in increasing order
    Small bowl → Big glass → Mug → Bucket → Water tank
    (4) (5) (2) (3) (1)
11. (2) Watch covers 3 min in 60 hrs

    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)

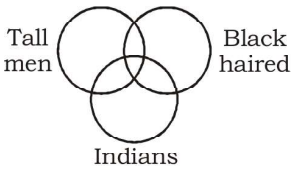


    AB = 10 kms
    AC = 10 – 6 = 4
    CD = 3 kms
    $AD^2 = AC^2 + CD^2$
    $AD^2 = 3^2 + 4^2$
    $AD = \sqrt{25} = 5$ kms
    D is in north-east direction with respect to A.
13. (3) The day for any date advances one day per year, two days in leap years. For leap years, if we start in 1982 then the 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 calander 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.

16. (4) 

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.

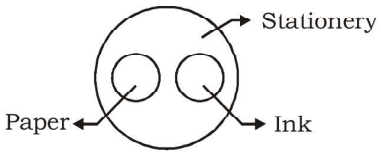
19. (3) Clearly, it is a 4 × 4 × 4 cube. Below is a cross-section of the cube. Each edge has 2 cubes with 2 faces "RED". Hence, number of small cubes painted RED on 2 faces = number of edges ×2 = 12 ×2 = 24 cubes

	R	R	
R			R
R			R
	R	R	

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

20. (2) 18 × 12 = 24 × 9
12 × 16 = 24 × 8
16 × 9 = 18 × 8

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

22. (1) 

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

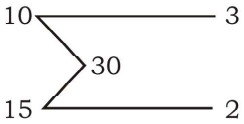
51. (4) $SP = 18000 + \frac{80}{100} = Rs.14400$

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

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

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

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

53. (1) 

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

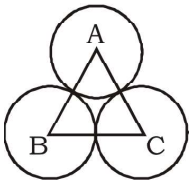
55. (1) $\because xy = 1$

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

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

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

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 cm = x + y
BC = 6 cm = y + z
AC = 7 cm = z + x
$\therefore$ 2(x + y + z) = 5 + 6 + 7 = 18
$\Rightarrow$ x + y + z = 9
$\Rightarrow$ 5 + z = 9 $\Rightarrow$ z = 4 cm
$\therefore$ x = 7 – z = 3 cm and y = 6 – z = 2 cm
$\therefore$ x = 3 cm, y = 2 cm, z = 4 cm

57. (2) Let the two numbers be x and y.
then, x × y = 24(x – y)
The above equation is satisfied for x = 8 and y = 6.
8 × 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

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

$\Rightarrow 12.4\,x + 26 = 12.\ 2x + 61$

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

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

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

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

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

$\frac{x\times4\times1}{100}=\frac{y\times6\times1}{100}$

$=\frac{[5200-(x+y)]\times8\times1}{100}$

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

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

So, $\frac{x\times4\times1}{100}=\frac{5200-x+\frac{2}{3}x\times8}{100}$

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

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

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

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

C.P	S.P	M.P
$2_{\times20}$		$3_{\times20}$
	$17_{\times3}$	$20_{\times3}$
40	51	60

₹ 11 profit

$\downarrow_{\times15}$

165

$\therefore$ Marked price of bicycle = 60 × 15 = ` 900

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

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

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

$\therefore$ Now

$\left(x^4+\frac{1}{x^4}\right)\left(x^3+\frac{1}{x^3}\right)=1154\times198$

$x^7+\frac{1}{x^7}=198\times1154-6=228486$

64. (1) Let total voters be 100%

Vote cast = 100% – 10% = 90%

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

Winner = 40%

Losser = 72% – 40% = 32%

8% = 3600

100% = $\frac{3600}{8}\times100=450\times100=45000$

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

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

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

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

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

So, x = –1

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

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

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

$= 21.2576\ l = 21.25\ l$

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 $=\frac{3\times 50}{5}=30$ paise

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

$\therefore$ 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 years

70. (1) S. I. for 2 years = 8%
C. I. for 2 years = 8.16% $\longrightarrow$ 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 $\frac{35}{12}, \frac{49}{30}, \frac{21}{20}$

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

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

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

Average production in 1993-94

$=\frac{14+18+9+9+14}{5}=\frac{64}{5}=12.8$ 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 compartive degree preceded by article 'the'. 'More higher' is superfluous.